



Delft University of Technology

Confronting Informality

Preserving communities and creating public goods in informal settlements

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preserving communities and creating public goods
in informal settlements

Delft University of Technology
Faculty of Architecture and the Built Environment
Department of Urbanism

Delft, June 7th 2018

report



Favela Paraisopolis, Sao Paulo, Brazil

PHOTO BY ROBERTO ROCCO

**FAVELA PARAISOPOLIS. INFORMAL SETTLEMENT
IN SAO PAULO, BRAZIL.**

Colophon

Confronting Informality A one day symposium on preserving Communities and Creating Public Goods in Informal Settlements

7 June 2018

Delft University of Technology,
Faculty of Architecture and the Built Environment,
Department of Urbanism.

Sustainable Development Goals and Responsible Innovation,
TU Delft, Gemeente Den Haag

Symposium organised by:

Anubhuti Chandna (India)
Asmeeta Das Sharma (India)
Deepanshu Arneja (India)
Diego Moya Ortiz (Chile)
Felipe Gonzalez (Brazil)
Gabriela Waldherr (Germany)
Leyden Durand (Venezuela)
Nilofer Tajuddin (India)
Ninad Sansare (India)
Oriana De Lucia (Venezuela)
Pablo Muñoz Unceta (Spain)
Ricardo Avella (Venezuela)
Sulenur Kilic (Turkey)
Roberto Rocco (Brazil)

Symposium sponsored by:

The Research initiative Sustainable Development Goals
and Responsible Innovation, TU Delft, Gemeente Den Haag
The Department of Urbanism of the TU Delft
The Delft Global Initiative
Polis, Platform for Urbanism

Visual identity: Felipe Gonzalez, Oriana de Lucia and Leyden Durand

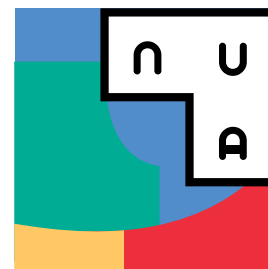
Report organised and designed by Roberto Rocco

Symposium Website: <https://confrontinginformality.org/>

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THE GLOBAL GOALS
For Sustainable Development



IMPLEMENTING
THE NEW
URBAN AGENDA





Confronting Informality Symposium Report

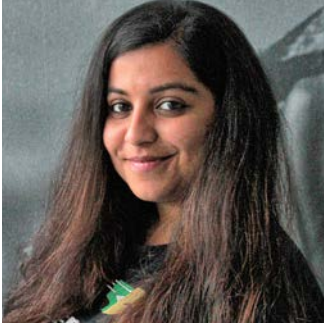
A one day symposium on preserving Communities and Creating
Public Goods in Informal Settlements, 7 June 2018,
Delft University of Technology, Faculty of Architecture and the Built
Environment, Department of Urbanism, Section Spatial Planning and
Strategy

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The Organizers

THE CONFRONTING INFORMALITY SYMPOSIUM IS A STUDENT LED EVENT, FACILITATED BY THE SECTION OF SPATIAL PLANNING AND STRATEGY OF THE DEPARTMENT OF URBANISM OF THE TUDELFT



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INDIA



ASMEETA DAS SHARMA
INDIA



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ŞULENUR KILIÇ
TURKEY



ROBERTO ROCCO
BRAZIL

[URBANISM]



Department of Urbanism

URBANISM AT TU DELFT ENCOMPASSES AND COMBINES URBAN DESIGN, SPATIAL PLANNING, LANDSCAPE ARCHITECTURE AND ENVIRONMENTAL MODELLING

The Department of Urbanism in the Faculty of Architecture and the Built Environment encompasses and combines urban design, spatial planning, landscape architecture and environmental modelling. The Department has a global reputation for excellence in research and education. It is particularly well known for the 'Dutch approach' to urbanism that brings together the creativity of design with academic research methods. This 'integral' urbanism enjoys high international esteem in professional practice, research and education.

The Department enables staff and students to advance knowledge of sustainable and fair urban and regional development. We question the relationship between qualities of urban and regional environments with the social, economic and environmental performance of societies, and the wellbeing of citizens. Our graduates learn to take an independent and active role in shaping urban development, but are also critical and reflective, demonstrating an awareness of both the potential and limitations of professional interventions. We explore critical questions of urbanism in the Netherlands and with partners in

many other countries, but always with sensitivity to local conditions and cultures.

In a 2016 research assessment conducted under the Dutch Standard Evaluation Protocol, the Department's research programme was assessed as 'world leading/excellent' in 'research quality' and 'social relevance', and 'very good' in viability. TU Delft is ranked third in the world for architecture and the built environment in the QS World University rankings (2017), and second in the world for urban planning in the University Rankings of Academic Performance (2016-17).

The Department has a long and rich track-record on urbanisation studies in the Global South, to which the symposium Confronting Informality belongs. This has been strengthened by recent partnerships with UN-Habitat and the World Urban Campaign, in order to promote and teach the New Urban Agenda and the Sustainable Development Goals.

Professor Vincent Nadin, head of the Department of Urbanism, Professor of Spatial Planning and Strategy

Vincent Nadin.

The Faculty of Architecture and the Built Environment, TU Delft

PHOTO BY ROBERTO ROCCO



[INTRODUCTION]

The symposium

THE SYMPOSIUM IS A RESULT OF THE FACULTY'S AND ITS STUDENTS' AWARENESS OF THE IMPACTS OF INFORMAL URBANISATION IN ISSUES OF SOCIAL, ECONOMIC AND ENVIRONMENTAL SUSTAINABILITY AND SPATIAL JUSTICE IN CITIES TODAY.

The Confronting Informality Symposium is a student-led event sponsored by the Chair of Spatial Planning & Strategy at the Department of Urbanism, TU Delft University of Technology. The symposium happens once a year and gathers experts, policy-makers, practitioners and others to discuss informal urbanisation, its political, economic and environmental implications and the tools to tackle it.

The symposium, which is in its fifth edition, is a result of the faculty's and its students' awareness of the impacts of informal urbanisation in issues of social, economic and environmental sustainability and spatial justice in cities today.

By informal urbanisation we mean the informal unregulated spontaneous processes of urbanisation that happen mostly (but not only) in countries of the Global South resulting from economic and social exclusion of groups or communities.

We do not dispute the many positive aspects of informal urbanisation: it is a gateway to the city, it is a force from grassroots and it is able to create strong communities and provide families with livelihoods. The entrepreneurship of people in informal

settlements is remarkable and many informal settlements around the world are the source of employment, culture and hope.

However, we wish to dispel any doubt that informal urbanisation has several drawbacks. In the way it happens in most countries, informal urbanisation is unsustainable in the long run. More often than not, it has not been able to provide most households with a decent living environment. Many informal settlements around the world face unimaginable environmental, social and economic challenges.

Improvement only happens when there is concerted collective action between the public sector, the private sector and civil society (not least, citizens themselves) in order to deliver improvements to informal communities in the form of better housing, services, sanitation, infrastructure, public space and so on.

Spatial planning and design are sadly failing to deliver sustainable solutions that address the needs and wishes of citizens living in informal settlements.

We recognise the importance of understanding the processes behind informal urbanisation, as well as its relationships with other issues such as poverty, gender

discrimination, social segregation and economic inequality.

According to the United Nations 1.5 billion people live in informal or precarious employment (UNDP, 2014) and fifty-five million slum units have been created worldwide since the year of 2000 (UN-Habitat, 2015).

The goal of the Confronting Informality Symposium is to shed light on informal urbanisation, its drivers and impacts, and to discuss the planning and design instruments used around the world to tackle it and to deliver healthy, safe, inclusive neighbourhoods and communities.

The ultimate objective is to establish a platform to debate informal urbanisation and its challenges for spatial planning and urban design. We invite scholars and practitioners to partner up with us to do research on the issues described above.

In 2018, we decided to organise an ideas competition that aims to foster debate but also to look for practical ideas and solutions for the creation of public goods in informal settlements, while keeping identity and livelihoods of the community.



Why confront informality?

ROBERTO ROCCO, ASSISTANT PROFESSOR OF SPATIAL PLANNING AND STRATEGY, TU DELFT

The Confronting Informality Symposium is highly significant for us today in Urbanism. It helps us reflect on one of the biggest challenges faced by humanity today: how to urbanise in a sustainable, inclusive and fair way?

While news outlets and academics repeat endlessly that humanity is now officially “urban”, having crossed the 50% rate of urbanisation threshold, few people seem to remember that the other 50% still lives in rural areas, often in deprivation.

That’s 3,7 billion people living in mostly underserved rural environments. Not all of them yearn to go to the city. Many wish to preserve their traditional lifestyles, and rightly so. But many many of them will take the road to the city with their families in search of prosperity and opportunity, just like millions of people have done in the last few decades. This immense human exodus towards the city, much accelerated after

World War 2, is not over yet.

Most of all, people are looking for the freedom and modern lifestyles that cities supposedly afford. Traditional rural lifestyles are precious, but if you are a single mother, gay, “low cast”, if you belong to the “wrong” race or religion, or if you are simply forward thinking, maybe a traditional rural lifestyle won’t agree with you. The city still offers the possibility of freedom, easier access to services, jobs and educational opportunities.

Of course, prosperity and freedom in the city are often elusive and reality might be much grimmer.

It may include violence, deprivation and serious environmental hazards. Most of all, it might mean squalid living conditions for the millions of migrants who get to cities every year in China, India, Nigeria, Indonesia and Bangladesh and in most developing countries of Africa and Southern Asia.

Many people migrating to cities will end up living in self-built settlements or informal settlements. According to UN-Habitat, around 33% of the urban population in the developing world lived in informal settlements in 2012.

Governments in the Global South are often unable or unwilling to provide decent housing to all those migrants. As a consequence, rural migrants roll up their sleeves and help themselves, creating barrios, favelas, slums, villas miserias, kampongs, and many other forms of unplanned habitation.

Architects and urbanists in the industrialised world are fascinated by the inventiveness, the self-reliance, and the resilience of slum communities. For one thing, slums all over the world seem to be much more successful in creating communities than the sterile and grey modernist blocks that have dotted the landscapes of countries in the North: Holland, the US, the UK,

France, not to mention the former socialist countries and many countries in the Global South as well. All have experimented with modernist formulas for massive housing solutions, with more or less success. Let's not forget that both Western and Eastern Europe largely solved their post-war housing crisis with such developments. But most people are quick to point out that modernist housing blocks are nowadays the backwater of most European and North American cities. So, slums don't seem so bad after all.

But the image of hope and creativity of slums hides some deeper truths that must be confronted (This is not a pun. This is why this symposium is called "Confronting Informality").

Slums in the Global South lack basic services and sanitation, and housing units are squalid, not well ventilated or heated and downright unsafe. The lack of sanitation means that large swaths of humanity lack the most basic of all comforts: a toilette. As someone once observed, having water running out of your kitchen tap is a luxury beyond imagination for a large chunk of humanity. While the absolute majority of slum dwellers are honest, hard-working people, slums are often targeted by criminal gangs. The State is often absent and the rule of law is only selectively applied, mostly to reduce slum dwellers to subjection.

Citizens in slums are often in breach of the law, because they are almost always living on illegally invaded or acquired land. They are easy targets for violent drug cartels, greedy slum lords or corrupt politicians who will trade toilets for votes. This is absolutely not sustainable. Something must be done. Now.

TU Delft, as a leading technical university in one of the best-planned countries in the world has the duty to get involved in this debate. It must prepare its students to confront informality and to come up with sustainable, fair and innovative solutions that respect the livelihoods, hopes and wishes of slum dwellers.

While slums have many social and spatial features architects and urbanists wish to emulate, there are real challenges ahead. Discussing what is going on in practice is important for us to reflect on those challenges and fine-tune our attitudes and practices towards slums. We must strive to know more and to engage with actors on the ground. We must learn from local knowledge and we must bring the produc-

ers of new knowledge to the university.

This goes hand in hand with TU Delft's ambition as a global university, learning and working together with local governments and other stakeholders to find local solutions for those challenges. Following the enactment of the New Urban Agenda in Quito in 2016, TU Delft has partnered up with UN-Habitat and the World Urban Campaign to promote a debate on education for the city we need. How to educate young planners and designers to implement the new Urban Agenda?

This has triggered the launching of the Delft Global Initiative, a platform for Science and Technology for Global Development at TU Delft. At the chair of Spatial Planning and Strategy led by Professor Vincent Nadin, a variety of initiatives, courses, weblogs, symposiums and conferences tackle issues of sustainable and fair spatial planning in the Global South.

The Confronting Informality Symposium, the Post-Conflict Symposium, the conference of Cities and Citizenship in Latin America, partnerships with China, Brazil, India and other countries, courses on Globalization, elements of the graduation programme, not to mention much joint research, all those initiatives aim to con-

front the challenges of sustainable and fair urbanisation in the next decades in a world where resources are increasingly scarcer, where the climate is changing and where democracy and governance in much of the world are threatened by conflict and bad governments.

Bigger challenges mean a bigger impetus for students and staff to conquer those challenges, while promoting justice and sustainability in urban development around the world.

This initiative addresses several of the UN Sustainable Development Goals, but focuses on the following:

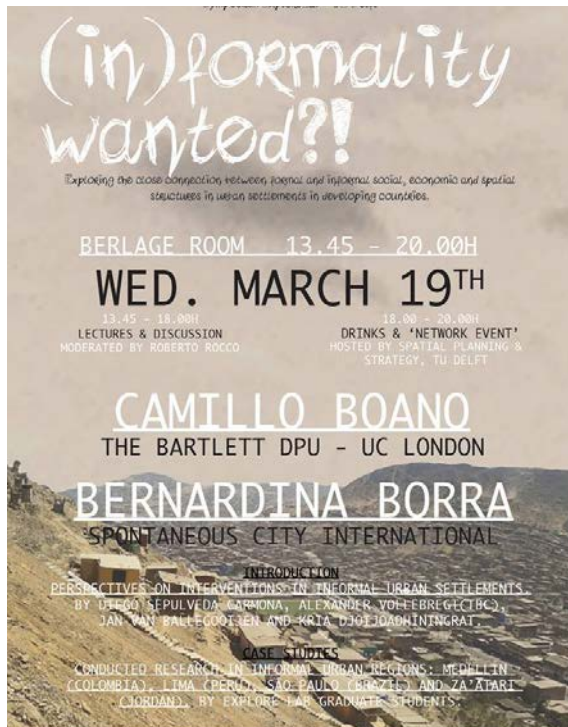


11 SUSTAINABLE CITIES AND COMMUNITIES



The history of the symposium & acknowledgments

ROBERTO ROCCO, ASSISTANT PROFESSOR OF SPATIAL PLANNING AND STRATEGY, TU DELFT



POSTER OF THE FIRST SYMPOSIUM ORGANIZED BY STUDENTS OF THE EXPLORE LAB, TUDELFT: JOSIENA SIMONIAN, JOOST DE BONT, MAARTEN KEMPENAAR AND STEPHANIE VAN DOORN.



JOSIENA SIMONIAN, JOOST DE BONT AND WOUTER POCORNIE TALKING WITH STUDENTS OF IHS, IN AN EVENT POST-SYMPOSIUM.

This event and competition were the product of collective action spurred by a common understanding about the challenges ahead.

Urbanization is one of the great challenges of our time. People seem to forget that, although humanity is now more than 50% urban, it is also still almost 50% rural. The human exodus towards the city is not over, and the problems generated by massive rural to urban migration are particularly acute in the Global South where democracies are young or failing, resources are either scarce or badly managed, and spatial planning practically does not exist, or exists only for the very few. Creating fair, inclusive and sustainable cities and communities in the Global South is a big job for all of us.

From this understanding, a group of TU Delft Explore Lab students got together in 2014 and decided to organize an event to discuss informal urbanization. These students were Josiena Simonian, Maarten Kempenaar, Steph-

anie van Doorn and Joost de Bont and the name of the event was '(In)Formality Wanted'. The keynote speakers were two Italians, Camillo Boano (Bartlett, UCL) and Bernardina Borra (The Spontaneous City International) and a number of other speakers including Jan van Ballegooijen, Diego Sepulveda, Kria Djoyoadhiningrat and others, moderated by Roberto Rocco.

Among the assistants, students Daniel Radai (Hungary), Belinda van Zijl (now Roggeveen van Zijl, The Netherlands), Todor Kesarovski (Bulgaria) and Yos Purwanto (The Netherlands), all students from Urbanism, decided to take up the initiative and re-name it 'Confronting Informality', from the understanding that "something needed to be done". They couldn't wait too long, so the next symposium was organized later on the same year, on 11 December 2014. This time, the line-up of speakers was really long and even more impressive and was dominated by practitioners doing work on the ground: Santiago Crujeda (Recetas Urbanas), Marco Ferrario (Micro Home Solutions), Kria Djoyoadhiningrat (then Studio Rosa and Casa Legal), Giorgio Talocci (Bartlett), Vera Kreuwels (Catholic Relief Services), Laura Smits (then Cor-daid Haiti), Diego Sepulveda (TU Delft), Jaap Klaarenbeek (POSAD- Studio Rosa), Rohan Varma (then Mecanoo and currently PhD candidate at TU Delft), Berend Strijland (NLE Architects), David Juarez



CAMILLO BOANO FROM THE BARTLETT DPU SPEAKS AT THE FIRST SYMPOSIUM IN MARCH 2014.



ORGANISERS OF THE SECOND SYMPOSIUM, NOW RE-BRANDED 'CONFRONTING INFORMALITY': DANIEL, TODOR, YOS AND BELINDA.

(Straddle3) and Alexander Jachnow (IHS Erasmus Rotterdam). The keyword here was ACTION. This event was funded by the department of Urbanism, Delft Global Initiative and MOTIV (a Catholic action group). This symposium was attended by more than 100 people and a report was produced, available online.

It would be another full year and many months until the next symposium was organised on March 17 2016, with its striking yellow identity and the title 'Informal Urbanisation: Understanding and Mitigating a Global Phenomenon'. The keyword here was MITIGATION. The team of organisers was a reflection of the increasing internationalisation of the university: Daniel Ferrer (Germany), Rebeca Rabello (Brazil), Putri Santoso (Indonesia), Wenchi Yang (China), Angela Maria Moncaleano (Colombia), Laura Alejandra Garcia (Colombia), Nikita Baliga (India), Magdalini Papadam (Greece) and Stefania McLaurin (Mexico). The line up of speakers was no-less impressive: Pontus Westerberg (UN-Habitat), Emiel Wegelin (International Advisory Services for Urban Action, Rotterdam), Francesco Chiodelli (Gran Sasso Science Institute), Marco Kusumawijaya (Ruka Centre for Urban Studies in Jakarta), Mariana Fix (University of Campinas, Brazil), and Mathias Antonsson (Civil Rights Defenders, Plurify, Ushahidi, Sida & UN). Delft Global Initiative had a bigger role in this event, and helped us organise a stakeholders' workshop on the second day.

2017 was a momentous year, because the Department of Urbanism decided to organise the UN-Habitat sponsored UTC URBAN THINKERS CAMPUS, Education for the City We Need. This event cemented the alliance being created between TU Delft, UN-Habitat and the World Urban Campaign to discuss and promote the New Urban Agenda in higher education. This Urban Thinkers Campus focused on how to teach the New Urban Agenda and gathered 30 speakers from the public sector, academia, the private sector and civil society (29 organizations in total). It produced a report published ONLINE. It spurred a series of actions and subsidiary events, including a session at the World Urban Forum on 7-13 February 2018, in Kuala Lumpur, which produced a report, published ONLINE. Again, the role of TU Delft students was central to the success of this initiative.

The organizing team was composed by PhD candidates and Master students from BK:

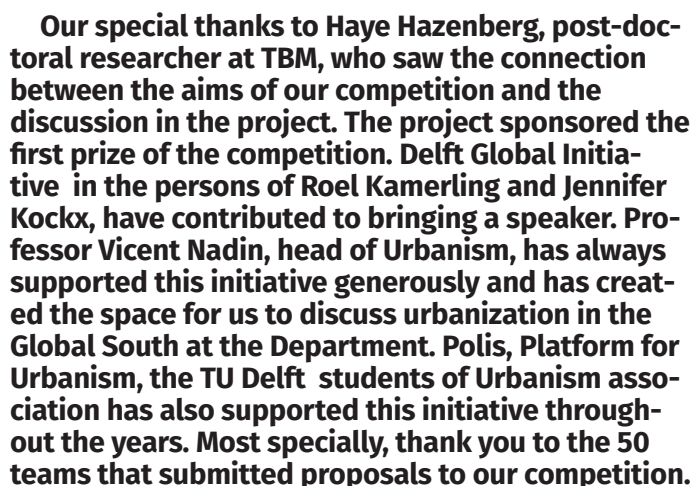
Chris Bartman (Netherlands), Concha Aranda Iglesias (Spain), Cristina Wong (Peru), Daan Leenders (Netherlands), Florencia Rodriguez Balzarini (Argentina), IJsbrand Heeringa (Netherlands), Jan Cyganski (Germany), Jean-Baptiste Peters (France) Kritika Sha (India), Maricruz Gazel (Costa Rica), Mona Zum Felde (Germany), Niroopa (India), Rajat Uchil (India), Ramses Alejan-



DANIEL RADAI WELCOMING THE PUBLIC AT THE CONFRONTING INFORMALITY SYMPOSIUM IN DEC 2014 (PHOTO: LUIS MONTENEGRO)



VISUAL IDENTITY OF THE SECOND CONFRONTING INFORMALITY SYMPOSIUM IN DEC 2014.



URBAN THINKERS CAMPUS

THE CITY WE NEED



7-9 JUNE TU DELFT

Faculty of Architecture
and The Built Environment

EDUCATION FOR THE CITY WE NEED

Exploring how to integrate the UN-Habitat
NEW URBAN AGENDA in higher education curricula

Urban Thinkers Campuses are sponsored by the World Urban Campaign and UN-HABITAT. The TU Delft UTC wishes to gather stakeholders from the academic and educational worlds, as well as NGOs, companies and government agencies, to discuss how best to TEACH and LEARN issues related to and stemming from the New Urban Agenda in higher education.

Our main question is:

How to prepare young professionals to understand and implement the New Urban Agenda in very diverse national and local environments?

This is an initiative from TU Delft in partnership with TU-Eindhoven, IHS-Erasmus Rotterdam, supported by TU Delft Global Initiative, Arcadis and others.

THE POSTER OF THE URBAN THINKERS' CAMPUS DESIGNED BY
JEAN-BAPTISTE PETERS.



TU Delft

Global Initiative

utctudelft.org

SDGs at BK

PHOTO BY ROBERTO ROCCO

EXHIBITION ON THE SUSTAINABLE DEVELOPMENT GOALS ORGANISED AT THE FACULTY OF ARCHITECTURE AND THE BUILT ENVIRONMENT OF THE TUDELFT, MAY 2018.





[THE RESEARCH PROJECT]

Meeting the sustainable development goals through responsible innovation

*TEXT ORIGINALLY PUBLISHED IN THE REPORT 'SUSTAINABLE DEVELOPMENT GOALS AND RESPONSIBLE INNOVATION: RESPONSIBLE INNOVATION FOR SUSTAINABLE PEACE, INTERNATIONAL RULE OF LAW AND GLOBAL JUSTICE', DELFT: TBM, TU DELFT AND THE CITY OF THE HAGUE

The UN Sustainable Development Goals (SDGs) will shape the international political discourse in the coming decades. In the academic year 2017-2018 Delft University of Technology has explored the viability of a research pro-gram offering new possibilities for collaboration to the various parties residing in The Hague. The theme, Re-sponsible Innovation for the SDGs, is aimed at employing the innovative capabilities of the Netherlands for global sustainable development.

The research theme aligns well with the strategic research agendas of the departments of the Dutch government, the missions of a variety of international organizations in The Hague, as well as with research activities of the six Dutch universities which are active in the city: Leiden, Delft, Rotterdam, Wageningen, Amsterdam, Groningen

and Utrecht. Innovative solutions to global problems also offer corporate partners, entrepreneurs and start-ups inter-esting opportunities.

The program is directed towards sustainable development goals that have received less attention from knowledge institutes. Several short-term vanguard projects demonstrate the viability and relevance of utilising innovation research for the SDGs, and an introductory essay sets out the vision for The Hague in the 21st century.

THE HAGUE IN THE 21ST CENTURY

How does The Hague remain one of the most important cities in the world in the area of Peace, Law, Justice and Security in the 21st century? The Hague owes its international reputation to recognizing problems

and solving them pragmatically in times of high political tension, arms races and rapid technological change in the begin-ning of the 20th century. The metropolitan region of The Hague is also internationally associated with the cradle of thinking about World Peace and the International Rule of Law, in the persons of Erasmus and Grotius, and with the roots of the early Enlightenment as represented by Spinoza and Bayle.

In order to be able to play a similar role in the world in the 21st century, The Hague is now also facing with the challenge of understanding the nature of the problems of humanity and of offering solutions. The intellectual climate in The Hague around 1900 pointed towards a 'World Capital'. Competition with other cities was in full swing in this area. Perhaps the most important explanation for the success of The Hague is

that it succeeded in placing an important issue on the global agenda of mankind at the end of the second millennium, instead of striving for excellence on agendas proposed by others. The ideas of World Peace, International Rule of Law and institutionalization of Arbitration were invented here. More than a century after the second peace conference in 1907, the world looks radically different in the 21st century. Complex humanitarian, sustainability and security issues on the world stage are immediately tangible at local levels. This world is complex, hyper-connected, dynamic and unstable. Social media and mobile internet bring great benefits, but also come with many new vulnerabilities.

The international community has drawn up a consolidated list of 17 Sustainable Development Goals (SDGs), similar to the international consensus regarding the so-called Grand Challenges and the Millennium Goals. This list of problems will strongly determine the global debate on a safer and more just world in the remainder of the 21st century.

New in this context is the importance accorded by the UN to the role of innovation, technology and applied scientific research with a strong multidisciplinary character. It is clear that no progress can be made on solutions to these problems if it is not recognized that technology is both part of the problem and can also be part of the solution. For this reason, the UN has set up a Technology Facilitation Mechanism (TFM) to promote innovative solutions on the SDG agenda. This is an important development within the UN, which for the first time explicitly focuses on perhaps the most important driver of the history of the 21st century: technology.

An important aspect of the SDG agenda is that the problems cannot be treated in isolation, but must be viewed in conjunction. Meanwhile there are decision-making tools that help to understand, model and visualize the inter-relationships between the SDGs. Because it is not a list of separate problems, the situation is complex and so are interventions and policy measures. Another aspect associated with these mutual relationships is the fact that the complexity with which we are confronted requires a new multidisciplinary science that allows us to understand connections and to deal with these problems on a global scale.

To gain a better understanding of complex adaptive systems, multidisciplinary centres for complexity science have been set up in numerous places. In these centres, scientists from different disciplines work together on models and simulations to improve our understanding complex systems in order to better predict their behaviour. On the basis of these models, policy makers arrive at more adequate and responsible interventions that result in improved policies. The outcomes of this type of research are often counterintuitive for policy makers and politicians. Our interventions in social, economic and ecological systems often have unexpected negative consequences. We can, however, not afford such mistakes in combating climate change, humanitarian and economic crises, cyber war and terrorism. Such missteps can be prevented by using new approaches to science that leads to more insight into complex phenomena as a basis for policy.

The new sciences, innovation and technology are necessary to create conditions for achieving the moral objectives that have been specified in the SDGs. The new science, knowledge and expertise are morally blind without normative frameworks, but normative principles without the ability to intervene are impotent. The SDGs absolutely require responsible innovations: innovations that adequately realize the moral ideals of peace, justice and justice and other shared moral values.

The traditional subjects of The Hague will therefore have to take a central place in the work on the SDG agenda: without International Law, peace building, diplomacy, humanitarian aid and development cooperation, protection of human rights, promotion of security, fighting corruption, fraud, organized crime and terrorism, applied science and innovation will miss their desired effects.

Better insight into human psychology has contributed significantly to the manipulation of consumers and voters in recent decades, and only to a limited extent to solving our Millennium Problems. The traditional disciplines in The Hague will therefore have to play a role in this new world and must connect with other new scientific knowledge and technology. Moreover, in the coming decades, the disciplines of The Hague will also have to make use of new, mainly digital, technology for the development of their own instruments, methods

and techniques. Professionals in the fields of law, diplomacy, policy, international relations will have to go digital or no-where. The Hague could provide expertise that prepares for this new role of international law and innovations within it.

The Netherlands has received international recognition for its approach to innovation. A "Dutch Approach" has become visible. This approach can be extended in different ways through good cooperation in The Hague through a range of triple helix mechanisms. Such an approach is desperately needed in the areas of cyber security, transport and logistics, robotics, energy transition, self-driving cars, industry 4.0, Internet of Things, blockchain, waste processing, circular economy, urban planning, smart city development, fintech and finance, data science and humanitarian aid and development cooperation. In addition to its practical and efficient approach. The Hague has the most official offices of Dutch universities within its city limits and, according to a ranking of the Times, it is one of the top academic cities in the world. The universities within the proposed partnership can jointly perform applied and fundamental research that supports the plans for The Hague's International Agenda, the SDG agenda and the Digital International Legal Order that we will have to work on in the remainder of this century.

The city of The Hague and the Dutch government want The Hague to maintain its position as UN city and international city of Peace and Justice in the 21st century. They also want the Netherlands to continue to play a meaningful role on an increasingly dynamic and chaotic world stage. In order to perpetuate the special position in the world, it is now no longer sufficient to build on the achievements of the past along paved roads. In short, in the coming years in and around The Hague we need to give a 21st century meaning to the theme of Peace and Justice, partly through technological innovations and digitization.

*** The organisation of the symposium would like to thank to Haye Hazenberg, post-doctora researcher at the Faculty of Technology, Policy and Management of the TU Delft, for including the symposium and the com in this research project**

Peace Palace, The Hague, The Netherlands

PHOTO BY ROBERTO ROCCO



PEACE PALACE IN THE HAGUE. THIS PROJECT WAS PRESENTED AT A SYMPOSIUM IN THE HAGUE ON JUNE 8, 2018.

[THE COMPETITION]

Ideas Competition

CONFRONTING INFORMALITY: PRESERVING COMMUNITIES AND
CREATING PUBLIC GOODS IN INFORMAL SETTLEMENTS

We live in an urban world. According to the United Nations, the world's population will grow 40% by 2050, and the urban population will double in just 35 years. Urban growth is one of the most complex challenges of our time, especially if we consider that 95% of the fast growing cities of the world are found in developing countries of the Global South. Many governments in developing nations do not have the capacity or the will to plan for such explosive growth.

As a result, approximately 3 billion people will live in informal settlements by 2050. This means that planners and designers must urgently address problems such as the lack of urban services and infrastructure in informal settlements; but they also need to address topics such as insecurity of tenure, poor accessibility to services and jobs, scarcity of public spaces and above all, the issue of social inclusion. How to confront informality, so that public goods can be delivered to the inhabitants of these settlements? How to make the barriers that divide the 'informal' city from the formal one more permeable, in order to achieve social sustainability?

There are no simple answers to these questions, and different solutions can be proposed for different communities in different places. On September 25th 2015, countries adopted a set of goals to end poverty, protect the planet and ensure prosperity for all as part of a new sustainable development agenda. There are 17 sustainable development goals (SDGs), each with specific targets to be achieved over the

next 15 years. TU Delft has incorporated the 17 SDGs in its mission to deliver designers and engineers that will work for sustainable development everywhere.

To be able to do that, TU Delft focuses on high quality research. The university believes that research can also be done by design. This is why we launched an international competition of ideas to address the topic of slum upgrading while preserving communities, open to students from any discipline. Innovative solutions, good practices and spatial strategies could therefore be developed and shared by young planners and social activists from all over the world.

What are the challenges we want to address?

There is much discussion about what "urban informality" actually means. For this competition, we understand informal urbanisation as a set of unregulated, unplanned and often illegal ways of building cities that lead to both desirable and undesirable outcomes. Informal settlements usually face tenure issues, lack of access to water and sanitation, little provision of public space, bad housing conditions, weak connection to the transportation networks or long commuting times, among others. Citizens are exposed to urban segregation, high vulnerability to natural disasters and climate change and socio-economic problems, such as violence and crime. On the other hand, informal settlements are gateways to the city, they allow low-income families to set foot in the city, build

livelihoods and form strong networks of solidarity. They are the result of spontaneous bottom-up processes, in which dwellers negotiate, work and even fight to get a spot in the city. Access to services and public goods, such as housing, commerce or infrastructure, is sometimes achieved and managed through citizens own work and effort. This is spatially translated into vibrant areas with intense public life, in which many activities and uses coexist, creating an interrelated social fabric and a strong sense of belonging.

Slum-upgrading or urban renewal programs are developed in order to provide accessibility to better urban standards and public goods. Nevertheless, planning often doesn't manage to keep the diverse and intense public life of informal settlements. Relocation of people living in risk-prone or vulnerable sites may even generate displacement of citizens to other areas in the city, breaking their social and working ties.

Is it possible for these top-down planning programs to incorporate bottom up processes, while empowering communities? Is it possible to keep the flexibility and variety of informal communities and provide access to public goods at the same time? How can relocation of citizens in vulnerable areas be tackled without displacement?

These are the topics we wanted to address in the ideas competition, in order to raise awareness and promote debate.

Who could participate?

The competition was open to students from all over the world, up to 33 years of age. Even though the competition was organised by the Faculty of Architecture and the Built Environment of the TU Delft, we believe that the problem of informality should be addressed in a multidisciplinary way. We encouraged teams to be composed by members from different backgrounds, and not only by architects or planners.

Teams had to be composed by a minimum of two participants and maximum of five participants. Participants may be from different countries and from different schools.

In total, 50 teams from all over the world submitted proposals. 20 finalists were pre-selected by organisers and analysed by a team of experts.

Rules of the game

Confronting Informality 2018 is an IDEAS COMPETITION. All teams had to deliver a proposal to improve the living environment of an actual informal settlement in a city of the Global South. The proposals also pointed out the specific positive characteristics of the area, explaining how those were preserved or enhanced.

Proposals could be developed as a specific spatial project, or as an innovative land tenure or governance policy. In all cases, teams had to address and detail the impact of the proposal in the spatial conditions of the neighborhood. This was done through drawings, maps, pictures, collages or diagrams.

The site for intervention could be chosen by each team, but it had to fulfill the characteristics explained before: "(...) we understand informal urbanisation as a set of unregulated, unplanned and often illegal ways of building cities that lead to both desirable and undesirable outcomes. Informal settlements usually have very low urban standards: lack of access to water and sanitation, little provision of public space, bad housing conditions, weak connection to the transportation networks or long commuting times, among others. They are exposed to urban segregation, high vulnerability to natural disasters and climate change and

socio-economic problems, such as violence and crime." Alternatively, participants could read this document by UN-Habitat: http://mirror.unhabitat.org/documents/media_centre/sowcr2006/SOWCR%205.pdf

The scale of the settlement could vary according to each team's interest. The methodology of the proposal had to be clearly explained. Competitors were asked to consider their cities have policies and projects already in place: it was highly desirable that teams "conversed" with those policies or projects, either criticizing or complementing them. Teams were also encouraged to converse with real stakeholders: grassroots leaders, community leaders, politicians, developers, member of the planning office of their cities and citizens. They were asked to somehow incorporate those stakeholders' ideas in their proposals. We explained that we were not looking for good ideas only, we were looking for ideas that were embedded in real governance structures and that took the wishes of real stakeholders into account.

Specific guidelines or process diagrams could illustrate the methodology in each case. Each proposal had to include a description of the site before and after the implementation of the project or policy, showing what was the expected impact on the living environment.

Johannesburg, South Africa

PHOTO BY ROBERTO ROCCO



Petare, Caracas, Venezuela

PHOTO BY ORIANA DE LUCIA



[NUMBERS]

Symposium in numbers

ONE OF THE OBJETIVES OF THE SYMPOSIUM WAS TO FORSTER DIALOGUE AND DEBATE AMONG STUDENTS AND TEACHERS IN OTHER UNIVERSITIES AROUND THE WORLD. BY PAYING ATTENTION TO OUR CALL, BY READING OUR TEXTS AND DISCUSSING OUR POSITIONS, STUDENTS ALL OVER THE WORLD HAVE DISCUSSED HOW TO IMPROVE INFORMAL SETTLEMENTS WHILE PRESERVING COMMUNITIES AND CREATING PUBLIC GOODS.

50

submissions
from all over
the world.

29 CITIES

PROPOSALS WERE LOCATED IN 29 CITIES AROUND THE WORLD
MOSTLY IN THE GLOBAL SOUTH

890 MILLION PEOPLE LIVE
IN INFORMAL SETTLEMENTS
AROUND THE WORLD, AC-
CORDING TO UN-HABITAT
(2010). THAT'S AROUND 1/3
OF ALL URBAN DWELLERS,
PREDOMINANTLY IN THE
GLOBAL SOUTH

\$4000 IN PRIZES

THE PRIZES WERE SPONSORED BY THE PROJECT SUSTAIN-
ABLE DEVELOPMENT GOALS AND RESPONSIBLE INNOVA-
TION, TBM, TU DELFT AND THE CITY OF THE HAGUE

890

NUMBER OF TEAMS WHO
ENROLLED FOR THE
COMPETITION



883

PEOPLE WATCHED THE
SYMPOSIUM ON LINE VIA
OUR FACEBOOK PAGE

55

PEOPLE ATTENDED THE
SYMPOSIUM AT THE
FACULTY OF ARCHITECTURE
OF THE TU DELFT

71



THE SYMPOSIUM WAS ORGANISED BY A TEAM
OF 14 PEOPLE

[CITIES IN THE GLOBAL SOUTH]

Location of proposals

PROPOSALS WERE LOCATED IN 29 DIFFERENT CITIES, NOT ALL OF THEM IN THE TRADITIONAL GLOBAL SOUTH, BUT ALL OF THEM EXPERIENCING SOME DEGREE OF INFORMAL DEVELOPMENT.

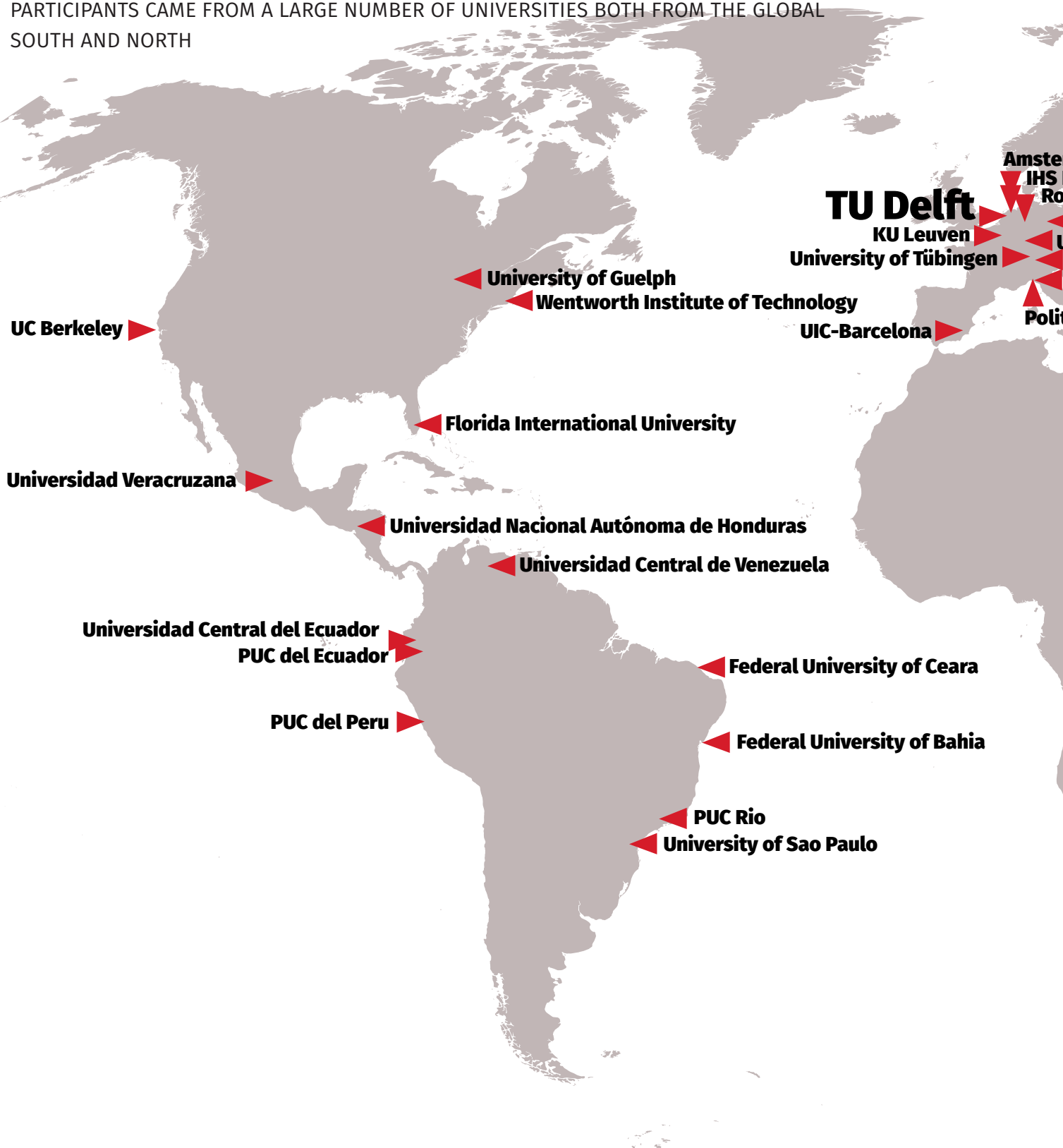




[CITIES IN THE GLOBAL SOUTH]

Universities involved

PARTICIPANTS CAME FROM A LARGE NUMBER OF UNIVERSITIES BOTH FROM THE GLOBAL SOUTH AND NORTH





Valparaiso, Chile

PHOTO BY GABRIELA WALDHERR





A woman with short dark hair, wearing a blue sleeveless dress, is looking down at a piece of paper she is holding. In the background, several architectural drawings and maps are pinned to a wall. The entire image is overlaid with a semi-transparent red filter. The text 'Jury members' is written in large white letters on the left side.

Jury members

THE SUBMISSIONS TO THE CONFRONTING INFORMALITY IDEAS COMPETITION WERE ASSESSED IN TWO STEPS. FIRST, THE ORGANISATION SELECTED 20 FINALISTS. THE 20 FINALISTS WERE ANALYSED BY A TEAM OF REPUTED ACADEMICS WHO WORK WITH THE GLOBAL SOUTH.

[JURY MEMBERS]



Sukanya Krishnamurthy

(INDIA), TU EINDHOVEN, THE NETHERLANDS

Sukanya is currently assistant professor at the Chair of Urbanism and Urban Architecture (Faculty of the Built Environment) at TU Eindhoven (Netherlands). Trained as an architect and urbanist in India and Germany, I received my Ph.D. in Urban Studies and Architecture from Bauhaus University (Germany) in 2012. Prior to joining the Chair of Urbanism and Urban Architecture at the Technical University of Eindhoven in October 2014 as an assistant professor in Urbanism and Urban Architecture, she spent the course of my graduate studies and professional life, working as an architect, designer, and lecturer, researcher in Bangalore (India, 2006-07), Aachen, Dessau, Weimar (Germany, 2007-12) and Toronto (Canada, 2012-14).

MSc Technology and Society, Technical University in Eindhoven 2003, and MSc in Housing, WITS University Johannesburg, South Africa 2005. Ellen is a housing specialist who has worked as consultant, lecturer, trainer and researcher since 2005. At IHS she lectures in the Urban Housing and Livelihood specialization on finance, policy and public housing issues. She lectures in several short courses of IHS and coordinates the short course “Developing Social Housing Projects” and the ‘ICHUD’. Ellen has been involved in acquisition and management of project activities at IHS; she has developed many project proposals, including composition of consortium teams, selection of experts, methodological development and budgeting. She is the project manager for a number of international urban management projects of international clients.

[JURY MEMBERS]

Ellen Geurts

(THE NETHERLANDS), IHS INSTITUTE FOR HOUSING AND URBAN
DEVELOPMENT STUDIES, ERASMUS UNIVERSITY, ROTTERDAM



[JURY MEMBERS]

PhD candidate at the University of Lausanne, Ex- Assistant Professor at the Sushant School of Art and Architecture (India) and Urban Designer at Micro Home Solutions. He has conducted studios and worked projects on In – Situ Slum Rehabilitation and low-income housing in the informal sector. His core research lies in upgrading strategies for informal settlements.

Nipesh Narayanan

(INDIA), UNIVERSITY OF LAUSANNE, SWITZERLAND





Alonso Ayala Aleman

(VENEZUELA), INSTITUTE FOR HOUSING AND URBAN DEVELOPMENT STUDIES (IHS) AT ERASMUS UNIVERSITY, ROTTERDAM

Alonso Ayala is an architect and spatial planner specialized on the fields of housing, informal settlement upgrading, human settlement planning and regional development planning in emerging and transitional economies. He holds an MSc in Regional Development Planning and a PhD from the Faculty of Spatial Planning of TU Dortmund University. With over twenty five years of working experience he has conducted field research on adequate housing in Venezuela, Bangladesh, Ghana and the Philippines. His specific fields of expertise are management and design of housing projects; research, lecturing and training on adequate housing; sustainable human settlements, including resilient housing; and consultancy work and capacity building of local governments in housing-related issues.

He has delivered specific training and short courses related to housing and climate change on the following topics: affordable resilience housing for vulner-

able groups, sustainable housing in times of climate change and, mainstreaming affordable resilient housing strategies for vulnerable communities in city land use and shelter plans.

Other assignments done by Alonso Ayala in the past years are: Professional course on Developing Social Housing Projects (every year since 2011); Tailor-made Training Myanmar: Township Action Planning for Local Economic Development and Entrepreneurship, Livelihood Enhancement and Flood Risk Management (Yangon 2016 and Mandalay 2017); Definition of the Social Housing Strategy for the Republic of Albania (2014-2015); Best Practices for Roma Integration in the Western Balkans: Legalization, Settlement Upgrading and Social Housing (2013-2014); Establishment of the Metropolitan Agency for Housing and Urban Development in the Municipality of Guatemala (2012-2013); Housing Needs Assessment for the Municipality of Diyarbakir, Turkey (2010-2011).

He has conducted training and advisory work in Germany, The Netherlands, Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Turkey, Brazil, Ecuador, Chile, Guatemala, Venezuela, Bangladesh, Indonesia, Myanmar, Thailand, Philippines, Ghana, Nigeria and South Africa.

Originally from Canada, she focuses on urban policy and planning, participation and urban politics in Brazilian cities. Recent projects have explored metropolitan planning, social justice, urban social movements, and the right to the city in Brazilian cities, and comparative research on land value capture and city diplomacy in São Paulo and Toronto

[JURY MEMBERS]

Abigail Friendly

(CANADA) DEPARTMENT OF HUMAN GEOGRAPHY AND SPATIAL
PLANNING AT UTRECHT UNIVERSITY, AND A FELLOW AT THE GLOBAL
CITIES INSTITUTE AT THE UNIVERSITY OF TORONTO.





Ignacio Cardona

(VENEZUELA), GSD HARVARD UNIVERSITY, CAMBRIDGE

Doctor of Design (DDes) candidate at GSD, Harvard University. Architect (Universidad Simón Bolívar, Caracas, 1998) and urban designer (Cum Laude, UNIMET, Caracas, 2003), and a Doctor of Design candidate at Harvard's Graduate School of Design (Cambridge, 2018). Since 2008 he has directed Arepa Architecture Ecology and Landscape (www.arepa.info), a workshop that has won several national (Venezuela) and international competitions.

Ignacio Cardona focuses his studies on creative methodologies of design research to weave together fragmented urban fabric in the cities of the Global South in order to promote social equity, particularly in areas often characterized by being highly conflictive and violent. The work intends to address issues of fragmentation, connectivity and social equity in urban environments that although very dense are nevertheless highly malleable and hold potential for effective intervention.

Ignacio is an Architect (Universidad Simón Bolívar/1998) and cum-laude Magister of Urban Design (Universidad Metro-

politana/2003) and Founder of "AREPA: ARQUITECTURA ECOLOGÍA Y PAISAJE" an important Venezuelan think tank that has become a reference on urban phenomena in Latin-America, that has developed several projects with the philosophy to articulate the technical knowledge of design with felt needs of communities.

Before starting the Doctor of Design at the Harvard GSD, he developed a career as professor in the Universidad Simón Bolívar (Caracas, Venezuela) for ten years. In Studios about architecture and urban design, and as advisor of more than 50 thesis of undergraduate and graduate students. Ignacio also has been Visiting Professor in the Magister of Urban Design at Universidad Metropolitana (Caracas, Venezuela), and in the Bachelor of Science in Architecture at Wentworth Institute of Technology (Boston, USA).

Lima, Peru

PHOTO BY PABLO MUNOZ





FISHERMEN'S VILLAGE IN IN MUMBAI, INDIA.
PHOTO BY ROBERTO ROCCO (2015)

[INTRODUCTION]

Location, location, location

SUKANYA KRISHNAMURTHY (INDIA), ASSISTANT PROFESSOR, TU EINDHOVEN

The estimate of the world's urban population of 2.5 billion people by 2050 is our watershed moment. With 90 per cent of this increase slated to be concentrated within regions of Asia and Africa (UN 2014), the imperative to discuss concepts of urbanisation that divulges from past experiences is urgent. This poses a tremendous challenge for urban development where discussions need to move beyond mere improvement of existing urban areas, and instead look to bridge the correlations between development, spatial impacts, stakeholders and governance. This symposium aims to be one of the forum where this discussion happens, confronting what there is, and finding innovative mechanisms to cope with it.

The vast body of literature from the last decades shows us that the reality in developing cities is that access to property for new urban migrants is highly ambiguous and contested, which is further compounded by the mismatch between supply and demand within the housing market. 'Location, location, location' is a mantra followed by both the urban poor and commercial investors, leading to the ubiquitous picture of a dual city, the skyscrapers against the slums and the ghettos (Brener 2001, Sengupta

2008). This picture of duality between the formal and the informal as binary opposites have been challenged by various authors, including Benjamin (2008), Roy (2009, 2011), McFarlane (2012) in an effort to reverse urban informality's normative reference and recognise the agency of the marginalised urban poor. Along with these efforts, there have also been warnings over the danger of promoting the idealization and aestheticisation of poverty (Roy 2004). By looking to informal settlements for concepts such as of non-permanence and self-help solutions, we move away from the right to the city discussion that applies to the rest of the population that live in the formal city.

Asserting the right to the city is the access to shelter, the use of urban land, a house, a hut or even a temporary space (Evers 1984). Access to land and by default housing is one of the most visible struggles in urban areas. Most urban dwellers in the developing world end up having to rely on their own initiatives and support systems to satisfy this basic need and reversing the formal sequence of planning-servicing-building-occupation. While many slums will be places of misery, despair and violence; others will be places of hope where residents incrementally aim to improve their situations

(Brener 2016). This incremental process however is dependent on existing capacities that need continuous support rather than time bound interventions. As Cruz (2012) highlights:

'The informal is not just an image of precariousness; it is a compendium of practices, a set of functional urban operations that counter and transgress imposed political boundaries and hierarchic economic models. The hidden urban operations of the most compelling cases of informal urbanization ... need to be translated into a new political language with particular spatial consequences. This will lead to new interpretations of housing, infrastructure, property and citizenship, and inspire new modes of intervention in the contemporary city'

Urban challenges cannot be overcome by providing more of the same but by enabling diverse and different approaches, and through the efforts of the participants in this symposium we engage in this debate to push that envelope further.

Mumbai, India

PHOTO BY ROBERTO ROCCO





ELECTRIC WIRING IN A SLUM IN MUMBAI. PHOTO BY ROBERTO ROCCO.

[OPINION]

Confronting Informality: Preserving communities and creating public goods

ASMEETA DAS AND PABLO MUÑOZ UNCETA, DELFT UNIVERSITY OF TECHNOLOGY

*TEXT ORIGINALLY PREPARED FOR THE WEBSITE “ENGINEERS FOR CHANGE”

Upon crossing the 50% threshold, the human population can now officially be called Urban. With United Nation's predicted increase of about 1.1 billion new urbanites by 2030, most cities will face an unprecedented developmental pressure in addition to their current struggle to provide basic living and working standards to their citizens. “Informal urbanization is a form of city construction defined as the production of urbanization independent from formal frameworks and assistance.” (UN Habitat, 2014) These forms of the cities are home to informal economies and settlements which

have a collective population of about 1.5 billion people.

The fast-growing economies of the Global South are at the forefront for this challenge and are yet to include these settlements in their planning framework. This generates a debate in the field of planning and design about the future of these self-built settlements, presenting an immense opportunity for discussion and innovation in this area. Confronting Informality is an annual student-led event at TU Delft which aims to discuss tools to come up with sustainable, fair and innovative solutions to improve

quality of life and, at the same time, respect the livelihoods and values of the dwellers.

In 2018, an Ideas competition was floated over two months which received 50 entries from 24 countries with participants from across disciplines. The competition was followed by an exhibition and symposium with speakers with unique perspectives on the topic.

Formal and Informal

According to Nipesh Narayanan, one of the key note speakers, we should go beyond the dichotomy formal-informal city, which puts informality as an anomaly to the

urban. Informality goes beyond the slums, it is a practice often indulged by public and private sectors, by the rich and the poor. Rather, our professions as urbanists or designers should try to redefine their role in order to adapt to the different situations that the dialectic formal-informal offers.

As Sukanya Krishnamurthy, moderator of the symposium, posed, in order to understand and tackle informality, we need new interpretations of housing, infrastructure, property and citizenship that would inspire new models of studying and working within the contemporary city.

Even though slums often present low-quality living standards, low accessibility to public goods or high exposure to vulnerability or violence, there are also existing capacities in informal settlements to be preserved and learnt from. Social cohesion, sense of community or the entrepreneurial ability to negotiate and achieve their own goals collectively, are values that are missed and strived for in cities nowadays and are often still present in informal areas. The question remains: how to preserve those qualities and at the same uplift the quality of life in vulnerable and informal areas?

Location, location, location

In order to reflect upon this issue, participants of the competition were asked to analyze an informal settlement of their choice and come up with solutions that would uplift the quality of life and, at the same time, preserve the core values of the settlement. The variety of the proposals showed that, even if the conditions of informal settlements over the world could be seen as similar, the context determines many of the solutions, depending on the culture, geographical location, lifestyle and political and economic framework. Location, location, location is one of the mantras that many experts repeated during the symposium. The introduction of local stakeholders as part of the solution during the upgrade process is key to success, as well as continuous support, rather than time-bound interventions.

Nevertheless, there is still a big gap between understanding the problem and finding solutions to tackle it. Confronting Informality aimed at contributing to this search, but there is still a long way ahead. Sparking this global debate poses great opportunity for innovation and research into this extremely relevant topic in universities, governments and practices alike.



INFORMAL SETTLEMENT IN CARACAS, VENEZUELA.
PHOTO BY ORIANA DE LUCIA.

[OPINION]

Does the (in)formal city exist?

IGNACIO CARDONA, DESIGNER, DOCTOR OF DESIGN (DDES) CANDIDATE AT HARVARD GRADUATE SCHOOL OF DESIGN

There are many negative effects produced by the so-called informal city, for example: unproductivity, vulnerability, and urban violence.

At the same time, it implies many positive effects. On the one hand, the enormous building capacity of self-built settlers (Gouverneur, 2015) is frequently considered a solution for housing problems, even for unemployment (Garcia-Bolivar 2006). On the other hand, self-built processes presuppose an effective system of communication that enabled systems to act spontaneously and to self-organize in response to need (Capra, 2002; Hamdi, 2004), allowing the construction of new dynamics of citizenship that come out through the profound engagement of residents with city-building (Holston, & Caldeira, 2008).

According UN Habitat (2016a, 2016b) reports

explain that this positive and negative dynamics are in a continuous growth, both in dimensions and levels of complexity. So, it is convenient to delaminate processes that underpin both informality and contemporary cities in order to rethink policies and design strategies to marshal the positive gains of informality while minimizing the negative ones.

Informal networks arise through personal connections that constitute the essence of human exchange (Nee, 1998). The informal relations that produce commitment to others is, strictly, the first urban phenomenon, because people live in cities in order to grow in mutual societies (Mumford, 1937). For that reason, informality could be defined simply as a process between the apparition and the exchange process, and its incorporation into the regulatory

frameworks agreed by the society (Portes, et.al., 1989).

At the same time, informal processes move fluidly between one territory and another (Hansen & Vaab 2004; Roy, & AlSayyad, 2004). For instance, in Latin America, it is common to see in so-called designed cities occupancy processes that occur beyond the existing regulatory framework, i.e. informal constructions. Informality is not exclusively the realm of one territory, not even the self-built cities by underprivileged citizens.

Furthermore, nowadays it is difficult to understand urban processes only through the analyses of a spatial-bounded territory. In the contemporary hyper-connected urban world, a geographically isolated indigenous community that is hired informally for the deforestation of a land in the middle of the Venezuelan Amazon is involved in a deeply

urban consumption patterns process. Then, some city-centric perspectives -such as UN-Habitat (2016a; 2016b) reports- that quantify the number of inhabitants living in cities or even in so-called informal cities- ignore a that much greater number of people, often not living in places usually defined as cities, are directly or indirectly involved in the perpetuation of global urbanization processes (Brenner, & Schmid, 2014; Kaika, & Swyngedouw, 2014), including inequality that underpins the growth of self-built environments

So, if both informal relations and urban dynamics are processes that do not belong to a spatial-bounded territory, we can conclude that the informal city does not exist; They are a series of fluid dynamics that transcend territories, where self-built -or perhaps self-configured- environments are just one of its spaces. So, the understanding of these dynamics in terms of processes will facilitate the development of policies and design strategies for their urban intervention.

Cambridge, June 4, 2018.

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INFORMAL NEIGHBOURHOOD IN SAO PAULO.
PHOTO BY ROBERTO ROCCO.

[OPINION]

Positioning the architecture profession to confront informality

NIPESH PALAT NARAYANAN, PHD CANDIDATE AT THE UNIVERSITY OF LAUSANNE

The world is fast urbanizing and most of this fast-paced urbanization is happening in what we pithily refer to as 'informal settlements'. The symposium 'Confronting Informality' does a much needed two-fold intervention. First, to bring together various actors to think about urban informality; and second, by this intervention, instigate the students of architecture and urbanism to develop themselves to confront informality. I strongly believe that on one hand this will develop a field of creative thinkers to develop solutions for contemporary grim urban realities, and on the other hand, question the role of architects and urbanists to intervene in hitherto unexplored situations.

Although, informality has been a research subject since the early 1970s, architects have had much lesser impact on the major global debates when compared to other social scientists. It was probably Rem Koolhaas's studio on Lagos during mid-1990s, that caught the imagination of the interventionist architects and made the discussions on urban informality a serious affair amongst architects. These discus-

sions have evolved ever since, but has led to a more nuanced questioning of the architecture profession. This has resulted in multiple conundrums, two of which I will touch upon. First, space being the main apparatus of an architect, got problematized by Lefebvre (especially after his 1974 book was translated to English titled 'Production of Space' during the early 1990s.). Space or the production of space was conceptualized and thereafter strongly politicized as a tool of (global) capital to manifest itself. This popularized the war cry of 'right to the city' (although more formalized in Latin America) and pictured architects as an agent of the capital for this purpose. Second, informality discussions, starting from the late 1990s has moved beyond clustering of people or places. This moved the focus of scholarly debates from tangible informal economy, slums, or housing, to informality as an intangible governmentality. This could be summarized as the exploration of politics of informality. Architects, the key agent of physical manifestations of global collective dreams (e.g. the Habitat III) are now grappling to redefine their role, i.e., if infor-

mality is no more a tangible subject, then how to we confront it? These debates have resurfaced more recently after Alejandro Aravena won the Pritzker Prize and thereafter his critical curatorial practice at the Venice Biennale of Architecture in 2016.

The fast-paced urbanization process of our times has indeed resulted in reduced provision of urban services and marginalized a considerably large set of people across the globe. There are local issues of access to housing, water, and electricity to larger questions of citizenship rights. These issues may be pronounced more in the so-called informal settlements, but are not a result of informality alone. For example, only about half the urban poor in the city of Delhi, live in slums. Therefore, how can the problems of slums, be guiding our strategies to confront informality?

Events such as this puts these critical questions into enquiry from various disciplinary positions within architecture. Creativity binds our various positions; thus, we can surely devise creative methods to problematize our profession to confront informality.

[OPINION]

Rethinking informality? The role of planning in the informal city

ABIGAIL FRIENDLY, DEPARTMENT OF HUMAN GEOGRAPHY AND SPATIAL PLANNING AT UTRECHT UNIVERSITY,
AND A FELLOW AT THE GLOBAL CITIES INSTITUTE AT THE UNIVERSITY OF TORONTO.

Informality is a highly contingent term that requires thinking both about the context but also behind the meaning of the term and what it brings for planning in cities of the Global South.

While there are various ways of defining informality, generally it connotes activities of urban development, trade and exchange that fall outside formal rules and regulations.

Given the challenging nature of the term, there has been a great deal of critique, discussion and work – both academically and in practice – around what the idea actually means. Rethinking “informality” helps us to reconsider the connotations with the use of informality itself and requires us to refashion what are essentially deeply seated notions of the types of things that are usually associated with informal life. Most of these meanings are negative, for example underground work, few regulations, and precarious housing.

At the same time, we should not be driven to think of informality only in such black and white terms. In many places, for instance, informality could be associated with both low- and high-income groups. However, whatever the connotation, it is clear that informality is very much a large part of planning and urban development in most parts of the Global South.

What we also have to consider is that the informal itself is highly connected to the formal, and such processes can't be thought of as occurring separately from formal institutions. Such formal processes in a sense also create informal processes, and this means we need to think about both parts of this continuum when we rethink informality. If informal urbanization is an

“organizing logic” governing urban development and transformation following Ananya Roy (2005), then thinking about cities and planning in much of the world cannot be separated from informal urbanization. In that sense, informality can be thought of – not only as a challenge that needs to be dealt with – but also as a challenge with planning itself.

My own work on Brazilian urban policy – including work on the Statute of the City – has grappled more with the policies surrounding informal urbanization, but also with the recognition that urban policy may create change by advancing a more just approach to city governance (Friendly & Stiphany, 2018).

Such thinking also requires a recognition of the structural conditions producing informal urbanization, but also the relations of urban development that shape informal ways of life. Drawing on others (see for example, Kentor, 1981), Teresa Caldeira uses the term “peripheral urbanization,” a worldview that operates inside formal modes of planning, but in transversal ways through which people “make themselves into citizens and political agents, become fluent in rights talk, and claim the cities as their own” (Caldeira, 2017: 3).

While peripheral urbanization has resulted in innovation, it also leads to highly unequal cities. Overall, it is the role of governments, international institutions and planners themselves – together with communities – to both rethink informality and to place people at the centre of cities.

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[OPINION]

Confronting informality

ALONSO AYALA AND ELLEN GEURTS, INSTITUTE FOR HOUSING AND URBAN DEVELOPMENT STUDIES (IHS)
AT THE ERASMUS UNIVERSITY ROTTERDAM



EL AGUSTINO INFORMAL NEIGHBOURHOOD IN LIMA. PHOTO BY PABLO MUNOZ UNCETA.

The urbanization of poverty is a common phenomenon in urban areas of the global south. This urbanization is translated into the formation and consolidation of urban informal settlements, most commonly referred to in international development as slums.

According to UN Habitat (2006), one out of every three city dwellers – nearly one billion people – live in a slum. Slums have become the settlement pattern that widespread across many cities in developing countries for a number of reasons. Initially, high rates of rural urban migration was the main cause, when new arrivals to the city searching for employment opportunities, could not find affordable accommodation in formal housing and land markets. Nowadays, rural urban migration is not the only cause. There exist other migration patterns, such as urban urban migration, international migration from countries

experiencing political and economic downturn and conflict, and forced displacement for reasons such as ethnic cleansing and climate change related events.

The latest World Bank statistics shows that urbanization continues to increase and at current over 55% of the world's population lives in urban areas (WB, 2018). The impact of slum upgrading and land regularization programmes across the globe has led to a decrease in the proportion of people living in slums, but their absolute numbers are still increasing due to urbanisation patterns (UN Habitat, 2011). In addition the complexity of the urban housing challenge is also characterized by the global affordability crisis (MGI 2014), which affects the whole population, but most importantly those whose income levels and sources of livelihoods render them in poverty. Trapped in an illegal world, epitomized by slums, the urban poor struggle to achieve a better

quality of life through access to resources and sources of livelihoods, including shelter, which they can only find in slums. A whole informal market dynamic, which overlapped with the formal one, exist in cities. Most people find accommodation not in the formal market, but rather through self-constructing their houses, usually in an incremental manner, or renting from (often exploitative) informal landlords and landladies.

Informal settlements can be seen as the self-help housing realization of the urban poor, and slums, although been paradoxically at the center of many urban development interventions, keep on growing. Two extremes in intervention approaches still occur. From forced evictions and eradication to holistic approaches that includes infrastructure upgrading, land regularization and livelihood projects tackling social and economic issues. In many cases this

means an unclear urban development strategy of which the slum issue keeps on being treated in a purely adaptive way by reacting to the consequences, never addressing, at least in a meaningful way, the root causes of the problem. Thousands of well-intended slum interventions have been implemented across the global south, unfortunately these have not substantially reverse the situation and many of the interventions remain piece-meal projects with no long term impact.

A reflection on these two extreme approaches and the role that planning also plays on this, is also occurring. South Africa is an example of a country where the shift from the 'eradication of slums' to one of 'establishing national upgrading of slum programmes' was made explicitly. The change in the public housing policy came into effect with the introduction in 2004 of the Breaking New Ground: A Comprehensive Plan for Housing Delivery policy. As these processes are lengthy and cumbersome, the impact of the informal settlement upgrading programmes is only slowly taking up. But just like many places in the world, the implementation and the impact of these programmes remains also problematic as the approach taken to slum upgrading does not lead to the outcomes desired.

A critique has emerged on the necessity to develop new or different perspectives on planning that can inform urban planning and theory much better. De Satge and Watson (2018) as well as the African Centre of the Cities have been calling for a better understanding of Southern Planning Theories. A new dawn for planning approaches may be needed to better understand and fundamentally improve not only physical but also social conditions in the Global South.

Against this background, confronting informality seems to be a discussion from which we are far from finished. This discussion can become as philosophical or as practical as we want it to be. We can approach the discussion from a political, human rights-based or development-based perspective. The Urban Housing, Equity and Social Justice team of the IHS is exploring the concept of 'housing justice' in this regard. In our research workshop on Urban Housing Justice, we aim to gain a better understanding on the challenge regarding the conditions under which housing policies, translated into interventions and approaches, might lead to housing justice. This understanding should also contribute

to a more grounded debate around the challenge on how to confront informality.

As members of the jury we want to express our gratitude to all the entries made and compliment the students with their work. It shows to us that there is clearly an interest and an understanding of the complexities, challenges but also the urgency to contesting informality for design students. We believe it is key that our future practitioners in housing and urbanism start to have a real understanding of the realities that many people in the world experience: living in the 'informal city', in the slums. What we particularly want to applaud is that many entries clearly went beyond purely design interventions by showing a real grasp of the wide variety of stakeholders and beneficiaries that affect the interventions proposed. In addition we were pleased to note that the sustainability of the interventions proposed was multi-dimensional moving between environmental, financial and social sustainability as exemplified by the strong understanding of beneficiaries' livelihoods.

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INFORMAL SETTLEMENT IN MUMBAI, INDIA.
PHOTO BY ROBERTO ROCCO.

[OPINION]

The view from a Mumbaikar

NINAD SANSARE, STUDENT ORGANISER, MASTERS URBANISM, TUDEFT

Being a Mumbaikar (person from Mumbai) informal settlements are not a distant topic for me. I realized after coming to Delft that most of the western world has a different perception about slums in Mumbai, specially Dharavi. Most of the credit for creating that image goes to the motion picture *Slumdog Millionaire*, directed by Danny Boyle, which exaggerates the reality on the ground. Sadly, in most cases, informality is just a topic of discussion in the western world at conferences in five star hotels. Competitions like 'Confronting Informality' create a necessary dialogue with the reality on the ground, which is

reflected in all the entries from all over the world. I believe that the research of all contestants, specially the ones focused on Mumbai, will correct wrong perceptions about slums. As part of the organising committee and one of the member in the selection process, I noticed that in all the proposed ideas people are accepting informality and trying to improve in all possible ways. It is important to make the step between discussion and action. This competition opens up the possibility of transforming these neighbourhoods in our very own cities and not to bulldoze them. As a proponent of democracy and human

rights, this competition allowed students to do more than just understanding informality. They were able to confront it.

The rationale of the selection

ROBERTO ROCCO AND TEAM

Why were these projects selected?

We had 50 submissions from all over the world! All the projects were very inspiring and they gave us insight into the different realities they address. And what amazingly different realities they are.

But as different as those realities are, we all live in one single world with finite resources, a world that is now facing very serious challenges: climate change, increasing inequality, and now the serious threats to democracies all around the world. Rapid urbanisation in the Global South is one of those challenges, but it is also an opportunity for citizens to enter the realm of politics, to struggle for their legitimate rights and to strengthen democracy and participation. That's why we want to talk about informal urbanisation and the 50 submissions were part of that conversation. And their voices were heard loud and clear.

I would like to invite you to continue this conversation and to really demand that teachers, politicians and decision-makers discuss informal settlements and most importantly, demand that they discuss how citizens can participate in order to make their

own neighbourhoods safe, inclusive, healthy and sustainable. The Right to the City is a goal we all should strive for.

The winner is a project from Dhaka, Bangladesh. The team was composed by Rahfatun Nisa Nova, Nazila Sabrin Zaman, Ayesha Labiba Khalil, Monjura Khatun Nisha and Md. Nazim Uddin, from BRAC University and other institutions. The second place was split between two teams, a team working in Rasheed (Rosetta), composed by Philipp Winter, Florangela Chahuayo, Ahmad Mamdouh, Lara Vergas from Cairo University in Egypt and a team working in Salvador, Bahia: Ana Clara Oliveira de Araújo, Mariana Ribeiro Pardo, Camila Pinho de Mello, from the Federal University of Bahia in Brazil.

There were two honourable mentions: a team working in Karachi, Pakistan, composed by Ferya Ilyas, Shizhe Ma and Yilin Lai from the University of Stuttgart in Germany, and a team working in Kamez, an area of Tirana in Albania: Amina Chouari, Antonio Sposetti, Chiara Magli, Mariaelena Scaglia, from the venerable Politecnico di Milano in Italy.

What did all these projects have in common?

1. They addressed issues of social, economic and environmental sustainability,
2. They addressed community building, governance and participation,
3. Many of them mentioned democracy and democracy building,
4. They understood the role of stakeholders and they had a discussion on the role of governments, sometimes of business and civil society,
5. Participants questioned their own roles as designers, planners, and architects,
6. They formulated integrated strategies that took space, society, economy, technology into account. This was particularly strong in the group from Dhaka and warranted them the first place

The role of design in this competition was central. But while design is powerful, it is not enough. Design must be informed by good questions emanating from society and from theory. The winning groups went beyond the simple design of the built environment: they addressed societal processes and proposed societal change, in conversation with the inhabitants of the informal settlements they worked on. Another characteristic of the winning projects was that they all addressed the geography of the places they worked on,

and took water as a central element. While societal processes are central to slum upgrading strategies, they need to be understood in relation to the natural setting that sustains them. Issues of health, nutrition, sanitation and others must be understood from the ability of the environment to sustain life.

Some of the insights we had by evaluating 50 entries relate to the importance of the context as a determinant for solutions. Mumbai is different from Chennai and there is no such a thing as “one solution fits all”.

Many designers, consciously or unconsciously, design for real estate pressure. It is daunting that our cities are the subject of real estate speculation, but what is really worrying is the fact that designers and planners have internalised the logic of the market and are constantly catering for it. Societal issues go beyond market forces, and it seems clear to us that the market does not offer an answer for those who cannot enter it, because they earn so little. The question of housing affordability is pivotal to understanding why informal urbanisation occurs in the first place.

In general, architectural schools around the world are failing to address governance as a crucial framework for design. This has several undesirable consequences for the work of students: a lot of solutions seem shallow and

detached from reality, because the knowledge stemming from stakeholders is not recognised, nor used.

The question of what is informality remains. How can we understand informality outside of the western-oriented conceptions of modernity and progress? We certainly need to understand informality in context, and in relation to the political and societal forces operating in different societies. Informality is often integrated in productive processes, and it's clear we need to cater for livelihoods and not only housing. Housing is only one element of the puzzle, one of many. Integrating housing and work seems desirable in many cases, and the non-integration of housing and livelihoods seems to be the cause of failure for many a housing policy. Location, location, location, says Sukanya Krishnamurthy, and she is right insofar informal settlers will look for places where jobs and opportunities are readily available, or where connectivity allows for travel. Housing solutions that evict the poor to distant peripheries seem to be particularly pernicious and undesirable. They are destined to fail.

The notion of publicness is another crucial dimension in slum upgrading strategies. This is reflected not only on the public space, but also in participation and democratic decision-making. The role of the state is different everywhere, but there is always a need for strong state action, to promote

integrated development and scale-up solutions. The state seems the only agent capable of organising public goods on a grand scale, simply because public goods are generally not profitable, as they must be enjoyed by all for free.

This notion of publicness, collective action and public participation is strong among Latin American designers and planners, while Southern Asian designers seem to be more concerned with providing the basic necessities for life. Latin American designers are also concerned about how to overcome the boundaries (or the walls) separating formal from informal. Integration is the keyword for them, while Asian designers are more worried about liveability, probably because in the Indian or Bangladeshi city, poverty and richness, formal and informal already coexist, while in Latin America informality means spatial segregation.

Good upgrading strategies addressed sustainability in its three essential dimensions: social, economic and environmental, with the last one particularly urgent in view of climate change and the utter vulnerability of informal dwellers to extreme climate events and “natural disasters”.

Finally, successful strategies were argumentative and asked the right questions.

Honourable mentions



honourable mention

Tirana, Albania

INFORDER DOMINO: AN INNOVATIVE AND FLEXIBLE
RANGE OF PROPOSALS FOR PASKUQAN IN KAMEZ
MUNICIPALITY, TIRANA, ALBANIA

**Amina Chouairi
Chiara Magli
Mariaelena Scaglia
Antonio Sposetti**

**Politecnico di Milano
ITALY**

Inforder Domino

An innovative and flexible range of proposals for Paskuqan in Kamez Municipality, Tirana, Albania

TIRANA, ALBANIA

AMINA CHOUIRI , CHIARA MAGLI , MARIAELENA SCAGLIA, ANTONIO SPOSETTI

POLITECNICO DI MILANO, ITALY

INFORDER DOMINO OR DIGGING INTO ALBANIAN INFORMAL BEHAVIOURS

Inforder Domino arises as a planning reply in the northern peri-urban area of Tirana, in Paskuqan, Kamez Municipality. The project wants to meld the typical vocation of the place (*inf*-ormal) with the willingness to deliver guidelines (*or*-der), which, once established, could requalify the neighborhood through the *domino* effect.

In order to clearly define the project's ideas and goals, a deep analysis has been conducted in order to understand the formation and the development of Albanian informal settlements. The main cause of informal settlements proliferation has to be related to internal and external migration and poor economic conditions occurred in Albania after the communist dictatorship. In fact, the majority part of the scattered built up informal areas is located in the surroundings of those cities - as Tirane or Durres - which suffered the most the arrival of migrants in the latest part of XX century.

After having studied the work and research processes conducted by ALUIZNI, the governmental Agency for Legalisation, Urbanisation and Integration of Informal Areas and Buildings and took into account various important laws related to the restitution of property rights of former owners launched in the past few years, the project's goal is trying to include this process while adopting a different approach methodology.

In Albania, where the presence of the central government has always been a sore point of political and legislative activities, especially after the collapse of the Berlin Wall, the intervention should be thought through the bottom-up approach in order to strive to a significant change, both socially and economically. Particularly in a former communist country, where the population has always been taught to renounce and share everything brutally and forcefully, there needs to re-educate each citizen groups what does it mean to live in an open community. Only thanks to the people co-operation and mutual participation, societies can aspire to shared common goods, universal respect for human dignity and basic human and civil rights, these days more and more forgotten.

Setting the community welfare as the main goal to achieve, the project here proposed does not force any kind of intervention into the Pasqukan district but wants to take advantage of the spirit of self-construction defining the vocation of this place. The proposals work on the definition of a prototype never tested in Albania, in which every actor - from the farmer to the politician - is necessary to transform disorder into order, dynamism into opportunity.

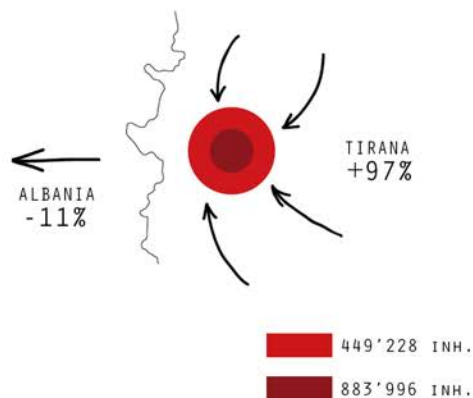
"If we observe the most marginal areas of Tirana focusing our attention on the lack of basic services or infrastructures, we could find out a dense layer of "structures" under-represented or not yet recognized (social relationships or self-made expressions) which express instead, in a hidden way, a great potential of energy typical of the city. [...] From the design point of view, the surveys along the borders of the city can be used as a laboratory for studying the adaptability and innovation of the urban space coming from the inhabitants themselves."

Chiara Nifosi

WHERE ALBANIAN PEOPLE LIVE IN 2017

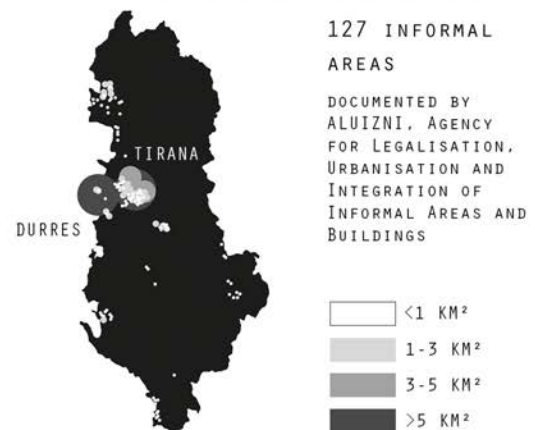
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POPULATION TRENDS 1989 VS. 2017



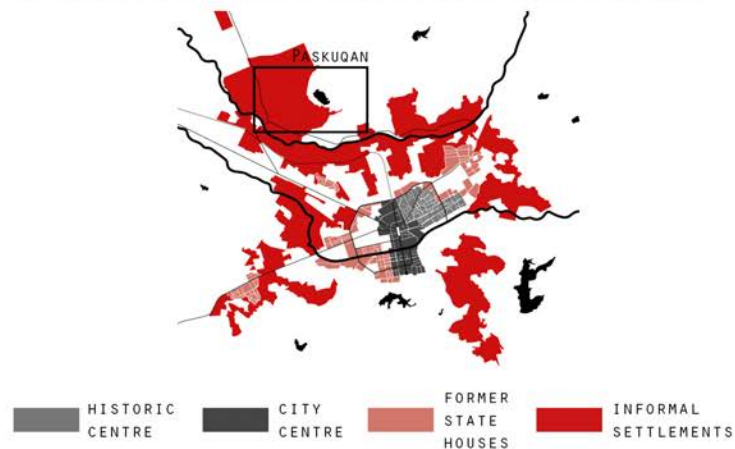
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INFORMAL SETTLEMENTS IN ALBANIA



3#

MUNICIPALITY OF TIRANA BUILT ENVIRONMENT TIPOLOGIES



4#

DISTRIBUTION



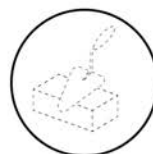
41,7%

IN RURAL AREAS



58,3%

IN URBAN AREAS



25%

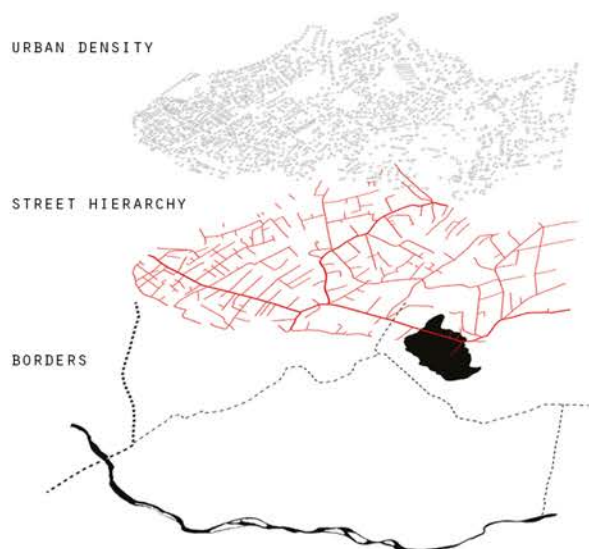
OF URBAN POPULATION LIVE
IN INFORMAL SETTLEMENTS

40%

OF URBAN CONSTRUCTIONS
ARE INFORMAL

The four infographics represent the population behaviour in 2017. This quantitative data is important in order to understand the proliferation, after the Berlin Wall fall, of Albanian informal settlements. The human flow had a deep impact on Tirana, which became the majorly informalized, together with the coastal city of Durres.

PASKUQAN C I T Y

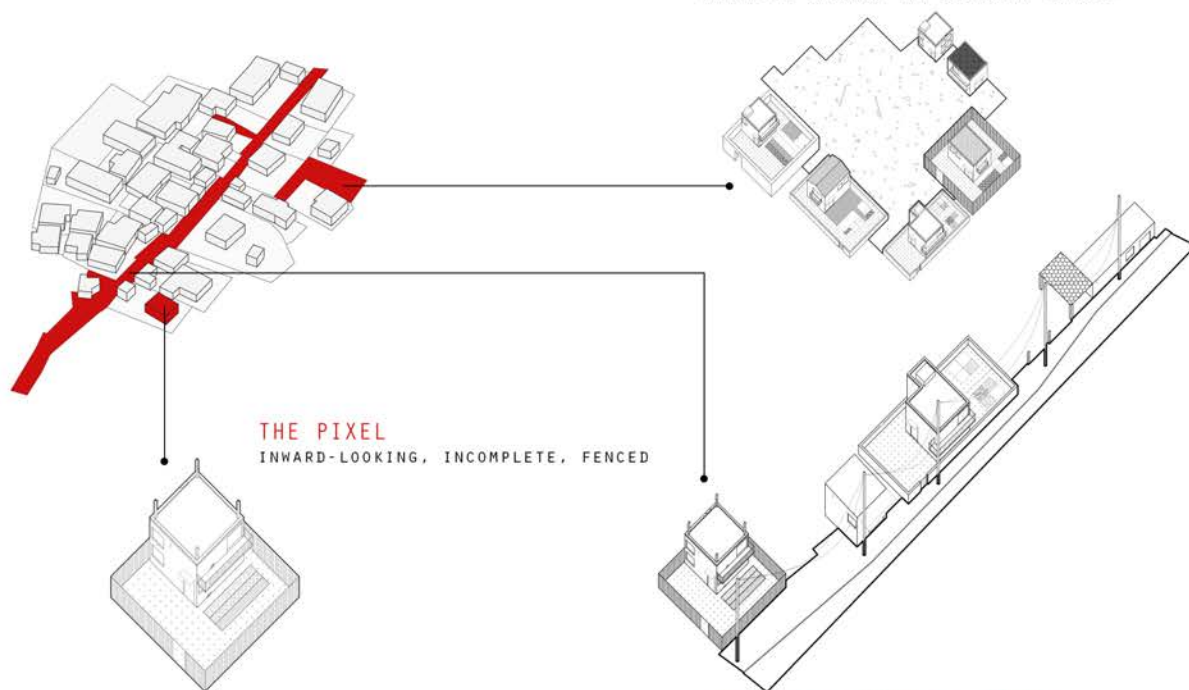


GENERAL INFORMATION ABOUT PASKUQAN

SURFACE 11,5 KM²
POPULATION 37'349 INH.
SURFACE OF PASKUQAN
INFORMAL SETTLEMENT 6,75 KM²

THE VOID

ABANDONED, EXPLOITED, UN-BUILT. OPPORTUNITIES
WHERE TO DEVELOP NEW COMMUNITY SPACES

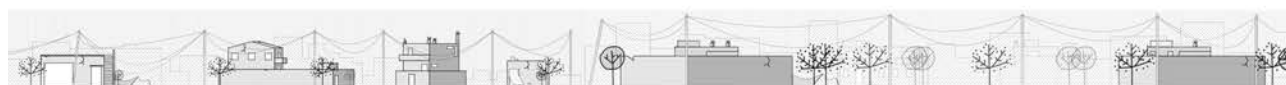


THE PIXEL

INWARD-LOOKING, INCOMPLETE, FENCED

THE STREET UNAZA E MADHE

DISCONTINUOUS, ACTIVE, PUBLIC SPACES MISSING



After a prolonged analysis, the team found a synthetic way to represent the main features of the informal settlement of Paskuqan, understanding its structure and its urban protagonists.



PASKUQAN AND ITS INFORMAL SYSTEM

The set area for the project's development is Paskuqan, a small city in the Municipality of Kamez located along the northern boundaries of Tirana, Albania. This settlement is strongly characterized by the predominance of informal buildings and constructions spread all over its surface measuring 11.5 km². Alongside with this informal vocation, a lake, Liqeni I Paskuqanit, a park, Parku I Paskuqanit, and a river are the natural resources of Paskuqan district. Unfortunately, during the survey, they resulted to be very polluted, untreated and left aside.

In Paskuqan, 58.7% of the constructions are informal therefore there is no regulation or control to monitor the city rapid evolution. More in general, 14% of Albania land does not have documented ownership and consequently, this lack of information makes the understanding of urban changes almost unpredictable.

The lack of the basic public services as public transportation, schools, health care centers and hospitals, urban growth plans and waste management makes living in such environment more difficult and incomplete, arriving easily to define many of Paskuqan areas as dormitories. The informal constructions have taken place without adequate water supply, sewer systems, access roads and other infrastructures. Unfortunately, the law on Legalization and Urban Planning of Informal Zones of October 2004 does not deal directly with the problems of inadequate infrastructure and integration of these informal zones into the active and central urban system.

The central government is here completely absent and if there is no state then there is no law. On the other hand, the liveliness of certain parts of the neighborhood tends to be comforting, testifying the active commercial spirit and entrepreneurship arising during the last years. Self-established activities as game room and arcades, bars and meeting places, car washes and bridal shops colonize the main road, Unaza e Madhe, transforming it into a sort of attractive strip.

After having observed that the principal commercial dynamics happen on the main road crossing the whole district, simultaneously, no community spaces or public facilities- as parks, gardens, sidewalks or streetlights- have been found. In fact, the only actors in this environment are the so-called pixels, single-family isolated and fenced villas, and the voids, parcels completely empty used sometimes as illegal garbage dumps, playgrounds for children or grazing land. The road, Unaza e Madhe, as stated before, testifies two different type of density along its course: one higher, more commercially devoted, active, alive and compact in its first stretch; another lower, where houses are more scattered, with slower velocities in its second stretch.

"Today, Europe's challenge is less about building new cities than about transforming existing ones to create a more balanced and inclusive society. In this context, architecture must regain its capacity to shape not just the design of buildings, but also the design of social solutions. By combining these two capacities, architecture can help crystallize the principles of better housing."

Marco Steinberg

NINE SHARED RULES

RULE #1



RULE #2



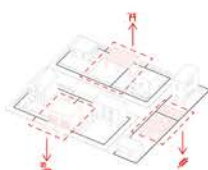
RULE #3



RULE #4



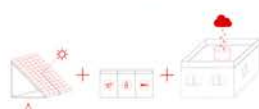
RULE #5



RULE #6



RULE #7



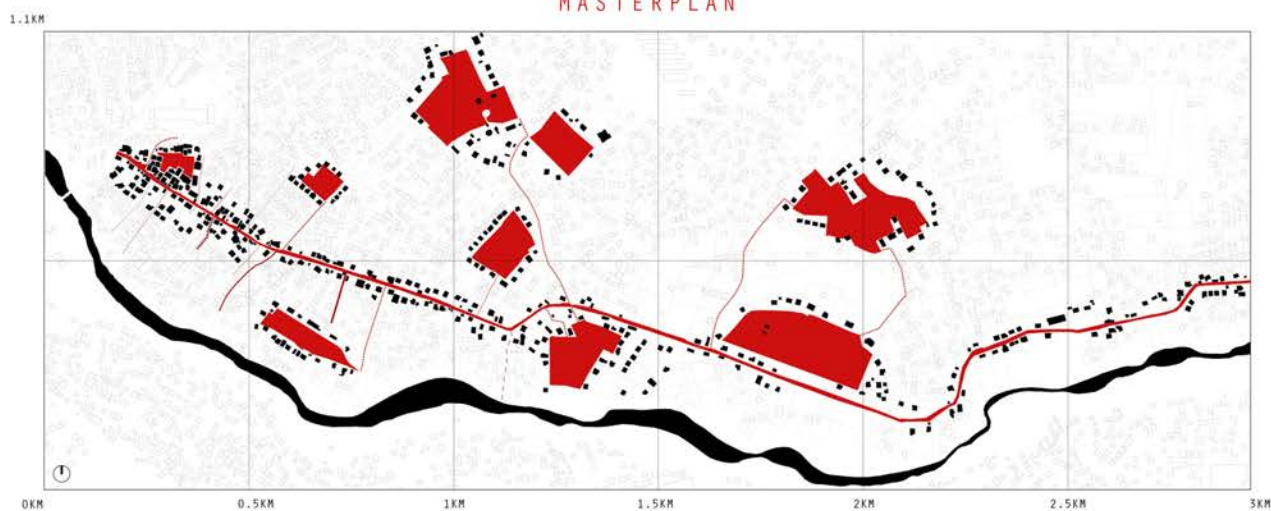
RULE #8



RULE #9



MASTERPLAN



The nine shared rules find here their correct representation. The masterplan shows briefly the desired impact on the Paskuqan district: a symbiotic presence of commercial vocation and public spaces availability.

INFORDER DOMINO: A NEW COMMUNITY WELFARE FOR PASKUQAN

Starting from the previous analysis and observation, in order to improve social welfare and involve the citizenry into this process, the project evolves towards the definition of nine shared rules to be applied and adopted by the whole neighborhood. They refer mainly to the built environment and the infrastructure system in order to give them a major level of integrity and structure.

These nine suggestions- or guidelines- are developed in order to walk along and pursue the UN-Habitat Goals for a Sustainable Future (SDGs), in the specific the Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable”. The best aspect of developing this program in an 11.5 km² area is the possibility to manage and control better spaces, human and societal interrelations, urban challenges and environmental opportunities these actions can give a start to.

The nine shared rules should be taken as starting points for a better living and welfare conditions in Paskuqan and later on, since they are thought not to be onerous economically speaking, in similar informal settlements in the rest of Albania. The general goal here is to enforce the societal sector, the trustfulness in the central government- which can become an active stakeholder to sustain the improvement of the neighborhood- and economic possibilities in Albania. It is not to be forgotten that Albania is a country that has still open the communist dictatorship wound, and, hopefully, with helps, supports and indications could take one step further towards the concretization of the admission into the European Union.

The nine shared rules are:

- #1 the maximum height for a building has to around six metres (2 floors), but if an additional level wants to be added by the owners the ground floor has to be commercial in order to promote economic liveliness;
- #2 possibly, new buildings along the main street, Unaza e Madhe, have to complete the linear visualization of the front;
- #3 fences are admitted but have to be visually permeable or mitigated by plants or shrubs;
- #4 voids amongst houses, abandoned lands or lands without documented ownerships are freed, 30% become shared farmlands and vegetable gardens open to the community, 20% is destined to ecological interventions and the remnant becomes public spaces and gardens for children;
- #5 at least one side of the parcel has to be shared;
- #6 unfinished buildings happening on the front of the main commercial road, if not completed in two years, are subject of agreement with the municipal administration to conform rule 1;
- #7 new buildings, in two years, have to be equipped with the eco-sustainable basic kit;
- #8 well enlightened and appropriate sidewalks give back spaces, safety and visual order to pedestrians;
- #9 secondary streets are destined exclusively to pedestrians and vehicles are admitted only by right of way and, more generally, are allowed to circulate on the main roads.

Continuously, Inforder Domino tries to imagine how the shape of Paskuqan city and its inhabitants' behaviors and daily actions can modify themselves being related to these new nine guidelines. These ideas can become reality and can function only at the precise moment and if they are accepted and shared by the community they are referring to. Alongside with the two different densities, two different answers are thought to be received and catalyzed by this informal settlement: one in line with the commercial vocation in the first stretch of Unaza e Madhe and another one more related with the possibility of bigger community open spaces in the second stretch.

Furthermore, the chronological development is of central interest. Witnessing personally the crucial aspects of this neighborhood, the importance of conceiving a development by phases is pivotal. The main aspects to develop first are correlated with the idea of gently reconstitute a public behavior in Paskuqan. Later on to dislocate public spaces and make common goods easily available to improve the general welfare. In the end, the goal is to push and concur towards a social equity, stability and inclusiveness.

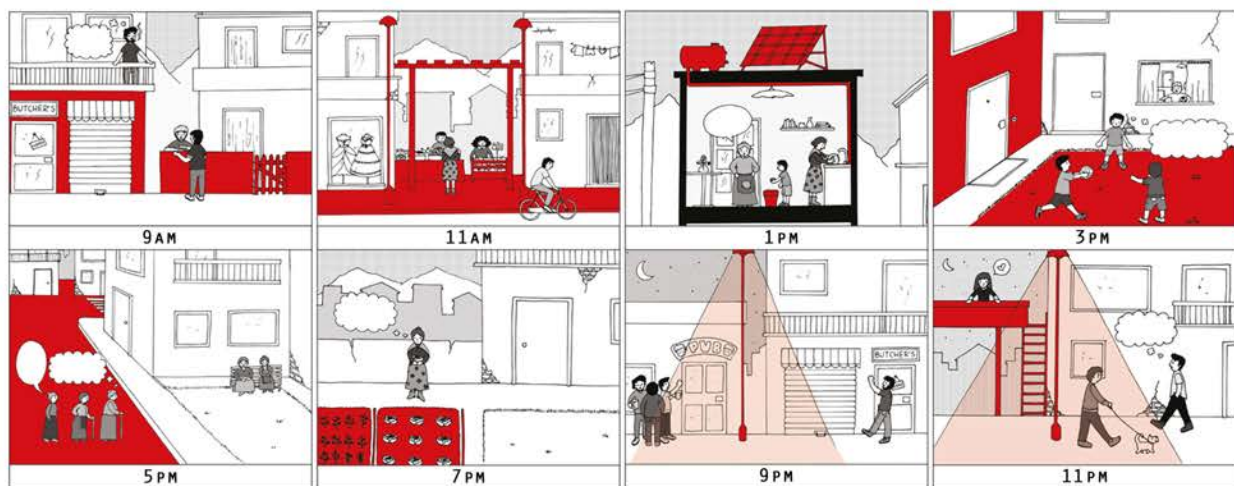
Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.

Jane Jacobs

VISION PASKUQAN 2070



EVERYDAY LIFE IN PASKUQAN 2070: WHAT WILL BE CHANGED?



 ANTELA 35 y.o.
  EVIS 8 y.o.
  ESTHER 65 y.o.
  AFRIM 37 y.o.
  ADAN 15 y.o.

INTERACTIVE BOARD GAME MODEL: THE KEY TO PEOPLE'S DIRECT INVOLVEMENT



How should the team represent the concretization of the payback for the Paskuqan district? The vision here offered is hypothetical but not so far from the reality hoped for these type of settlements spread all over Albania.



CONCLUSION AND CONSIDERATIONS

Finally, setting a hypothetical conclusion date to the programmed processes in 2070, a synthesis image has been produced. Would it be possible to obtain a propitious behavior which meets and supports the nine shared rules previously proposed? The scenario is here displayed: a positive answer and integration of the project guidelines. The structure of the neighborhood has changed, in the voids spread and scattered all over, previously abandoned, a new form of public aggregation has grown: vegetable gardens, playgrounds and green areas are now integral services of Paskuqan.

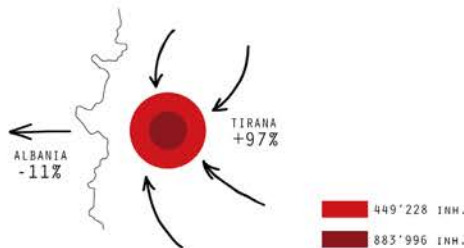
Consequently, the inhabitants' lives of the district have changed. A different range of opportunities and possibilities have been opened up; new and differentiated workplaces have been imported; many solid rights and common goods have been achieved. Truthfully, it has been taken into consideration that the anthropological and societal characters are the most difficult to change and once the process has started it requires a lot of time to happen completely. Through the storyboard, the goal is to understand the possible reactions and interpretations acted by different population age groups. A fictional family, actually based on real people met during the survey, have been portrayed here in order to show how the different layers of the project can really interact with Paskuqan inhabitants. Antela, Evis, Esther, Afrim and Adan are the chosen characters testifying through their actions the realization of the project.

In conclusion, the physical model presented wants to be the synthesis of both the reasoning and the nine shared rules proposed. Thought as a board game, eighteen different cards are present in the box: nine cards displaying different environments in the Paskuqan district (the commercial front, the voids, the villas...) and nine cards representing and explaining in detail the shared rules of the project. Picking one card at a time, after reading its description, people have to place the red magnetic elements available in the box (commercial buildings, private buildings, single floor and double floor porches, low and permeable fences, shared sites, agricultural field plate, recycling waste plate, pedestrian crossing, street light, cars, trees plate) onto the white base representing a portion of the Paskuqan neighbourhood, obviously according to the rules.

INFORMER DOMINO ARISES AS A PLANNING REPLY IN THE PERI-URBAN AREA OF TIRANA, BETWEEN PASQUAN AND KAMEZ DISTRICTS. THE PROJECT MELTS THE TYPICAL IDENTITY OF THE PLACE (INFORMAL) WITH THE WILLINGNESS TO DELIVER GUIDELINES (ORDER), WHICH, ONCE ESTABLISHED, CAN REQUALIFY THE NEIGHBORHOOD THROUGH THE DOMINO EFFECT.

IN ORDER TO CLEARLY IDENTIFY OUR PROJECT'S IDEAS, A DEEP ANALYSIS HAS BEEN CONDUCTED TO UNDERSTAND THE FORMATION AND THE DEVELOPMENT OF ALBANIAN INFORMAL SETTLEMENTS. THE MAIN CAUSE OF INFORMAL SETTLEMENTS PROLIFERATION CAN BE ADDRESSED TO INTERNAL AND EXTERNAL MIGRATION AND POOR ECONOMIC CONDITIONS AFTER THE END OF COMMUNIST DICTATORSHIP.

POPULATION TRENDS 1989 VS. 2017



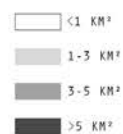
INFORMAL SETTLEMENTS IN ALBANIA IN 2017



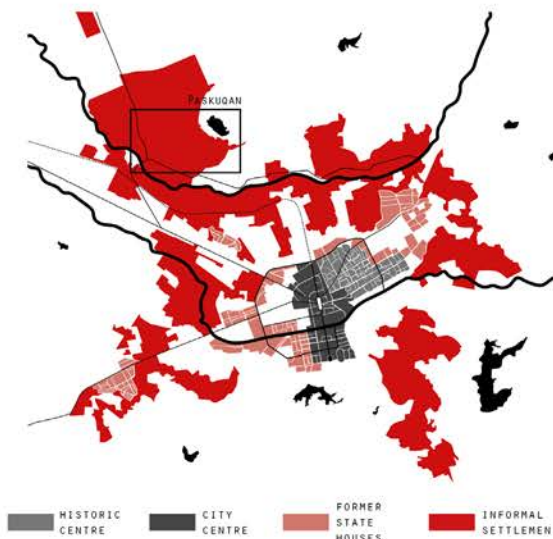
127

INFORMAL AREAS

DOCUMENTED BY ALUIZNI, AGENCY FOR LEGALISATION, URBANISATION AND INTEGRATION OF INFORMAL AREAS AND BUILDINGS

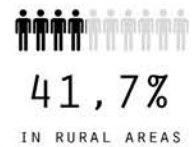


MUNICIPALITY OF TIRANA BUILT ENVIRONMENT TIPOLOGIES IN 2017



HISTORIC CENTRE CITY CENTRE FORMER STATE HOUSES INFORMAL SETTLEMENTS

WHERE ALBANIAN PEOPLE LIVE IN 2017



41,7%

IN RURAL AREAS



58,3%

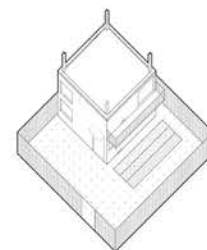
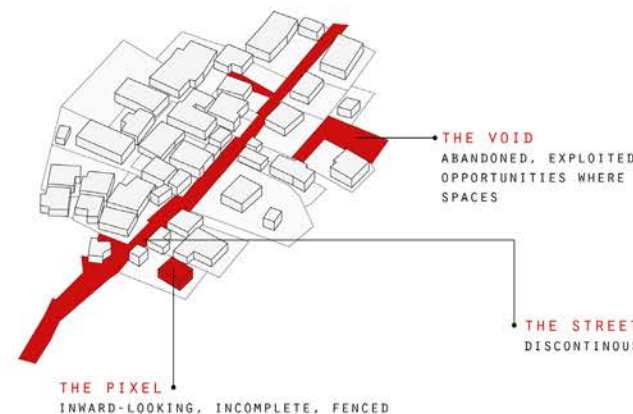
IN URBAN AREAS

PASKUQAN IS A SMALL CITY IN THE MUNICIPALITY OF KAMEZ LOCATED ALONG THE NORTHERN BOUNDARIES OF TIRANA, ALBANIA. THIS SETTLEMENT IS STRONGLY CHARACTERIZED BY INFORMAL BUILDINGS AND CONSTRUCTIONS SPREAD ALL OVER ITS SURFACE. ALONGSIDE WITH THIS INFORMAL VOCATION, A LAKE, LIQENI I PASKUQANIT, A PARK, PARKU I PASKUQANIT, AND A RIVER ARE THE NATURAL RESOURCES OF PASKUQAN DISTRICT.

THE PASKUQAN IMPRESSIVE SITUATION IS THE DIRECT CONSEQUENCE OF THE DIFFICULT POLITICAL SITUATION OCCURRED AFTER THE SECOND WORLD WAR. THE STRONG ISOLATIONIST COMMUNIST DICTATORSHIP CAUSED ALBANIA TO INCUR LARGE DEBTS WITH YUGOSLAVIA, CHINA AND SOVIET UNION. AFTER 1989, THE SHIFT FROM SOCIALISM TO CAPITALISM HAD MANY CHALLENGES AND IT CAUSED POPULAR FRUSTRATION, DISORDERS AND REBELLIONS.

AFTER HAVING OBSERVED THAT THE PRINCIPLE COMMERCIAL DYNAMICS HAPPEN ON THE MAIN ROAD CROSSING THE WHOLE DISTRICT, UNAZA E MADHE, THE COMPLETE INEXISTENCE OF PUBLIC AND SHARED SPACES WAS IDENTIFIED AS THE MOST CHALLENGING ISSUE. IN FACT, THE ONLY ACTORS IN THIS ENVIRONMENT ARE THE PIXELS, SINGLE-FAMILY ISOLATED AND FENCED VILLAS, AND THE VOIDS, PARCELS COMPLETELY EMPTY USED SOMETIMES AS ILLEGAL GARBAGE DUMPS, PLAYGROUNDS FOR CHILDREN OR GRAZING LAND.

MATERIALS

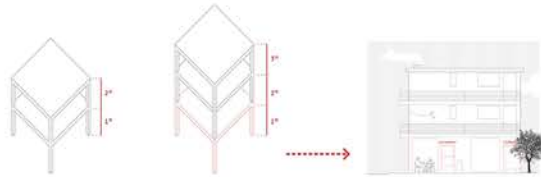


STARTING FROM THE PREVIOUS ANALYSIS AND OBSERVATION, IN ORDER TO IMPROVE SOCIETY WELFARE AND INVOLVE THE CITIZENRY INTO THIS PROCESS, THE PROJECT EVOLVES TOWARDS THE DEFINITION OF NINE SHARED RULES. THE NINE SHARED RULES SHOULD BE TAKEN AS STARTING POINTS FOR A BETTER LIVING AND WELFARE CONDITIONS IN PASKUQAN AND LATER ON, SINCE THEY ARE THOUGHT NOT TO BE ONEROUS ECONOMICALLY SPEAKING, IN SIMILAR INFORMAL SETTLEMENTS IN THE REST OF ALBANIA. THE GENERAL GOAL HERE IS TO ENFORCE THE SOCIETAL SECTOR, THE TRUSTFULNESS IN THE CENTRAL GOVERNMENT - WHICH

CAN BECOME AN ACTIVE STAKEHOLDER TO SUSTAIN THE IMPROVEMENT OF THE NEIGHBOURHOOD - AND ECONOMIC POSSIBILITIES IN ALBANIA. CONTINUOUSLY, INFORDER DOMINO TRIES TO IMAGINE HOW THE SHAPE OF PASKUQAN CITY AND ITS INHABITANTS' BEHAVIOURS AND DAILY ACTIONS CAN MODIFY THEMSELVES BEING RELATED TO THESE NEW NINE GUIDELINES. THESE IDEAS CAN BECOME REALITY AND CAN FUNCTION ONLY IN THE PRECISE MOMENT AND IF THEY ARE ACCEPTED AND SHARED BY THE COMMUNITY THEY ARE REFERRING TO.

THE NINE SHARED RULES

RULE #1



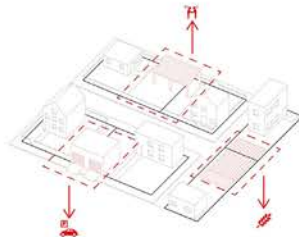
MAXIMUM HEIGHT 2 FLOORS. IF MORE, GROUND FLOOR HAS TO BE COMMERCIAL.

RULE #3



FENCES HAVE TO BE VISUALLY PERMEABLE.

RULE #5



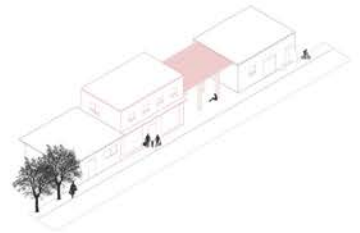
AT LEAST ONE SIDE OF THE PARCEL HAS TO BE SHARED

RULE #7



NEW BUILDINGS HAVE TO BE EQUIPPED WITH ECO-SUSTAINABLE BASIC KIT IN TWO YEARS.

RULE #2



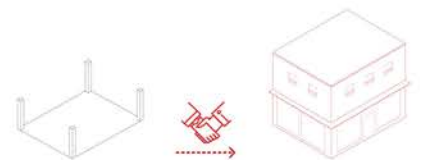
NEW BUILDINGS HAVE TO COMPLETE THE FRONT.

RULE #4



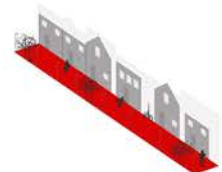
VOIDS ARE FREED. 20% DESTINED TO ECOLOGICAL INTERVENTIONS, 30% TO SHARED FARMLANDS.

RULE #6



UNFINISHED BUILDINGS ON THE FRONT, IF NOT COMPLETED IN TWO YEARS, ARE SUBJECT OF AGREEMENT WITH THE ADMINISTRATION TO CONFORM RULE #1.

RULE #8

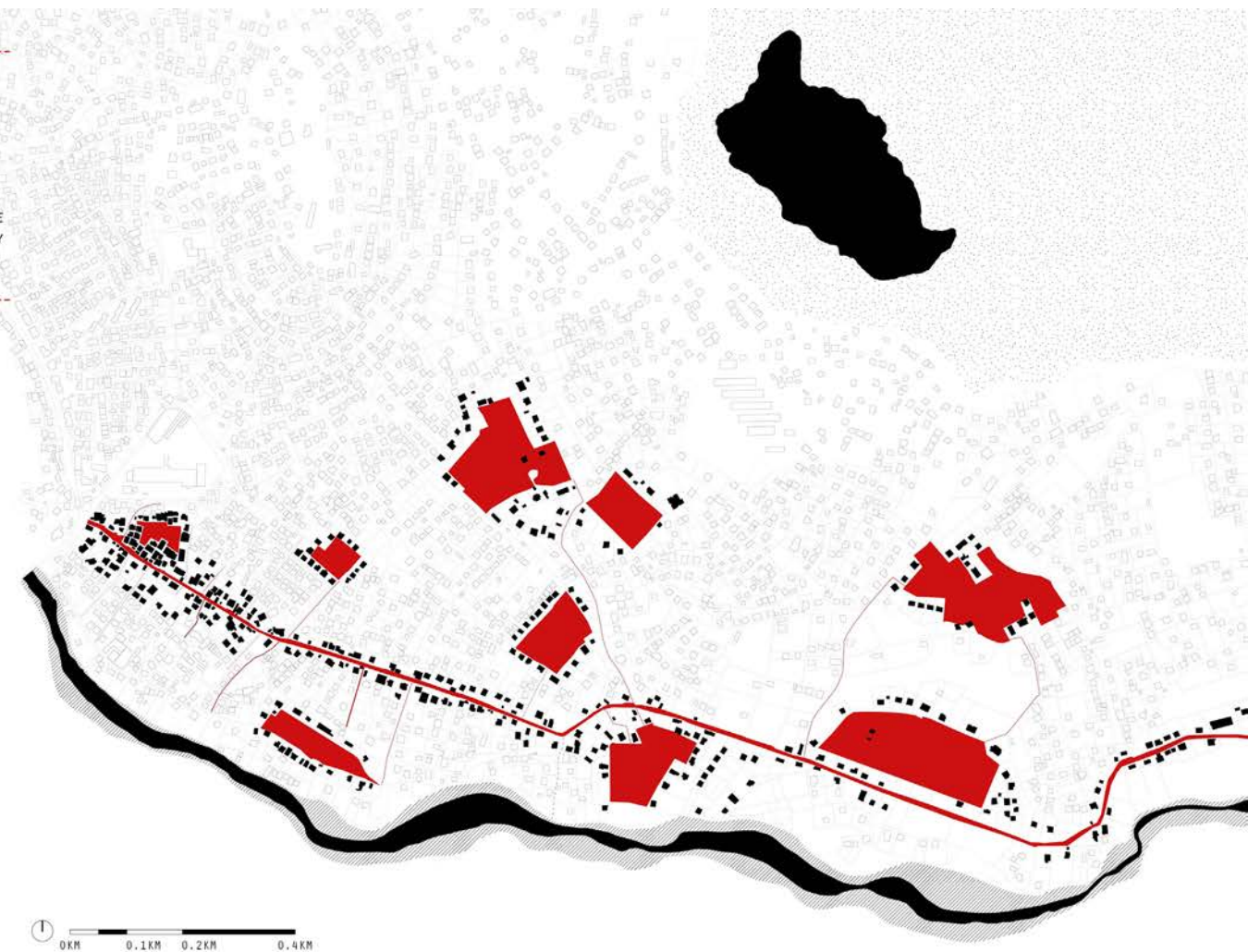


WELL ENLIGHTENED AND APPROPRIATE SIDEWALKS WILL GIVE BACK SPACES, SAFETY AND ORDER TO PEDESTRIANS.

RULE #9



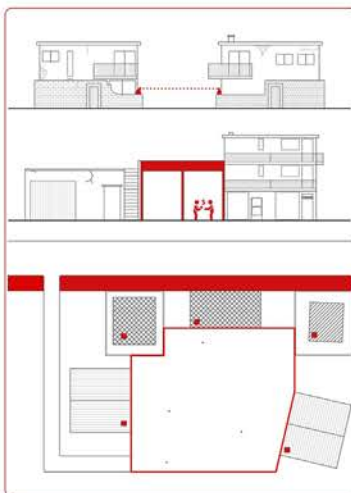
SECONDARY STREETS ARE DESTINED TO PEDESTRIANS WHILE VEHICLES ARE ALLOWED TO CIRCULATE ON THE MAIN ROAD.



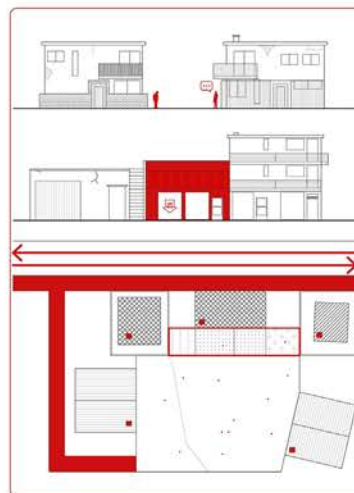
ALONGSIDE WITH THE TWO DIFFERENT DENSITIES, TWO DIFFERENT ANSWERS ARE THOUGHT TO BE RECEIVED AND CATALYSED BY THE INFORMAL SETTLEMENT IN PASKUQAN: ONE IN LINE WITH THE COMMERCIAL VOCATION IN THE FIRST STRETCH OF UNAZA E MADHE AND ANOTHER ONE RELATED WITH THE POSSIBILITY OF BIGGER OPEN AND PUBLIC SPACES IN THE SECOND STRETCH. FURTHERMORE, THE CHRONOLOGICAL DEVELOPMENT IS OF CENTRAL INTEREST. WITNESSING PERSONALLY THE CRUCIAL ASPECTS OF THIS NEIGHBOURHOOD, THE IMPORTANCE OF CONCEIVING A DEVELOPMENT BY PHASES IS PIVOTAL.

THE MAIN ASPECTS TO DEVELOP FIRST ARE CORRELATED WITH THE IDEA OF GENTLY RECONSTITUTE A PUBLIC BEHAVIOUR IN PASKUQAN. LATER ON TO DISLOCATE PUBLIC SPACES AND MAKE COMMON GOODS EASILY AVAILABLE TO IMPROVE THE GENERAL WELFARE. IN THE END, THE GOAL IS TO PUSH AND CONCUR TOWARDS A SOCIAL EQUITY, STABILITY AND INCLUSIVENESS.

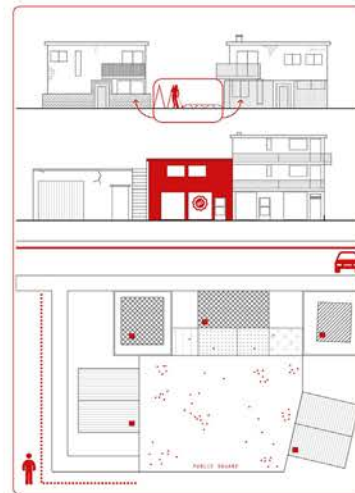
CITIES HAVE THE CAPABILITY OF PROVIDING SOMETHING FOR EVERYBODY, ONLY BECAUSE, AND ONLY WHEN, THEY ARE CREATED BY EVERYBODY.
JANE JACOBS



PHASE #1



PHASE #2

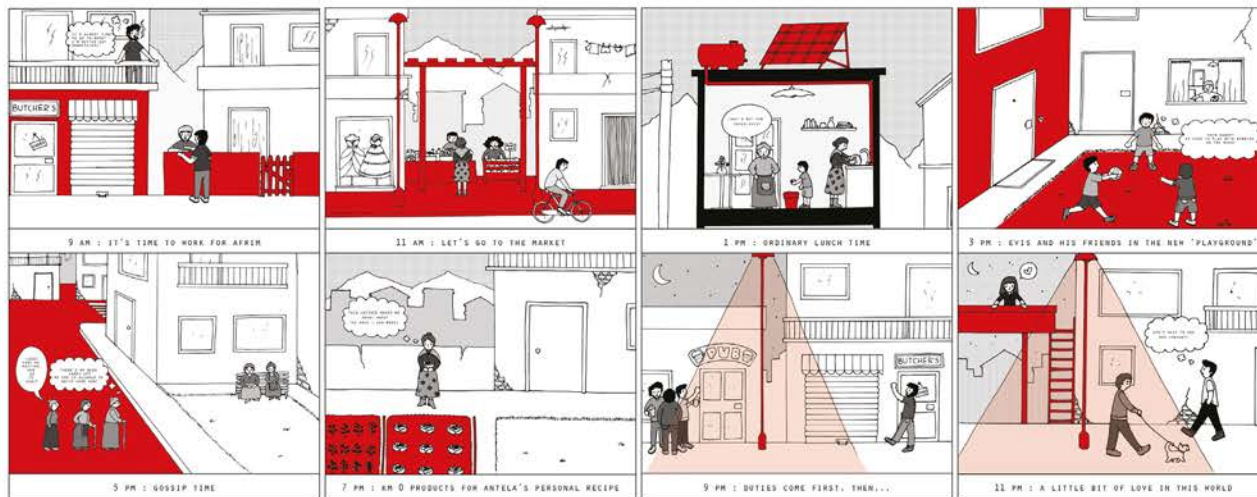


PHASE #3

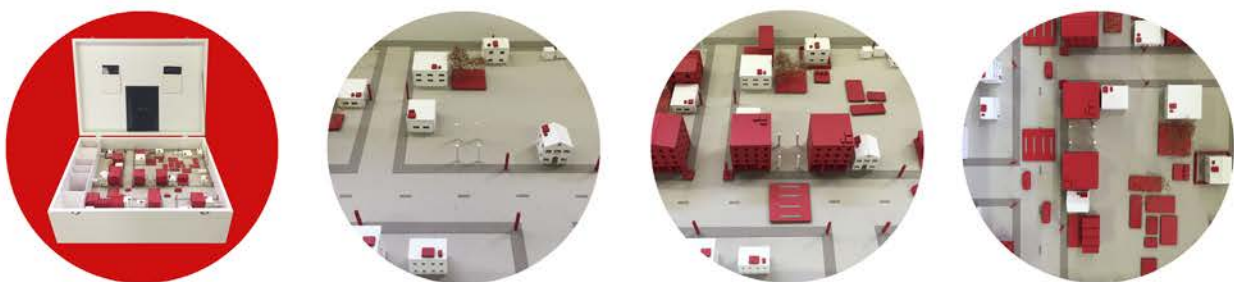
INFORMAL ORDER / DOMINATION



THE STORYBOARD



THE BOARD GAME MODEL





VISION: PASKUQAN 2070



FINALLY, SETTING A HYPOTHETICAL CONCLUSIVE DATE TO THE PROGRAMMED PROCESSES IN 2070, A SYNTHESIS IMAGE HAS BEEN PRODUCED. WOULD IT BE POSSIBLE TO OBTAIN A PROPOSITIVE BEHAVIOUR WHICH MEET AND SUPPORT THE NINE SHARED RULES PREVIOUSLY PROPOSED?

THIS IS THE SCENARIO HERE DISPLAYED: A POSITIVE ANSWER AND INTEGRATION OF THE PROJECT GUIDELINES. THE STRUCTURE OF THE NEIGHBORHOOD HAS CHANGED, IN THE VOIDS, SPREAD AND SCATTERED ALL OVER PREVIOUSLY ABANDONED, A NEW FORM OF PUBLIC AGGREGATION HAS GROWN: VEGETABLE GARDENS, PLAYGROUNDS AND GREEN AREAS NOW ARE INTEGRAL SERVICES OF PASKUQAN.

THE FAMILY



ANTELA A.35

EVIS A.8

ESTHER A.65

AFRIM A.37

ADAN A.15

CONSEQUENTLY, THE INHABITANTS' LIVES OF THE DISTRICT HAVE CHANGED. NEW POSSIBILITIES, CHALLENGES, WORK PLACES AND SOLID RIGHTS HAVE BEEN OBTAINED BY THE POPULATION. A DIFFERENT RANGE OF OPPORTUNITIES AND POSSIBILITIES HAVE BEEN OPENED UP TO THE POPULATION; NEW AND DIFFERENTIATED WORK PLACES HAVE BEEN IMPORTED; MANY SOLID RIGHTS AND COMMON GOODS HAVE BEEN ACHIEVED AND OBTAINED.

THROUGH THE STORYBOARD, THE GOAL IS TO UNDERSTAND THE POSSIBLE REACTIONS AND INTERPRETATIONS ACTED BY DIFFERENT POPULATION AGE GROUPS. A FICTIONAL FAMILY, ACTUALLY BASED ON REAL PEOPLE MET DURING THE SURVEY, HAVE BEEN PORTRAYED HERE IN ORDER TO SHOW HOW THE DIFFERENT LAYERS OF THE PROJECT CAN REALLY INTERACT WITH THE PEOPLE FROM PASKUQAN.



THE PHYSICAL MODEL PRESENTED WANTS TO BE THE SYNTHESIS OF BOTH THE REASONING AND THE NINE SHARED RULES PROPOSED. THOUGHT AS A BOARD GAME, EIGHTEEN DIFFERENT CARDS ARE PRESENT IN THE BOX: NINE CARDS REPRESENTING DIFFERENT ENVIRONMENTS IN THE PASKUQAN DISTRICT (THE COMMERCIAL FRONT, THE VOIDS, THE VILLAS...) AND NINE CARDS REPRESENTING AND EXPLAINING IN DETAIL THE SHARED RULES OF THE PROJECT. PICKING ONE CARD AT TIME, AFTER READING ITS DESCRIPTION, PEOPLE HAVE TO PLACE THE RED MAGNETIC OBJECTS ON THE WHITE BASE REPRESENTING A PORTION OF THE PASKUQAN NEIGHBOURHOOD, OBVIOUSLY ACCORDING TO THE RULES.



**honourable
mention**

Karachi, Pakistan

GARBAGEISTAN* - THE LAND OF 'IMPURE'

A SANITATION SOLUTION FOR AN INFORMAL
NEIGHBOURHOOD BUILT ON TRASH

Ferya Ilyas

Shizhe Ma

Yilin Lai

University of

Stuttgart

GERMANY

Garbageistan*, the land of the impure

A sanitation solution for an informal neighbourhood built on trash

KARACHI, PAKISTAN

FERYA ILYAS, SHIZHE MA, YILIN LAI

MSC INTEGRATED URBANISM AND SUSTAINABLE DESIGN, UNIVERSITY OF STUTTGART

MSC INFRASTRUCTURE PLANNING, UNIVERSITY OF STUTTGART

For the residents of Machar Colony, their congested, informal neighbourhood is a place where people eat together, celebrate together and mourn together. Their cultural and religious beliefs tell them to be grateful for what they have - family, shelter and food, rather than complaining about what they don't have - water supply, electricity and good education. But even as they ignore all that is missing in their neighbourhood and get on with their life, they can't help but complain about the tonnes of garbage that make up their urban landscape.

The waste management system is dysfunctional almost in the entire city but the situation is acute in Machar Colony which was built on land encroached with the help of garbage. In early 80s, mafia-like land grabbers began to dump heaps of trash near the sea to reclaim new land and in a creative way of encroachment, made needy families build temporary housing in the area. Over the period of 35 years, shanties changed into brick houses, streets started to take shape and refugees from Bangladesh, Myanmar and Afghanistan began to call this home. While the neighbourhood grew and changed during this time, what remained constant was the garbage. A storm drain runs through the middle of the Colony but is today choked with plastic bags and shrimp shells; on top of this, human waste is improperly released into it through rubber pipes. The streets and empty spaces are also littered with trash as residents conveniently dump their household waste wherever they want.

In this 'dirty' setting, our project 'Garbageistan' seeks to address the issue of waste management by acknowledging people's expressed desire to live in a cleaner environment and by making use of the community bond that exists in Machar Colony. The project has a multi-faceted approach: recycle household and fishery-related waste, build a sanitation network and revitalise the storm drain. Starting with a pilot project which will build one recycle centre, two digestion tanks and a network of sewer lines in a small block, the goal is to replicate the pilot in the entire neighbourhood over a period of 10 years and in three phases.



WELCOME TO KARACHI'S MACHAR COLONY WHERE 700,000 PEOPLE LIVE WITHOUT BASIC SERVICES SUCH AS ELECTRICITY AND WATER SUPPLY.



LOCATED NEAR THE SEA, THIS INFORMAL SETTLEMENT IS HOME TO PEOPLE ASSOCIATED WITH THE FISHING INDUSTRY.



CONTEXT AND PROCESS

If you are new to Machar Colony, a walk through the narrow lanes of this informal settlement can tickle many senses. Heaps of trash for as far as your eyes can see; stench of plastic bags and leftover food rotting together and a band of mosquitos biting your skin would welcome you to this neighbourhood. To an average person, living in such a condition would be out of question but around 700,000 people belonging to low-income groups reside in this informal settlement.

Built on land owned by the federal government as well as land reclaimed from sea, Machar Colony is located right next to the most important port of the country but lacks basic infrastructure such as sewage and water supply system. The drain that runs through the neighbourhood holds years of trash that is almost rock solid and makes a perfect breeding ground for several diseases that haunt the neighbourhood.

Sometimes dubbed as the biggest 'refugee camp' in South Asia because of its demographics, Machar Colony is home to poorly-paid fisherman and cheap manual labour. With single families ranging from eight to 10 people, both men and women work to earn a living while children also make up a big part of the labour market.

While the situation in Machar Colony may seem discouraging at first glance, a closer look reveals a wide variety of opportunities that can be used to progressively improve the living condition of the neighbourhood.

Firstly, the Colony is located near one of the main wastewater treatment plants in the city which is currently working below its capacity. With the capacity to treat 245,000 cubic meters sewerage per day, the plant only processes 159,000 m³/d. The residual capacity is technically enough to treat all the wastewater produced by the neighbourhood which is estimated to be 25 litres per person per day.

Secondly, Machar Colony lies next to one of the major roads which connects the southern part of Karachi to the rest of the city, making the neighbourhood an accessible area in terms of transportation. A train track also crawls by the periphery of the Colony which, though currently unused, is part of the inter-city circular railway system whose revival is on the top of the public transportation agenda of the city.

And finally, as the neighbourhood is located near Karachi port, any plan to expand and improve the port will have a direct impact on the Colony. According to a development plan, the port authorities want to reclaim land from the sea and construct a cargo village in the area for transporting goods to the rest of the city as well as the country. While on one hand, this could mean trouble for the informal settlement which might be seen as a security threat or an eyesore, on the other hand this could act as a catalyst for the transformation of the area, offering new employment opportunities and bringing in basic services to the Colony.

With these challenges and opportunities in mind, we narrowed down our focus to two main types of waste: household waste and fishery-related trash. The household waste is mainly composed of plastic bags which are widely used across the city for carrying everything from vegetables, milk to clothes. The other major component of the household waste is dal chawal (boiled rice with lentil curry)- a traditional and beloved Bengali meal eaten almost every day. Since the neighbourhood has no electricity, storing leftover food in a cool place is out of option. The fishery-related trash mainly contains shrimp shells. Everyday at 5am, men, women and children walk to the port to collect baskets full of shrimps which they peel during the day in return of a meagre amount of money.



GARBAGEISTAN ENVISIONS CHANGING THE POLLUTED STORM DRAIN INTO A CLEAN CHANNEL OF WATER WHICH TRANSPORTS TREATED WASTEWATER TO THE SEA.

DESIGN VISION AND STRATEGIES *

In the next ten years and in three phases, Garbageistan seeks to develop an integrated waste management system in Machar Colony. The goals are to:

build a sewage network in the entire settlement, transporting waste from toilets to processing units and to city's waste treatment plant located nearby

process everyday household and commercial waste to eliminate the accumulation of trash in streets and open spaces and produce electricity.

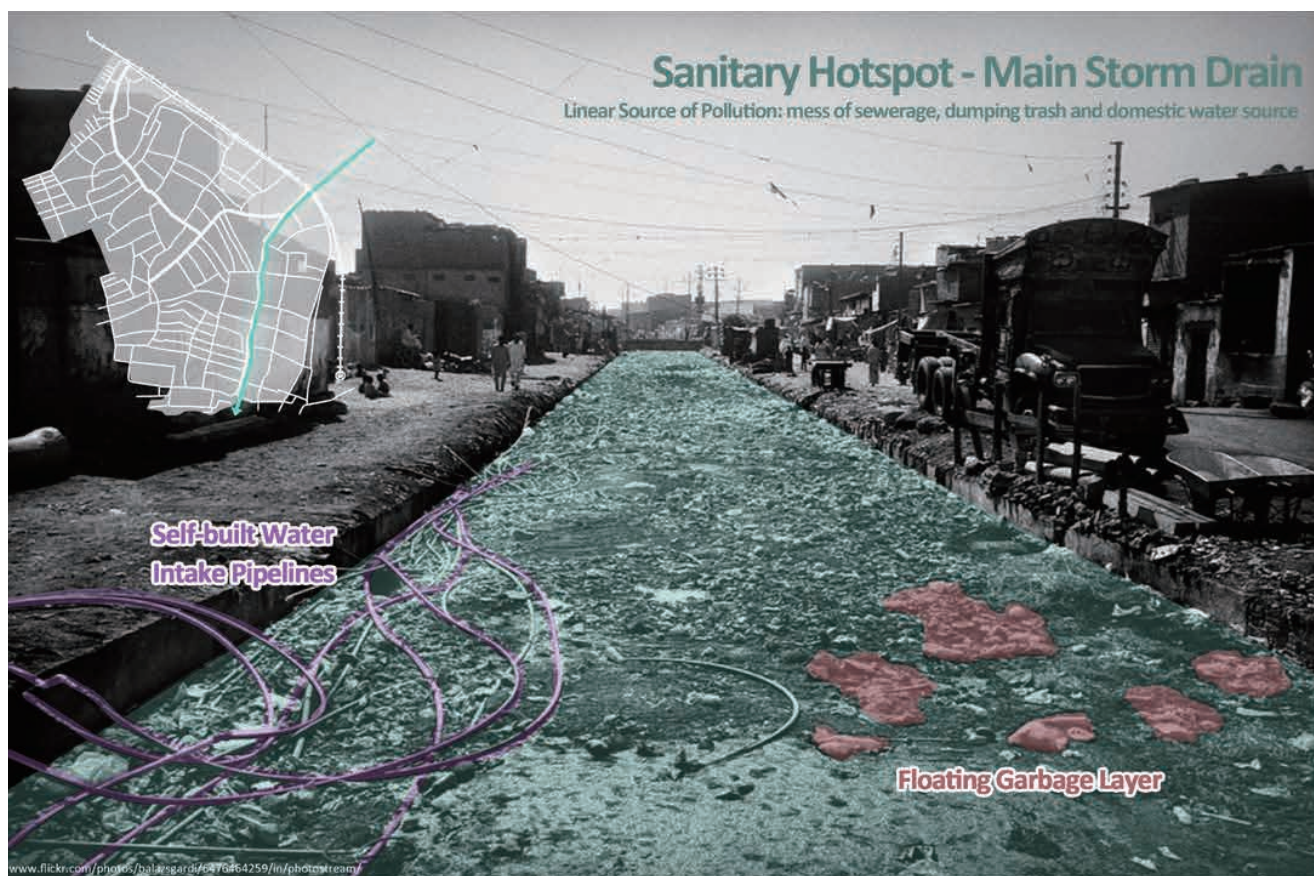
revitalise the storm drain by removing trash and using it as a channel to release treated wastewater into the sea
use Machar Colony as an example for waste management in the rest of the city

Process

In the first phase, we plan to build a waste management centre, two digestion tanks and sewage network in a small block as a pilot project. Building on the experiences and research done by another NGO called Concern for Children (CFC), we will locate the pilot project near the stormwater drain which we understand is the hotspot for the waste problem of the neighbourhood; also it will be visible to most of the residents who we want to engage and work with. For its own work purpose, CFC had divided Machar Colony into five zones, three of which lie right next to the storm drain while the other two are a little further. Garbageistan makes use of this spatial configuration for all its phases as it works well with our strategy. The waste management centre of the pilot project will collect and sort trash from the block it is located in; the plastic bags will be sold to the plastic recycling company called Green Earth Recycling which has been working in the city since early 90s to recycle and reuse plastic. The biowaste will be sent to the digestion tanks which will process the waste and produce electricity. Since the energy produced will be of less amount and low power, the project proposes to use it for community kitchens to replace the need of cutting nearby mangrove forests for firewood. The digestion tanks will also treat wastewater from the sewage system. While these steps will prevent addition of new trash into the storm drain, the project plans to progressively remove existing garbage from the drain to restore the channel to its original use. The goal here is to provide a recreational and aesthetically-pleasing space to the residents as well as use the drain to release treated water into the sea.

In the second phase, the pilot project will be replicated to other parts of the neighbourhood along the drain in other zones, increasing the number of waste management centres and digestion tanks as well as cleaning the drain further and building more sewer lines.

In the third phase, the project targets to build the sewer system in the entire neighbourhood. Given the limited capacity of digestion tanks to treat waste, we only plan to install them along the drain to release treated water into the channel. For other parts of the neighbourhood, the project plans to connect the sewer lines to the city's waste treatment centre.



Current State



Solid Waste:
0.19 kg/cap./d
Totally 133,000 kg/d



Wastewater
25 L/cap./d
Totally 17,500 m³/d



Fishery Processing
Shrimps Peeling
2 kg / 20 PKR (0.15 EUR)

Proposed Concept Framework

Solid Waste Management



Provide Collection Facility



Build Up Recycle Center



Found Professional Crew



Toward Sustainable Disposal

Sewerage Management



Wastewater Interception



Integrated Digestion of Organic Waste



Resource and Energy Recovery



Sewerage Connection

Networking Stakeholders

Government



City District
Government Karachi

Land Developer



Karachi Port Trust

Infrastructure
Supplier



Karachi Water and
Sewerage Board

Major Active NGO



Concern For Children

SDG 3

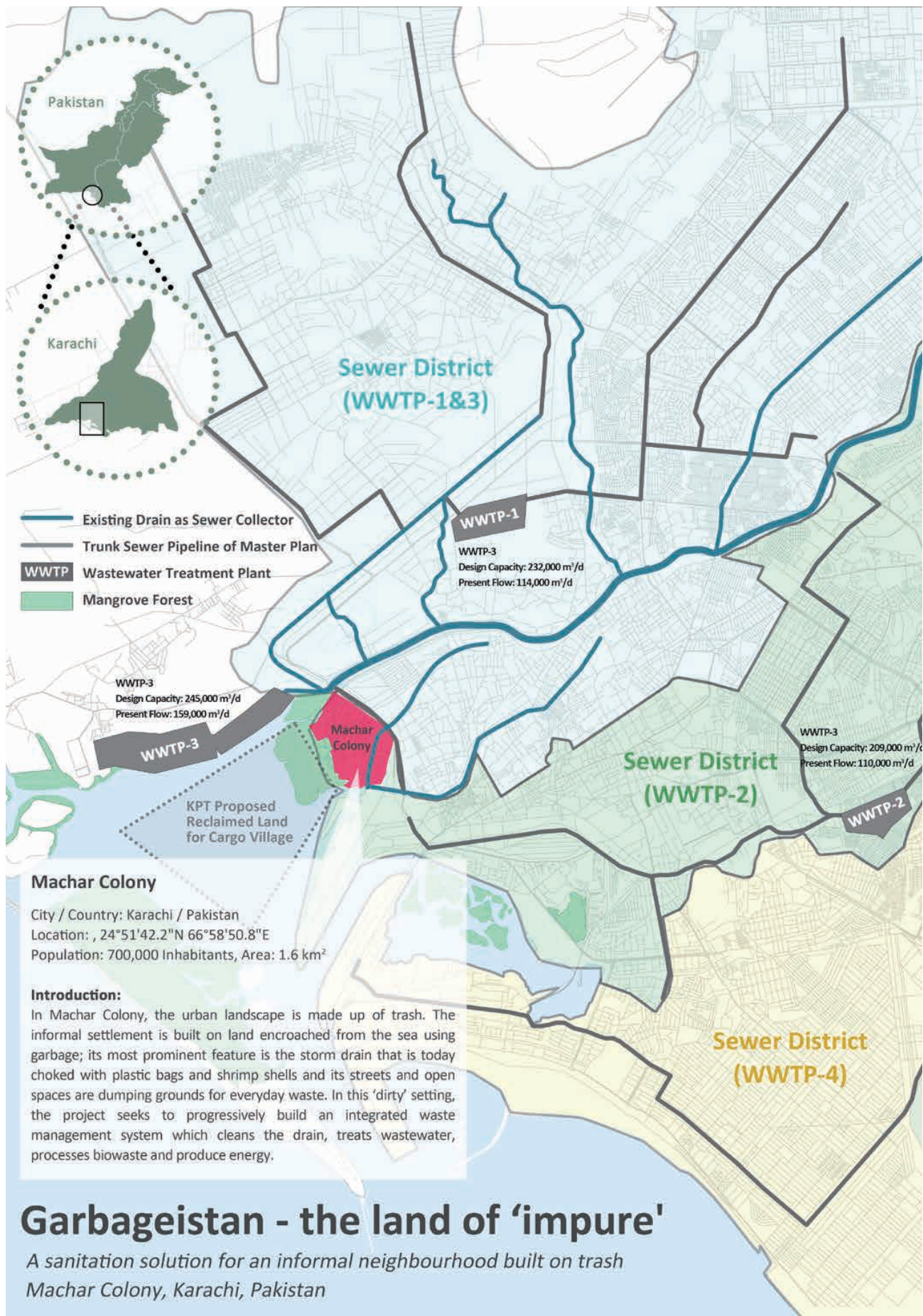


GOOD HEALTH
AND WELL-BEING

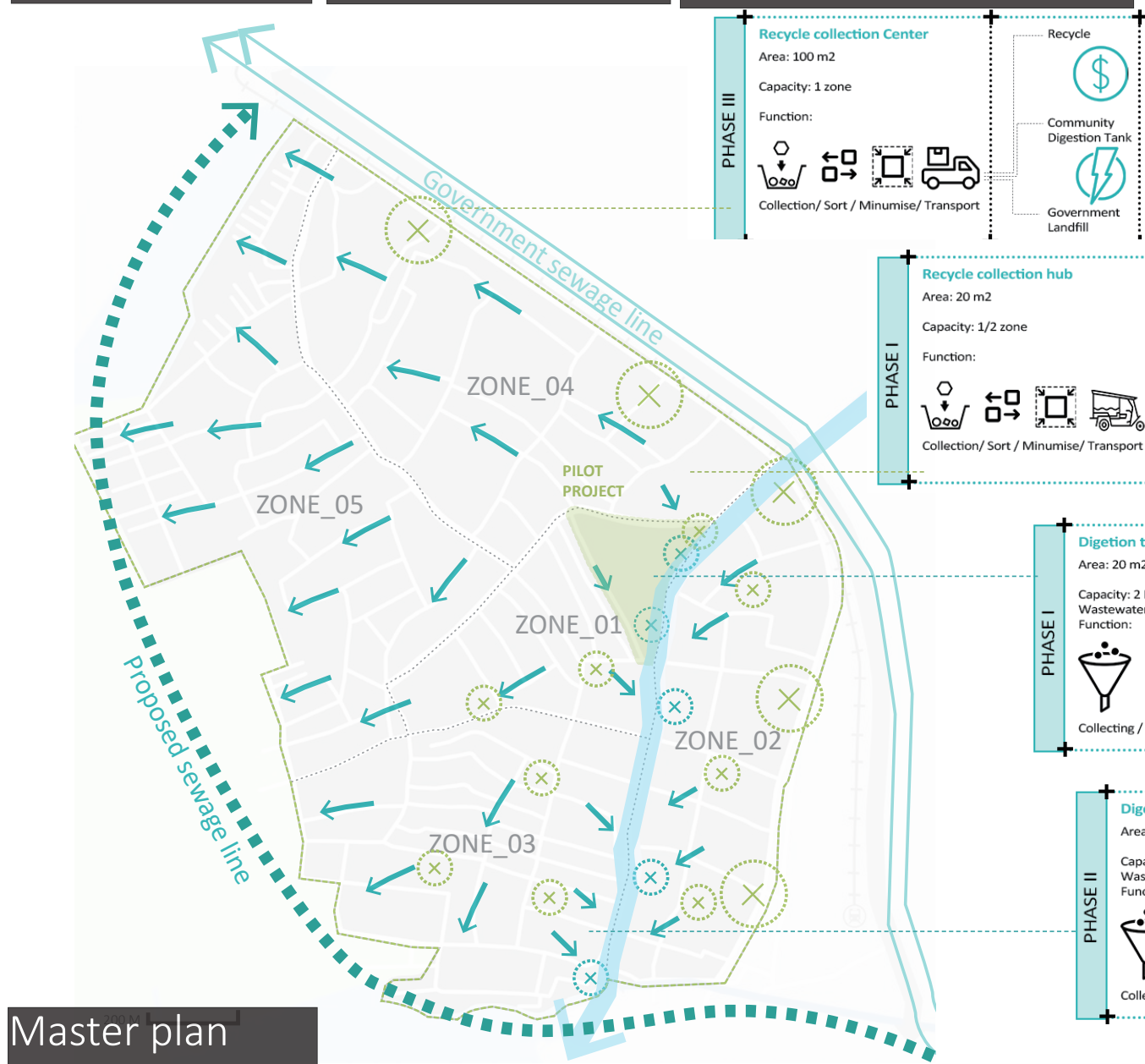
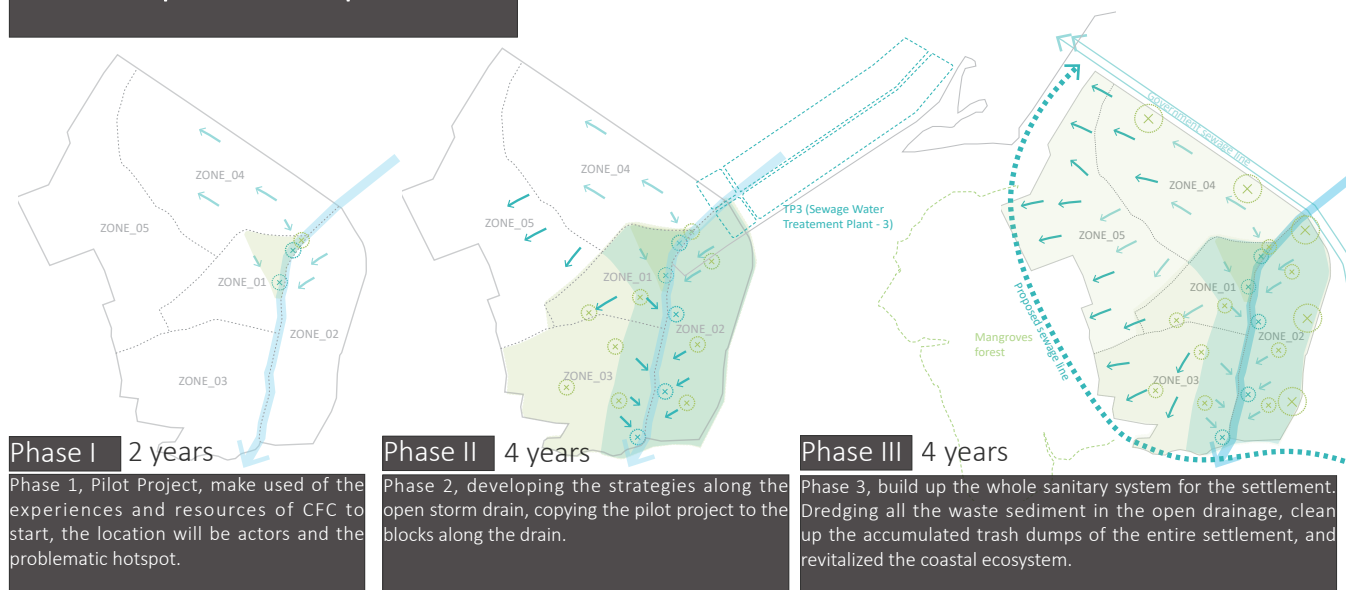
SDG 6

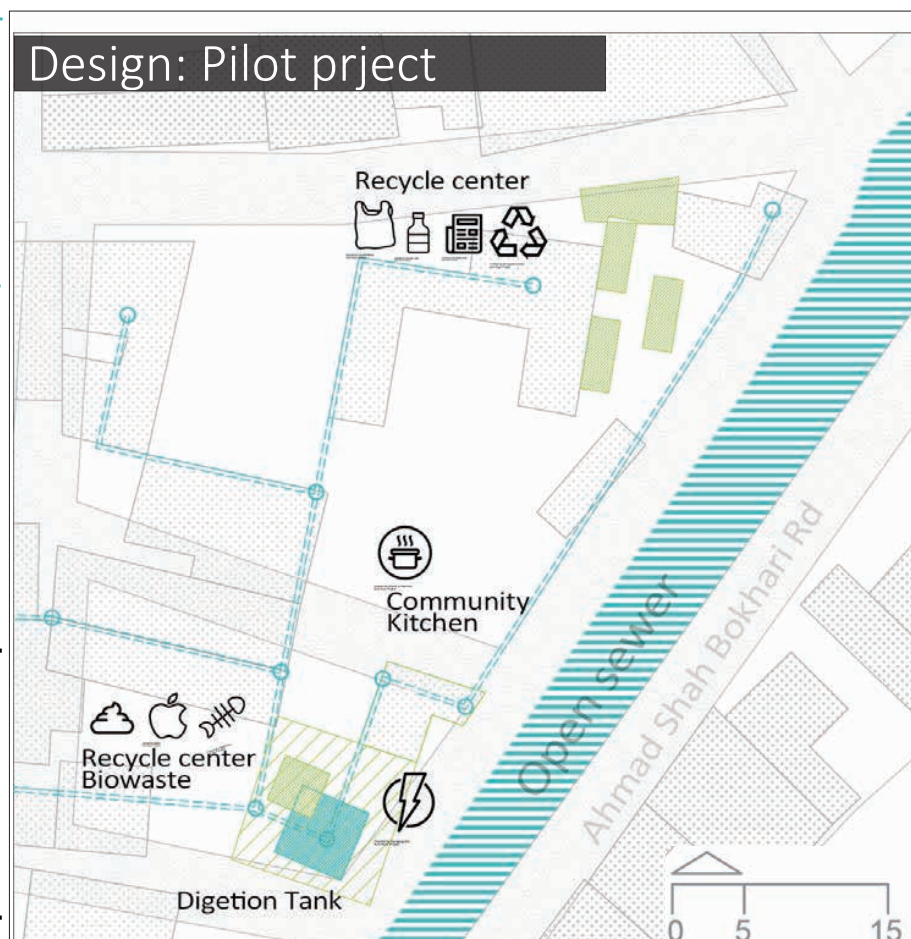
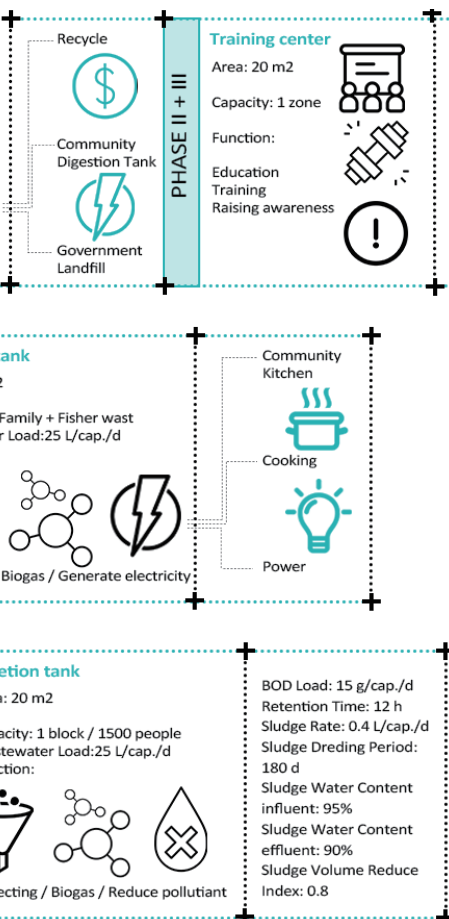


CLEAN WATER
AND SANITATION



Development phase







Ferya Ilyas

Shizhe Ma

Yilin Lai

A word from the group

FERYA ILYAS, SHIZHE MA, YILIN LAI, UNIVERSITY OF STUTTGART, GERMANY

We are three students of University of Stuttgart from Pakistan (Ferya), China (Ma) and Taiwan (Yilin). Ferya is a journalist from Karachi; she has a bachelor's degree in Mass Communication with specialisation in print journalism. She worked for a newspaper for six years during which she reported on urban issues prevalent in Karachi. Ma is an environmental engineer currently doing his master's in Infrastructure Planning. His academic interests lie in how to implement blue-green infrastructures to address climate change in cities. Yilin is a landscape architect, focusing on planning and designing green infrastructure. She has work experience in planning and construction fields and was inspired to study urbanism after travelling to 11 brilliant cities in different parts of the world.

For us, informality is organic, ingenious and complex. While at first we were introduced to informality as something bad, over the years we have learnt that there's more opportunity than threats in informal urbanisation. Due to the severe lack of

infrastructure, uncontrolled growth and intense inequality, informality is probably the most urgent task faced by planners for sustainable development. But it is also the most beautiful example of co-creation; how people come together to address their needs in a city which doesn't care much for them. Given the magnitude of this phenomenon - dense population, limited resources and unofficial development, the topic deserves a closer inspection with the simple aim of making people's lives better.

While training new planners in how to address informality, the academia must take a multidisciplinary approach to understanding informality. Informal urbanisation is like a city within a city, with its own political, social and economic dynamics and that's exactly why it needs to be seen holistically, rather than just as a spatial configuration. Most importantly, people's wellbeing should be at the centre of all discussions, interventions and recommendations for informality and this just not means keeping them in mind when planning for informality but asking them for solutions.

They are the experts of their habitat and they should be the one guiding the process of changing conditions for better.

Going into the specifics, studying informality should deal with real-life cases, actual interventions and long-term planning. Each context is different and by providing students the opportunities to work directly in informality, educational institutions can equip students with the right skills, knowledge and understanding needed to work in this ever growing field of urbanism. Also, since majority of the informality is in the 'Global South', it is important that students are not advised to apply planning practises of the 'developed world' to the 'developing countries' because their realities are poles apart; since there seems to be a gap in terms of research done on informality in the 'Global South', students should be encouraged to dig deep in the topic and develop new theories and frameworks that can help further research and future planning.



Diego, Pablo and Sule during pre-selection of the 20 finalists

**The second place was
shared between two
teams**

CAN



COMMUNITY ARTICULACION IN THE NEIGHBOURHOOD

SALVADOR

SUBÚRBIO
FERROVIÁRIO

Education and City

collective actions • popular participation

Salvador, Brazil

ENVIRONMENT

HEALTH

COMMUNITY ARTICULATION IN THE NEIGHBOURHOOD

A YOUTH PROCESS IN SUBURBIO FERROVIARIO OF
SALVADOR, BRAZIL

AXE 4

Ana Clara Oliveira de Araújo

Camila Pinho de Mello

Mariana Ribeiro Pardo

Federal University of Bahia

BRAZIL

have an influence
on decisions about
the city!

access
rights!

express opinions!



Community articulation in the neighbourhood

A youth process in Suburbio Ferroviario of Salvador, Brazil

SALVADOR, BRAZIL

ANA CLARA OLIVEIRA DE ARAÚJO, CAMILA PINHO DE MELLO, MARIANA RIBEIRO PARDO

FEDERAL UNIVERSITY OF BAHIA

COMMUNITY ARTICULATION IN THE NEIGHBOURHOOD

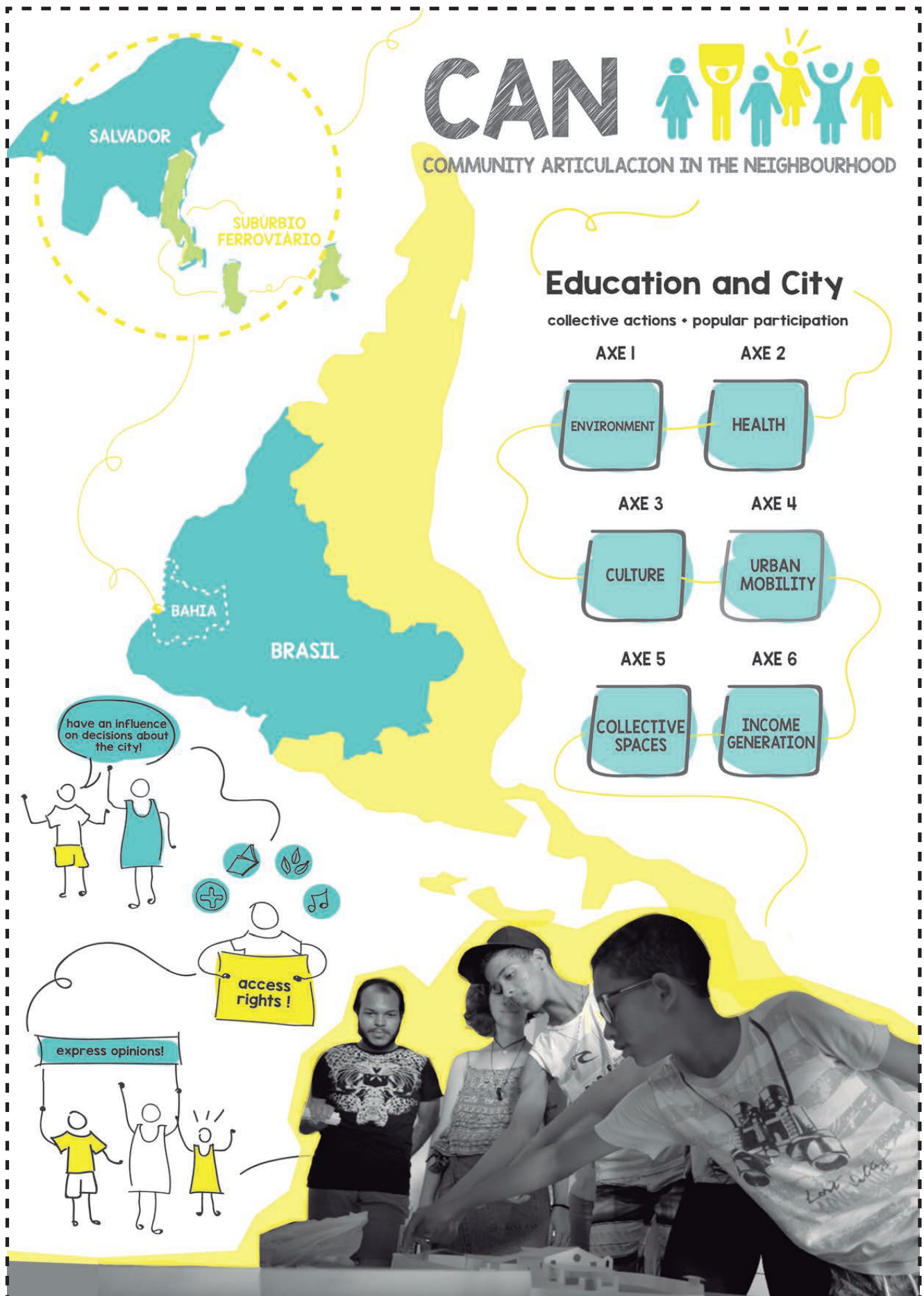
The project Community Articulation in the Neighbourhood (or CAN) proposes to think and produce the city in a collaborative perspective, through a process of formation and mobilization of young people, between 14 and 18 years old, that attend high school public institutions and are part of the Community Schools in the Subúrbio Ferroviário area, which is a peripheral zone in north-western part of the city of Salvador, in Brazil. The proposal is configured as a plan of socio-educational actions, which discuss the thematic of Education and City from six axes: Environment, Culture, Health, Urban Mobility, Collective Spaces and Income Generation. These axes have been chosen in the field, with inhabitants and others social agents in the locality of Escada, a neighbourhood in the Subúrbio Ferroviário.

The contact with the Community School of Escada, by a project of the Federal University of Bahia, made the relationship with other educational institutions easier due the network action with four other Community Schools: (2) Nova Constituinte, (3) São José Operário, (4) Nossa Senhora Medianeira and (5) Vinte de Novembro. All these schools are inserted in the area of the Subúrbio Ferroviário of Salvador, and work with pedagogical actions with teenagers to contribute in the expression of the citizenship. These actions help in the development of active people and the awareness of their social responsibilities in the space where they inhabit.

To change urban spaces it is important to consider the participation and the autonomy of citizens in the decisions regard the city. Studying and practicing the urban planning in the educational perspective helps the instrumentalization of people to the social action. The principal partners to this project are young people, who participate of activities in the community schools, in dialogue with different social agents: inhabitants of the neighbourhood, teachers, college students, cultural agents and others.

The target audience have been chosen in reason of their potential for community mobilization, political organization of young people, network articulation in formal and informal fields and circulation of information. As partners in the organization and realization of the proposal, we have students of the Federal University of Bahia that fit in this context through a permanent interdisciplinary extension project with the community. The university extension allows to students a professional formation with social responsibility, with the possibility of partnerships with state bureaus to financing the proposal.

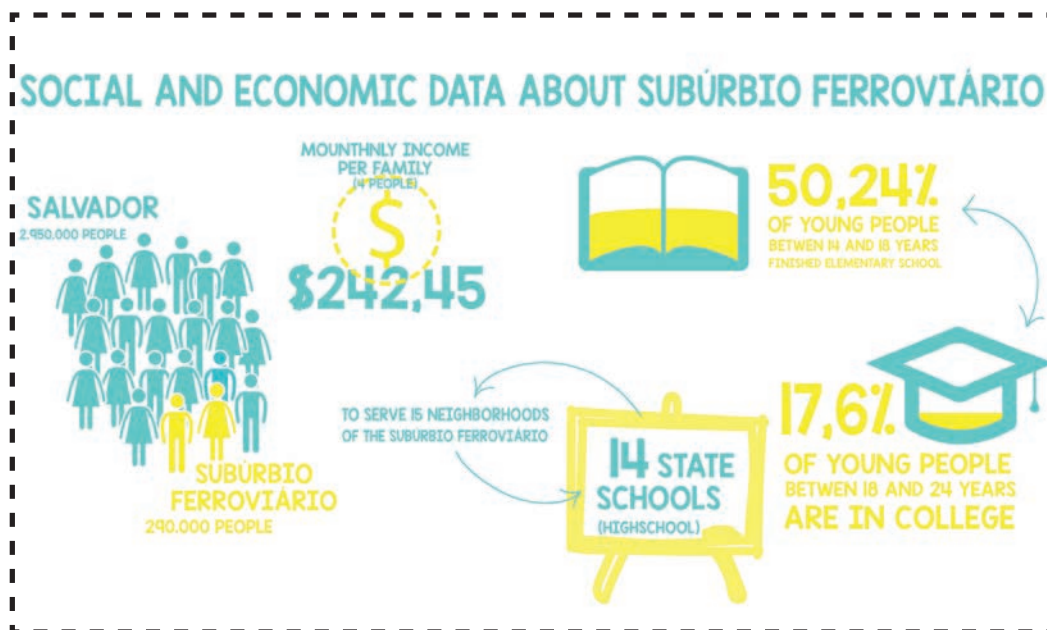
The project will be included in the school year in the community schools, since March to November, considering holidays in July. The implementation can be in the next school year, which will starts in 2019, developing in weekly meetings between the high school students, college students, teachers and specific guests for each axe addressed.



Community Articulation in the Neighbourhood: Proposal of a collective and collaborative urban planning (Personal production).



The axes in the territory: the themes were chosen in the work field and with the popular participation (Personal production).



CONTEXT AND PROCESS

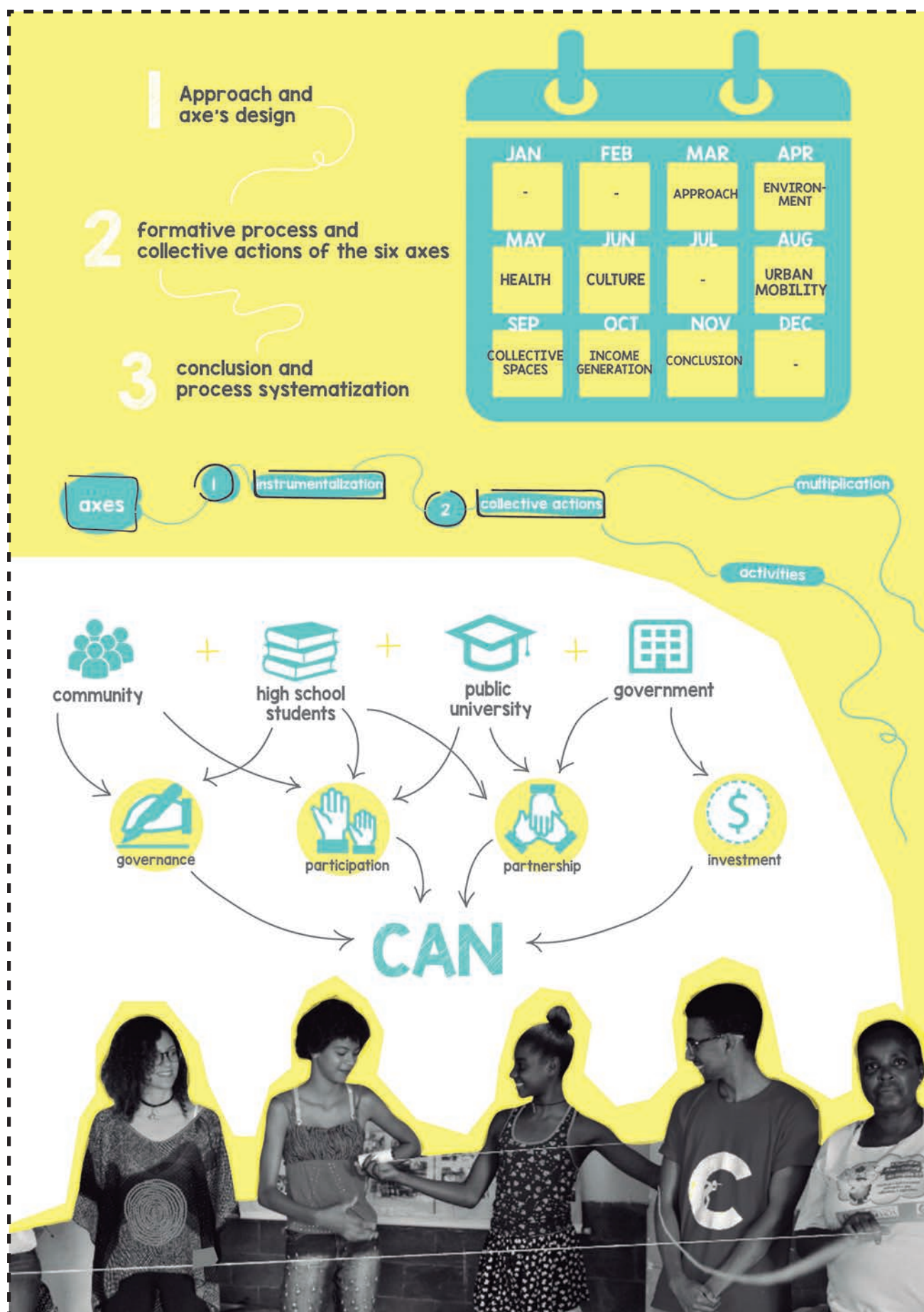
The proposal is situated in the locality of Escada, in the area of Subúrbio Ferroviário of Salvador, capital of Bahia, the biggest state in the northeast side of Brazil. According to the Brazilian Institute of Geographic and Statistics (IBGE), this area of the city, occupied since the mid-nineteenth century, has about 10% of the Salvador population, almost 290 thousand people, whose 78% declares themselves as black or brown skin people. Among the socioeconomic indicators about this zone, we have the average monthly income per family, with 4 people, corresponding to R\$906,68 (US\$242.45), lower than the national minimum salary.

In the field of education, Salvador, which is the fourth most populous city of Brazil, present worrying informations. According to the United Nations Development Programme (UNDP), in research developed in 2010, only 50,24% of young people between 14 and 18 years finished the elementary school. Besides, 78,91% of the population between 6 and 17 years, who attended regular basic education, had until 2 years of lag in the age-grade proportion. Also, only 17,6% of people between 18 and 24 years, in this period, was in college. These data shows the vulnerability condition and the social inequality of this population.

In the Subúrbio Ferroviário of Salvador, we have 14 public schools that offer free high school to the population, spread in seven of fifteen neighbourhoods of the area. Besides, there is a network of five community schools, which offers a socio-educational programme for teenagers. In approach with the Community School of Nossa Senhora de Escada, and with the community where it is located, through the Faculty of Architecture, which started during the year 2017, were discovered new possibilities in the city. Such possibilities propose a dialogue between education and urban planning, considering the participation and the autonomy of the citizens in decisions about the cities.

The approach with the locality of Escada implied a process of study in the field – and with the field – from the speech of its residents, getting together different people to think and propose the city spaces. In opposite to the traditional political planes, which benefits the economic interests of a small part of the population and increase pre-existent social asymmetries, are proposed new methodologies of citizen participation. This popular action, through education, brings new perspectives to the social transformation, making possible the dialogue with different social agents: the Trem de Ferro Movement; the cultural space Acervo da Laje; associations of residents; and government representatives, like the Mário Leal Ferreira Foundation, which works with the urban planning in Salvador.

The interaction with these different people helped the debate about the problematic and potentialities of the area, defining in Escada six axes to work: environment, health, culture, urban mobility, collective spaces and income generation. From the work that has already been developed in the socio-educational project of the Community School of Escada, it is proposed a process of student formation and mobilization, through the horizontal construction of a citizen action.



Methodology of the proposal: how the activities will take place in the school year (Personal production).

MAKING IT HAPPEN!

This proposal presents itself as a possibility to amplify the debate about the city, by the construction of a citizen conscious and the young position in face to urban planes that implicate the space where they live. Starting from a network of community schools in the Subúrbio Ferroviário of Salvador, we propose a process of community formation and mobilization to young people, between 14 and 18 years old, from high school institutions. The project looks for a dialogue between Education and City with six axes that have a relation with urban planning: environment, health, culture, urban mobility, collective spaces and income generation. The CAN project is an experience of collective actions that include popular participation, by the association between school, community and public university to think and construct a different model of territorial ordination and management.

We believe in the importance of discussing and creating alternatives for the urban planning inside schools, involving the students in the debate of the right to the city and instrumentalizing them with tools that help in the claim to their rights while citizens. It is also important to understand their own city as a space to learn, and where is possible to make social, affective, territorial and cultural relationships that symbolize the history and the quotidian context of local population. In this sense, it is fundamental to mobilize young people, who are in the process to starting in the electoral system (in Brazil, it is possible to vote since 16 years old), to think, discuss and claim for the effectiveness of public politics to help in the construction of a more just and democratic city.

The CAN proposal has the intention in being a process of collective formation and action that will happen weekly, in the school year, inside the Community School of Escada. These activities will be performed in the opposite shift of the curricular mandatory agenda of high school public institutions. The Education State Bureau may regularize them as a complementary activity, making official the project and helping with financing and with certificate for the scholar record of the student. Other important vision of the project is the partnership with the Federal University of Bahia, understanding the social responsibility of a public university and putting together an interdisciplinary team of students and professors to help with the organization and effectiveness of the activities.

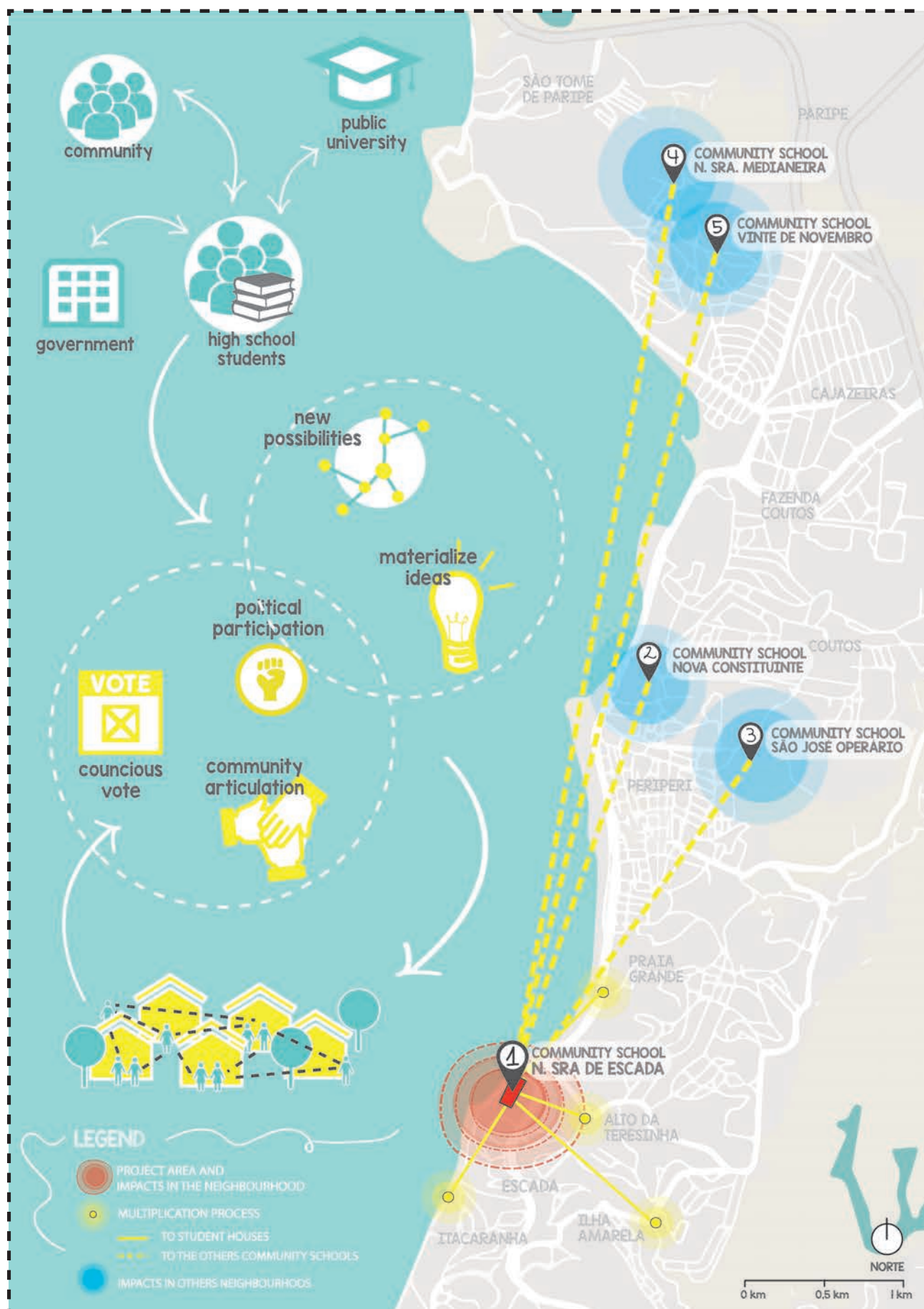
It is also important to understand that making the project institutional doesn't decrease the influence of local population, community school or university, whom will be responsible for the proposal management and effectiveness. The institutionalization presents the importance of the government to provide adequate investments and infrastructure to the activities. To this project, it is possible to count with the support of the Urban Development Bureau, the Culture Bureau and the Education Bureau. It is proposed an effective partnership between the State, the community and the public university.

The project will take place in three stages, which will be distributed over eight months: (1) Approach and axe's design; (2) formative process and collective actions of the six axes; and (3) conclusion and process systematization.

(1) The first stage, which will happen in the 1st month, will be a place to approach and interact with all the people involved in the project, allowing the development of a sensibility and contextualization with the territory. Also, it will be possible to design, to adjust or either to modify the axes that will be worked with.

(2) The second stage will be developed in the month 2 to 7, which means one month per axe of work. Each axe, by its turn, will be split in two moments. In the first two weeks, with theoretical training and instrumentalization about rights and strategies to claim the axe in question. The last two weeks, with more practical view, when the young students will plan collective actions in the neighbourhood. These practical activities can be workshops, micro interventions, meetings and others.

(3) The third and last stage will take place in the last month, the 8, in a moment of conclusion and process evaluation. Also, will be possible to think in ways to gather and systemize all content and experiences occurred in the year. The final production may be share and accessed by other people across online platforms, exhibitions or others strategies defined by the participants.



Urban and social perspectives: the proposal intends to articulate young people from Subúrbio Ferroviário area (Personal production).

URBAN AND SOCIAL PERSPECTIVES

The CAN proposal has a huge potential of transformation in the time-space where it will be placed. The strengthening of a citizen conscious, which may be horizontal constructed in idealized dialogues and activities, has the possibility of reinsertion of these individuals in the dispute field of the urban and regional planning, believing in the importance of popular participation to build the city. In this sense, it has been defined the approach with the six axes designed in a process of interlocution with the territory of Escada.

By the moment when the Urban Development Bureau, the Culture Bureau and the Education Bureau are active, there is a new relationship between the population and the public services. This activation provides a new way to work, in a local perspective and for the social agents, thinking the social rights in a horizontal model. Also, the participation of a public university helps in the integration between institutional tools and social demands, thinking about a collective knowledge construction, which implies a permanent renovation according to the reality of the city.

The young students, by their turn, will be actives agents in the space, strengthened by a network of institutional support to implement, create, and expand the range of actions in the space they inhabit. They also can support social movements that already exist in the territory, like cultural spaces, inhabitant associations and others. The project aims are the expectation of multiplication of these actions, which should occur by circulation of information, articulation of formal and informal networks, community mobilization and young political organization. To think and to actively build the city implies a sense of belonging to the space.

After this first experience in the Community School of Escada, the project should be implemented in the others community schools in the area of Subúrbio Ferroviário of Salvador: (2) Nova Constituinte, in the neighbourhood of Periperi; (3) São José Operário, in the locality of Coutos; (4) Nossa Senhora Medianeira and (5) Vinte de Novembro, both in the district of Paripe. Beside this, the participants in their own neighbourhoods can afford the proposal.


Gathering in groups and organizing ourselves politically is a fundamental and revolutionary action nowadays. Since the military dictatorship in the 80s, and recently with the presidential impeachment in 2016, the insecurity and disbelief in the actual political system, in which have been denied collective actions and mobilizations, has grown. For this reason, it is very important to put the vote for the young people as a fundamental and democratic action.

Also in 2016, the new federal government created the programme Médiotec with the provisional measure 746/2016. This programme implied a change of public high school education with a technical formation, which makes the poor students don't see the university as their space. As a result of this situation the social inequality increases, putting the poor students in technical courses and the rich young people in universities.

The CAN project has the challenge of addressing democratic and horizontal ideas with the local population of the neighbourhood of Escada, thinking and building the city as a collaborative plan. The possibility of empowering and articulating the population of Subúrbio Ferroviário presents itself as a potential way to change the inequality system that is common in Global South cities. The social inequality in Salvador touches old economic and racial problems which affect the poor people. For this reason, it is fundamental to bring the population together, seeing the young people as the way to concretize ideas and actions in the urban planning.



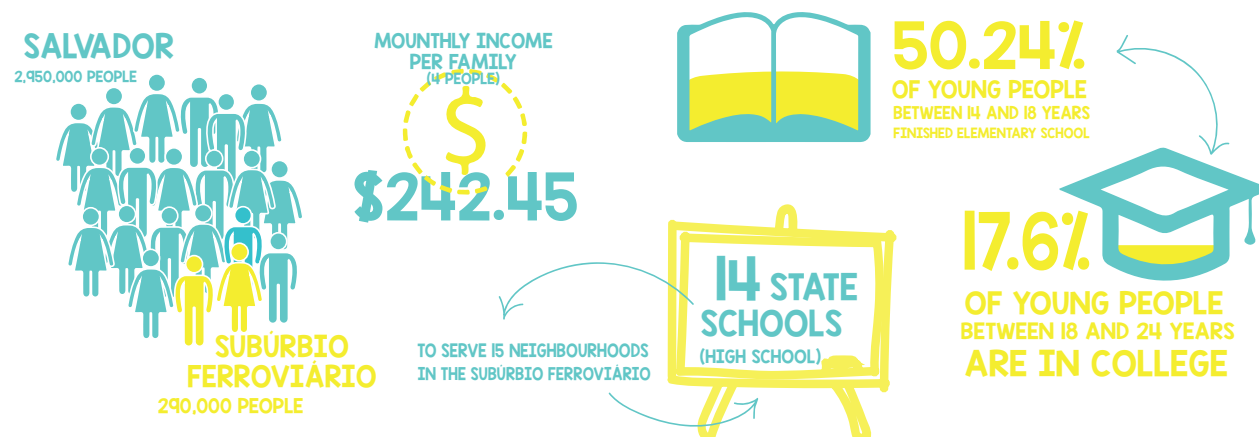
CAN



COMMUNITY ARTICULATION IN THE NEIGHBOURHOOD

The Community Articulation in the Neighbourhood (CAN) is a urban planning project with the theme of Education and City that proposes a articulation process between high school students, community, public university and state bureaus to address better solutions to change the social condition in the Subúrbio Ferroviário, a peripheral area in the north-western in the city of Salvador, in Brazil. This proposal is located in the neighbourhood of Escada, which has the Community School of Escada that works in a network with four others community schools in pedagogical actions to contribute for the expression of the citizenship by teenagers. The proposal is configured as a plan of socio-educational actions, which discuss Education and City from six axes: Environment, Culture, Health, Urban Mobility, Collective Spaces and Income Generation.

CONTEXT AND PROCESS

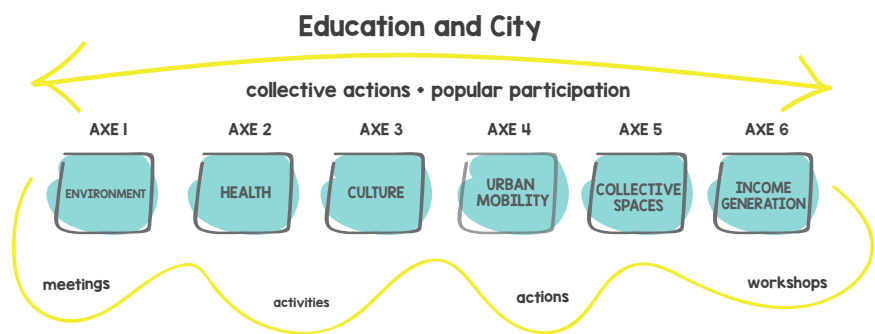


The data about the Subúrbio Ferroviário reveals a large population in social and economic vulnerability conditions that are accentuated by political planes directed for economic interests of a small part of people. The approach with the locality of Escada implied a process of study in the field – and with the field – from the speech of its residents, getting together different people to think and propose the city spaces. This popular action, through education, brings new perspectives to the social transformation, making possible the dialogue with different social agents. In approach with the Community School of Escada, and with the community where it is located, through the Faculty of Architecture, which started during the year 2017, were discovered new possibilities in the city. Such possibilities propose a dialogue between education and urban planning, considering the participation and the autonomy of the citizens in decisions about the cities.

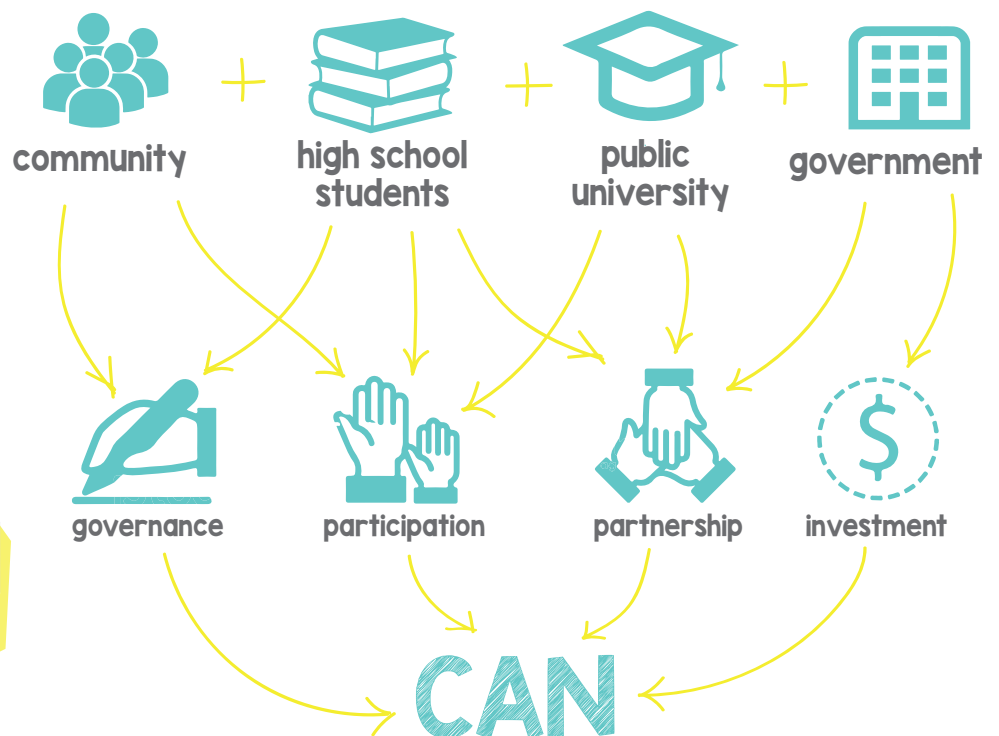


THE PROJECT

This proposal presents itself as a possibility to amplify the debate about the city, by the construction of a citizen conscious and the young position in face to urban planes that implicate the space where they live. Starting from a network of community schools in the Subúrbio Ferroviário of Salvador, we propose a process of community formation and mobilization to young people, between 14 and 18 years old, from high school institutions. The project looks for a dialogue between Education and City with six axes that have a relation with urban planning: environment, health, culture, urban mobility, collective spaces and income generation. The CAN project is an experience of collective actions that include popular participation, by the association between school, community and public university to think and construct a different model of territorial ordination and management.



By the moment when the Urban Development Bureau, the Culture Bureau and the Education Bureau are active, there is a new relationship between the population and the public services. This activation provides a new way to work, in a local perspective and for the social agents, thinking the social rights in a horizontal model. Also, the participation of a public university helps in the integration between institutional tools and social demands, thinking about a collective knowledge construction, which implies a permanent renovation according to the reality of the city.



**GROUP
AAI35**

COMMUNITY ARTICULACION IN THE NEIGHBOURHOOD



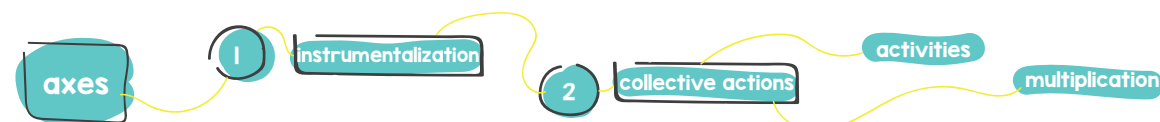
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The project will take place in three stages, which will be distributed over eight months:

- 1 Approach and axe's design
- 2 formative process and collective actions of the six axes
- 3 conclusion and process systematization



Each axe will be split in two moments. In the first, with theoretical training and instrumentalization about rights and strategies to claim the axe in question. The second, with more practical view, when the young students will plan collective actions in the neighbourhood. These practical activities can be workshops, micro interventions, meetings and others.



THE 6 AXES territorialized in Escada

1 ENVIRONMENT

Escada is a urban settlement that has relations with different physical and natural aspects of the territory - the approach with the sea, the relief, the green spaces and native vegetation. However, these areas has been compromised with improper disposal of waste and sewage. In this sense, the population has mobilized community actions to promote awareness about the maintenance and care with the nature.

2 HEALTH

The Brazilian population is assisted by a huge public health system (called SUS). In Escada, this system presents a precarious situation that had grown because the only public health center was closed in 2016. This event made inexistent the public service in this part of the city.



4 URBAN MOBILITY

The Subúrbio Ferroviário is an important railway in the discussion of urban mobility. The community has the ability to increase transportation facilities.

5 COLLECTIVE SPACES

The neighbourhood of Escada has a limited collective spaces. They usually use the beach, the church or the streets as places to collective relations and social interaction. This axe works in the sense of improve the existent spaces and to think in implementation and consolidation of new spaces.

6 INCOME GENERATION

According to the data of the Economic and Social Studies of Bahia Superintendence (SEI), 25.7% of the economical active population in Salvador and metropolitan area are unemployed. In an effort to reduce this situation, in this location we have popular initiatives to generate income to their families through groups of solidarity economy and local business.

GROUP
AAI35

CELEBRATION
OF IEMANJÁ

SIDNEY'S HOUSE

CULTURAL CENTER
PEDAÇO DE AFRICA

NILTON'S HOUSE

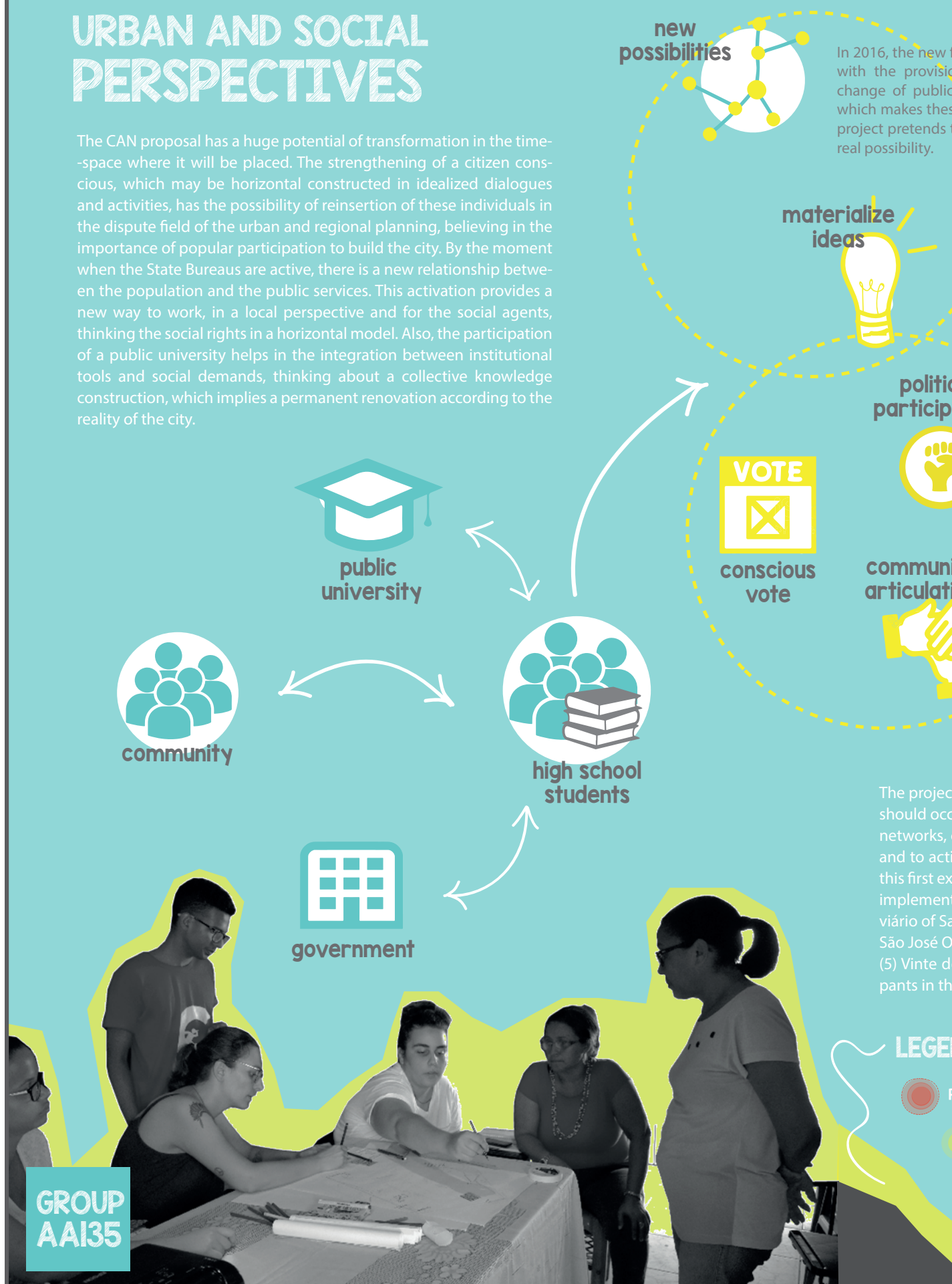
CESEP
VOCATIONAL
EDUCATION

STUDY CENTER
AND LIBRARY



URBAN AND SOCIAL PERSPECTIVES

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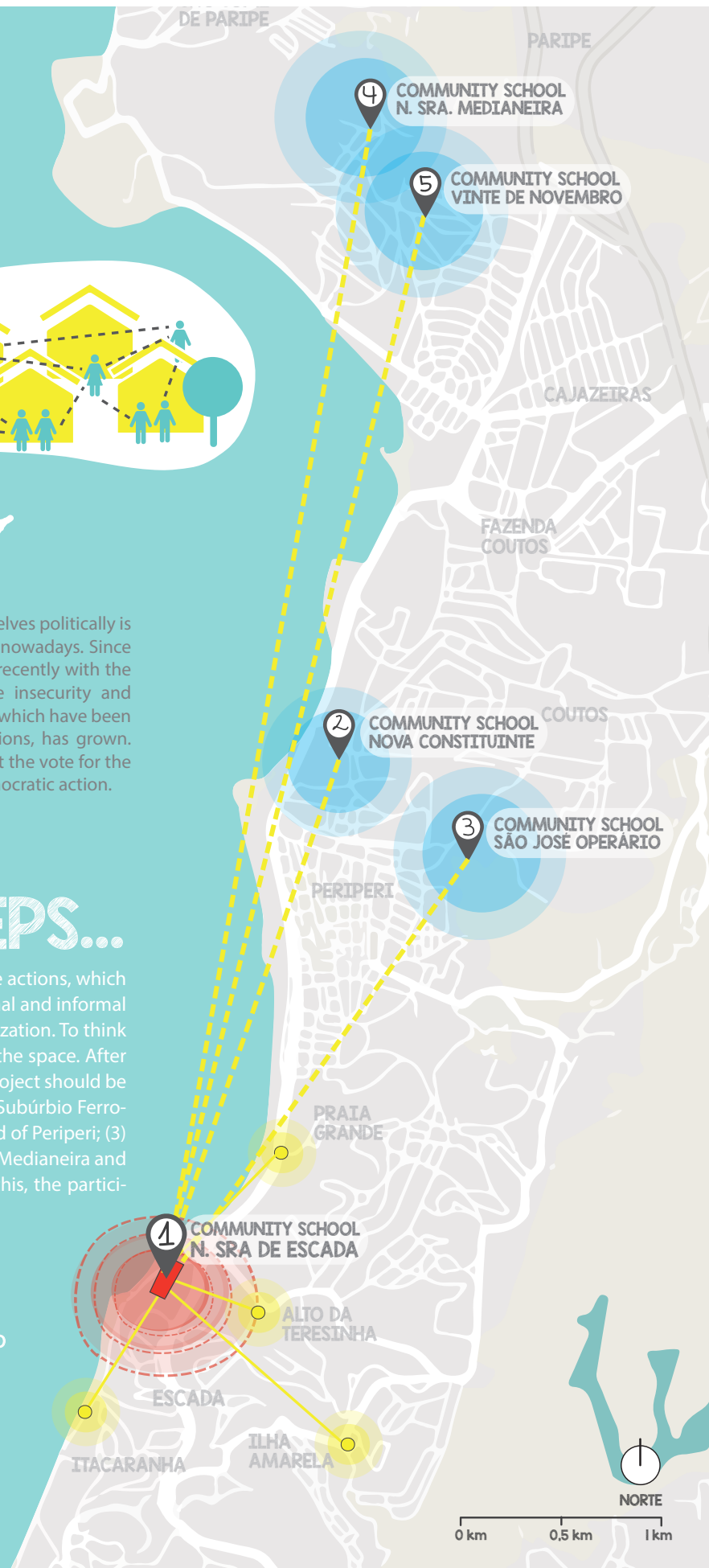
NEXT STEPS...

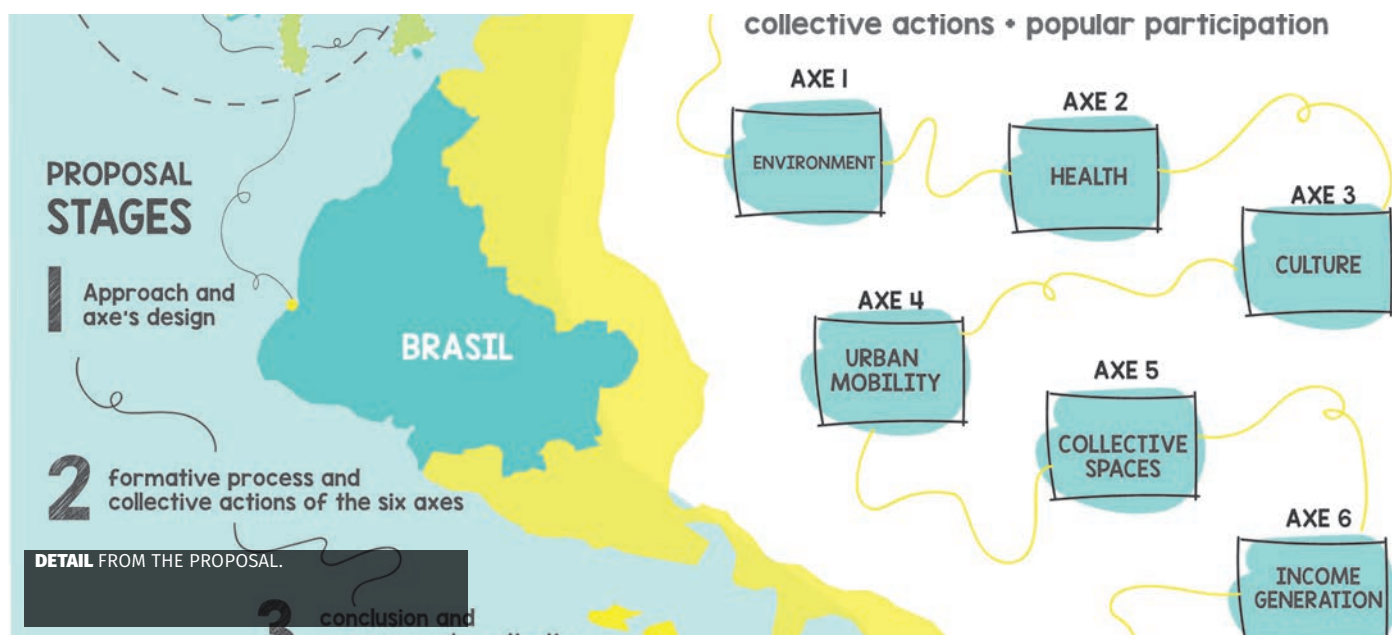
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ND

PROJECT AREA AND IMPACTS IN THE NEIGHBOURHOOD

-  MULTIPLICATION PROCESS
-  TO STUDENT HOUSES
-  TO THE OTHERS COMMUNITY SCHOOLS
-  IMPACTS IN OTHERS NEIGHBOURHOODS





A word from the group

ANA CLARA OLIVEIRA DE ARAÚJO, CAMILA PINHO DE MELLO, MARIANA RIBEIRO PARDO

Ana Clara Oliveira de Araújo is a 5th year student of Architecture and Urbanism in the Federal University of Bahia (UFBA), having attended an exchange year programme, between

september 2015 and august 2016, in the University of Seville (US), in Seville, Spain, with a scholarship from CNPq/Brazil (National Council for Scientific and Technological Development). Since november 2013, she is part in Curiar

- Model Office of Architecture and Urbanism of UFBA, where she works with horizontal and participative projects with communities and social movements in the city of Salvador and the metropolitan area. She was born and raised in this city, where she participated in social projects with themes of sustainability and public education in the school age. Her study interests include participatory methodologies

and projects, university extension, interdisciplinarity, cartographic processes, as also spatial justice, the right to the city and the right to housing.

Camila Pinho de Mello is a 3th year student of Psychology in the Federal University of Bahia (UFBA), where she works with Community Social Psychology in an university extension project named Comucidade. She was born and raised in a high middle class family in Salvador, where the inequality of the city has always caught her attention. She worked for two years in the NGO TETO Brazil, with community projects to provide housing in informal assessments. She also participated in student movement, where she have been approached about themes such as violence, racism and sexism. In the

work with university extension projects, she realised how architecture also plays a role in the processes of exclusion and restrictions of basic rights. Furthermore, she is also interested in childhood studies, working with children in schools, recreations and the relation between child and na-

ture. She is the co-founder of the project OCA - Holiday Activities, where she works in the field of childhood.

Mariana Ribeiro

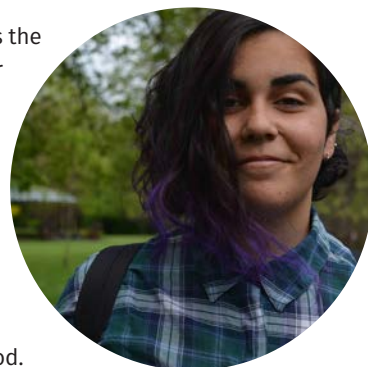
Pardo is a 5th year student of Architecture and Urbanism in the Federal University of Bahia (UFBA). She also attended an exchange year programme in the University of the Basque Country (UPV/EHU), in the city of San Sebastian, in Spain, between september 2015 and august 2016, with a scholarship from CNPq/Brazil. She was born and raised in Salvador and the metropolitan area, in a family context that has always encouraged the struggle for the collective. Her model is her mother, who always participated in actions and collective demands, and today works directly with public policies for women. In the course, she had the opportunity to work with collective processes in the Curiar, which has become a parallel formation space. In works with communities and social movements, chil-



ANA CLARA



CAMILA



MARIANA

dren and adolescents have always crossed her paths and caught her attention. She believes in the power of the mobilization and participation of children and teenagers to think and to build more just and democratic cities. Therefore, she is interested in alternative pedagogies, participatory methodologies and projects, university extension and the right to the city.

Confronting informality with education

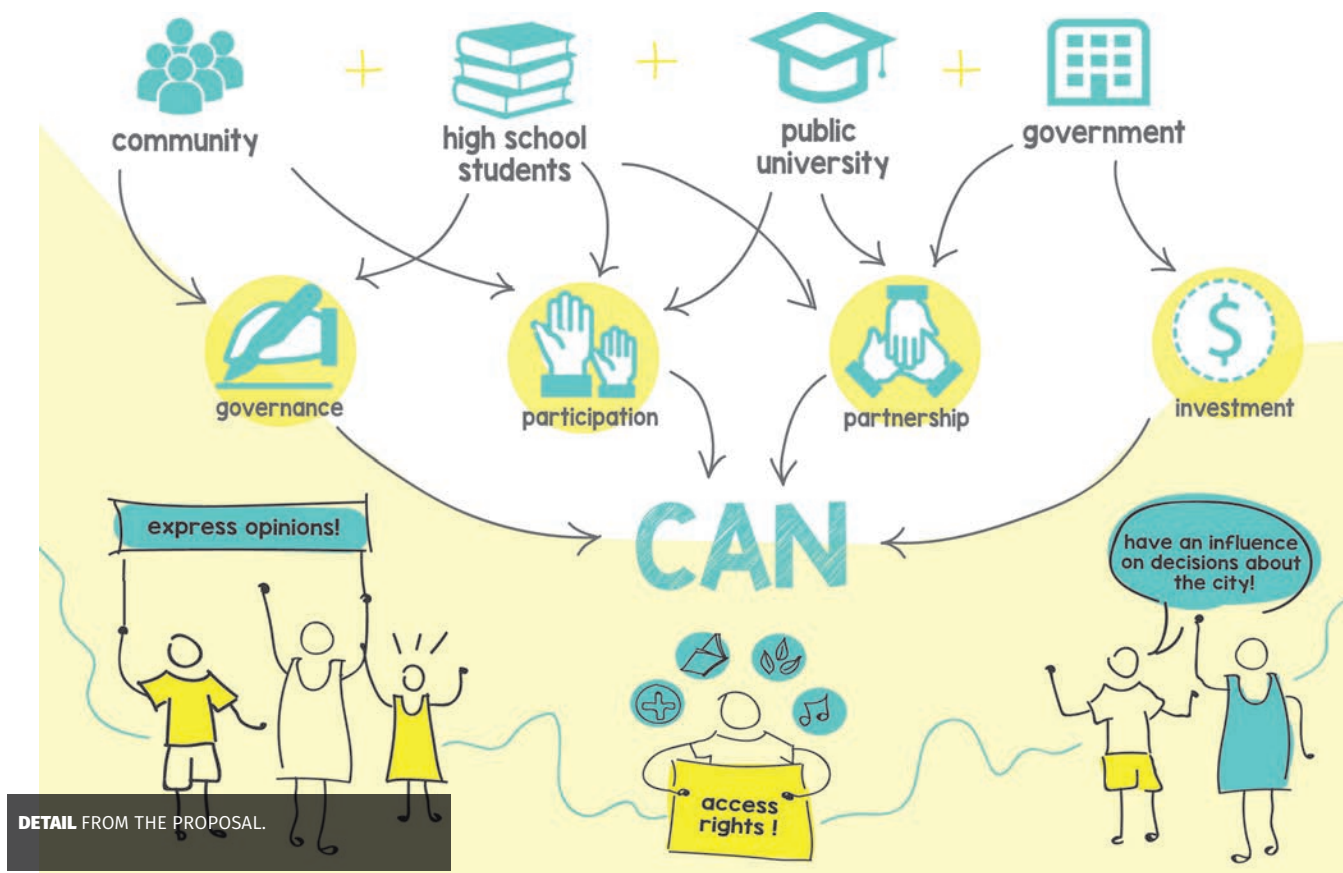
Brazil, as well as all Latin America, has been facing, since the 1970s, a contemporary process of urban spectacularization that reveals a logic of social segregation, which implies the expansion of peripheries, since the low-income population is expelled from city centers. The peripheries are spaces of transition between the formal and the informal city, with precarious urban infrastructure, few collective spaces, schools, health units and others equipments that should contemplate an inhabited space. In this sense, the field of urban planning has an important role in paying attention to these processes and trying to find solutions that improve the life in those areas. However, in the Architecture and Urbanism still have few spaces to discuss and to think about the social role of

the profession and to debate issues related with urban reform, the right to the city and the invisibility of some population strats.

The universities have the potential to be a space of transgression, breaking the walls and taking place in visible and invisible areas of the cities. It is necessary to initiate debates on what thoughts are being built in university spaces, and also constructing a relation with others disciplines as psychology, sociology, geography and law. The interdisciplinarity is an important way to face the contemporary urban challenges, by making possible an integration between university and community. This relation, in Brazil, has been occurred from university extension, which with teaching and research processes completes the basic triad of public higher education. The university extension activities have gained more and more space with the understanding of the importance of a commitment from the university with the social reality where it is inserted.

In the same way, the basic education has the opportunity to promote an integration between the students and the community, with a pedagogical function that isn't restricted to formal learning, but also to contribute in the expression of citizenship.

The education is a common responsibility that implies the reunion of different actors of the city, as well as listening to the children in the process. The exercise of citizenship is something that should be learned in school, and implies the struggle to our rights and the take on our duties. When the public space is built in partnership with inhabitants, they are educated in the process, and become responsible for those places. Studying and practicing the urban planning in an educational perspective help in the association between university and community, and help to understand education as a meeting center of diverse people that can contribute to solve the challenges of the city. We believe that!



Traditions

Fishmarketing

Burj Rasheed, Egypt

PRODUCTIVE INFORMALITY -BURG RASHEED 2050

Florangela Chahuayo

Ahmad Mamdouh

Laura Vargas

Philipp Winter

University of Cairo

EGYPT

Economic
prosperity

Health

Sustainability

Family

COOPERATIVE

COMMUNITY

WOMAN EMPOWERMENT

Productive Informality

Burj Rasheed 2050

CAIRO, EGYPT

FLORANGELA CHAHUAYO, AHMAD MAMDOUH, LAURA VARGAS, PHILIPP WINTER

CAIRO UNIVERSITY

Burj Rasheed (Rosetta) is an informal coastal community located on the estuary of the river Nile in Northern Egypt. Today, it is an outpost of Rasheed proper and home to roughly 20.000 people who find a livelihood mainly in fishing and agriculture.

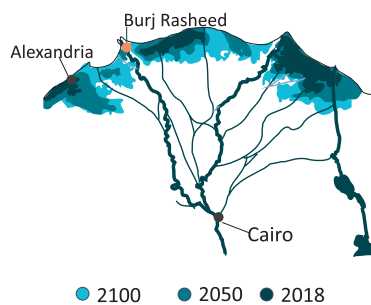
Its location on the low-lying alluvial floodplains of the Nile delta in direct proximity to the Mediterranean pose a great risk to the agricultural community in times of climate change and rising sea levels. Furthermore, a steady increase in soil salinity and an expected decrease of freshwater put the community under pressure. Due to the absence governmental services, Burj Rasheed has to deal with problems in waste management and water treatment. This, combined with population pressure and an ever-increasing informal urbanization and soil sealing, Burj Rasheed stands as an example for many settlements in the peri-urban and rural regions of the Nile Delta.

The vision is to facilitate Burj Rasheeds development to become a local community capable of providing a livelihood for it's people in times of global change. Focussing on the two main corridors in the city, we combine sustainable development with enhanced productivity. The Waterfront corridor is, despite being a primary source of income for the local fishing community, a neglected open space that is being used for the disposal of waste and waste water. A careful re-organization of open spaces will incorporate the historic fortress into the community and create new educational and economic possibilities. The communal organization of waste management including the up-cycling of the gathered raw materials improve not only the environmental conditions, but also the livelihood and overall wellbeing of the people e.g. by increasing the quality and therefore value of fish being produced. The introduction of sustainable fish farming techniques improve both the quality of water and of the produce.

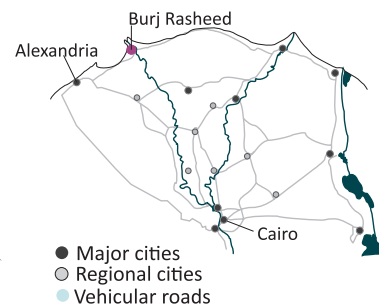
In the agricultural corridor we see similar problems of solid waste and waste water treatment, on top of an expected decrease of agricultural production. Here, the sprawl of the settlement into the agricultural land forms green pockets that reach far into the settlement. This is being turned into an advantage by turning these pockets from mere farming land into productive agricultural hubs that work on a circular pattern of resource distribution. Indoor farming, aquaponics and constructed wetlands form a system that integrate agricultural and domestic production and consumption. The two corridors will be connected by a set of public spaces within the dense organic street network of Burj Rasheed that will be turned productive by means of urban agriculture, the harvest of solar power and the integration of social spaces.



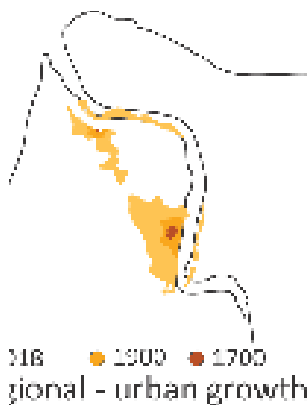
Location



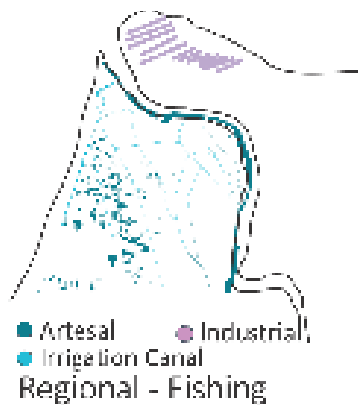
Delta sea level rise



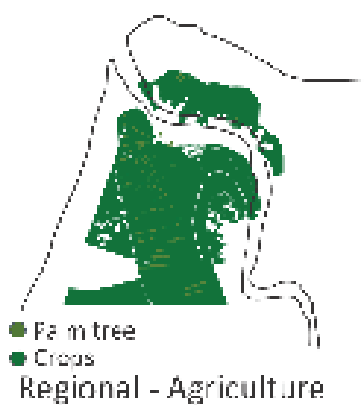
Delta urban network



Regional - urban growth



Regional - Fishing



Regional - Agriculture





CONTEXT AND PROCESS

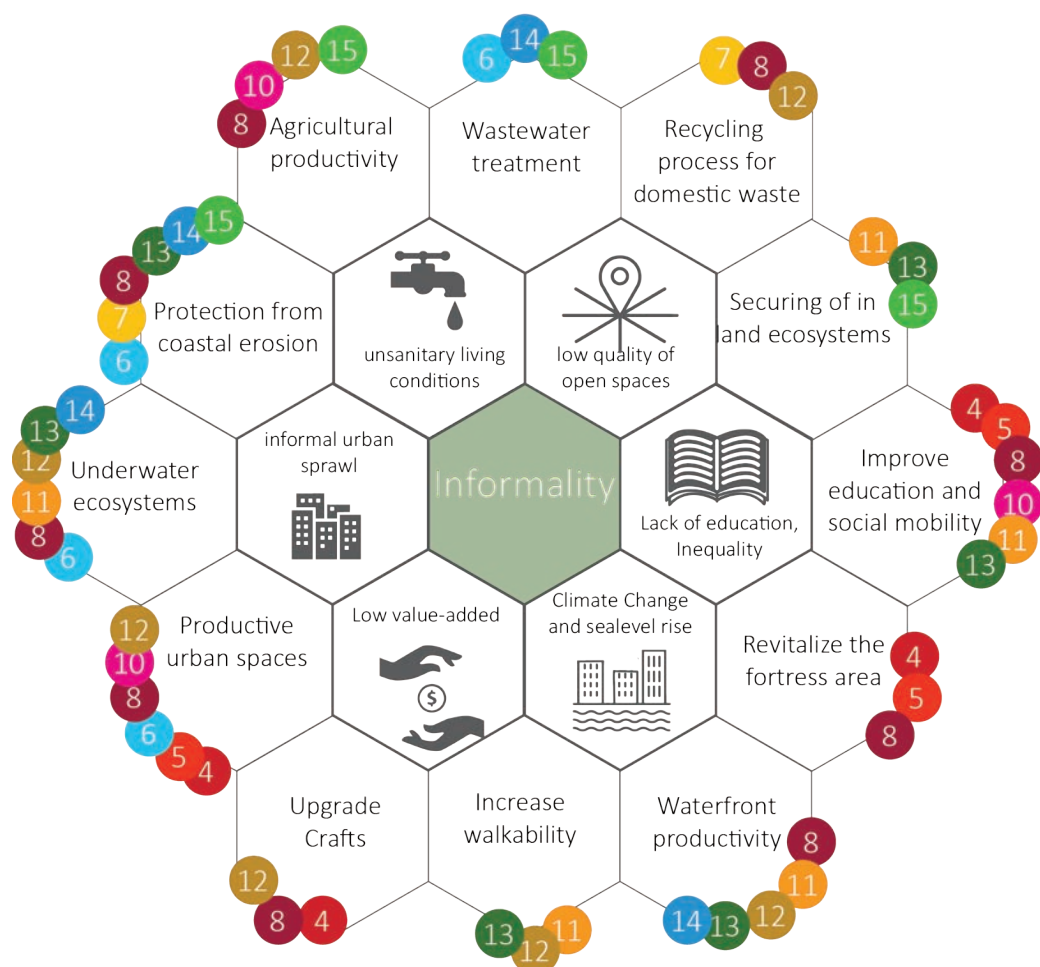
Historically, Burj Rasheeds location on the left bank of the Nile, 65km East of Alexandria and at the point where the Egypt's lifeline meets the Mediterranean, is the basis of it's existence. The 15th century fortress of Qaitbay bears witness to it's origins as a military outpost guarding the mouth of the Nile, when Rasheed proper, today a city of 70.000, was Egypt's main port. Since the late 19th century, both Rasheed as well as Burj Rasheed have seen a strong decrease in economic and military significance. Today, Rasheed is a regional center for food, textile and tobacco industry. Burj Rasheed is a mostly agricultural community of 20.000, that is most well known as the place where the famous Rosetta stone has been discovered. It is growing parallel to the Nile an informal urbanization processes are forming a populated corridor connecting it to Rasheed that lies 5km to the South-East.

Burj Rasheed economy is based mainly on agri- and aquaculture that form the major sources of income. Aquaculture is comprised of fishing in the Mediterranean as well as fish farms in the Nile and in ponds on land provide, while the agricultural sector provides a variety of cereals, vegetables, legumes, and fruits,. agriculture is dependent on irrigation with water taken from the Nile some 25km upstream. Due to a series of barrages and dams no natural flow of freshwater arrives in Burj Rasheed anymore, resulting in the intrusion of saltwater, an increase in riverbed siltation and the accumulation of agricultural and domestic waste water in the now stagnant river. Not only does this pose a major health risk to the community, the river has also changed from being a vital part of the community's identity to a neglected backdrop used for waste disposal, despite its significance for aquaculture and the fact that children swim and play in it in summer. While Burj Rasheed itself is mainly located on a higher lying land its agricultural areas mainly lay on floodplains, resulting in the expected flooding of ca. 50% the this area by 2050. This poses a major risk for the communities that heavily rely on it as a source of income.

A lack of educational possibilities combined with production methods that create little added-value to the products results in low incomes and a partial reliance on remittances from family members abroad. Especially women suffer from a lack of educational possibilities, which oftentimes prevents them from providing for the livelihood of the family. Despite these issues and the informal character of the settlement, the housing stock and general living conditions in Burj Rasheed are comparably good in an international perspective and are on par with other informal settlements or 'Ashwa'yyat' in Egypt. Solid, multi story apartment houses made of cement, brick and mortar form the majority of the local housing stock. An increased building activity as a form of investment has resulted in an unregulated growth that is increasingly sealing the agricultural land in and around Burj Rasheed. Due to the absence of urban planning and an high rate of private landownership, a fragmentation of settled areas occurs that results in agricultural pockets surrounded by peri-urban fabric and vice versa. This puts major stress on the agricultural land through waste disposal which in turn has negative effects on the quality of agricultural goods being produced.



■ Agriculture corridor ■ Commercial
 ■ Fishing corridor ■ Local Network
Burj Rasheed- Productive corridors



DESIGN VISION AND STRATEGIES

In the light of the challenges that Burj Rasheed faces now and in the future, the aim is to create a local community capable of providing a livelihood for its population in times of global change. Our proposal seeks to integrate sustainable development with increased productivity and enhanced education in order to put Rasheeds population in a position to ensure satisfactory living conditions and resilience to environmental risks by themselves.

Through data analysis and site visits we found two major corridors that define the urban layout as well as social and economic activities: The waterfront corridor and the agricultural corridor. Our proposal focuses on these two corridors, as well as a dense network of smaller inner-urban streets and public spaces that connect the two called urban pockets.

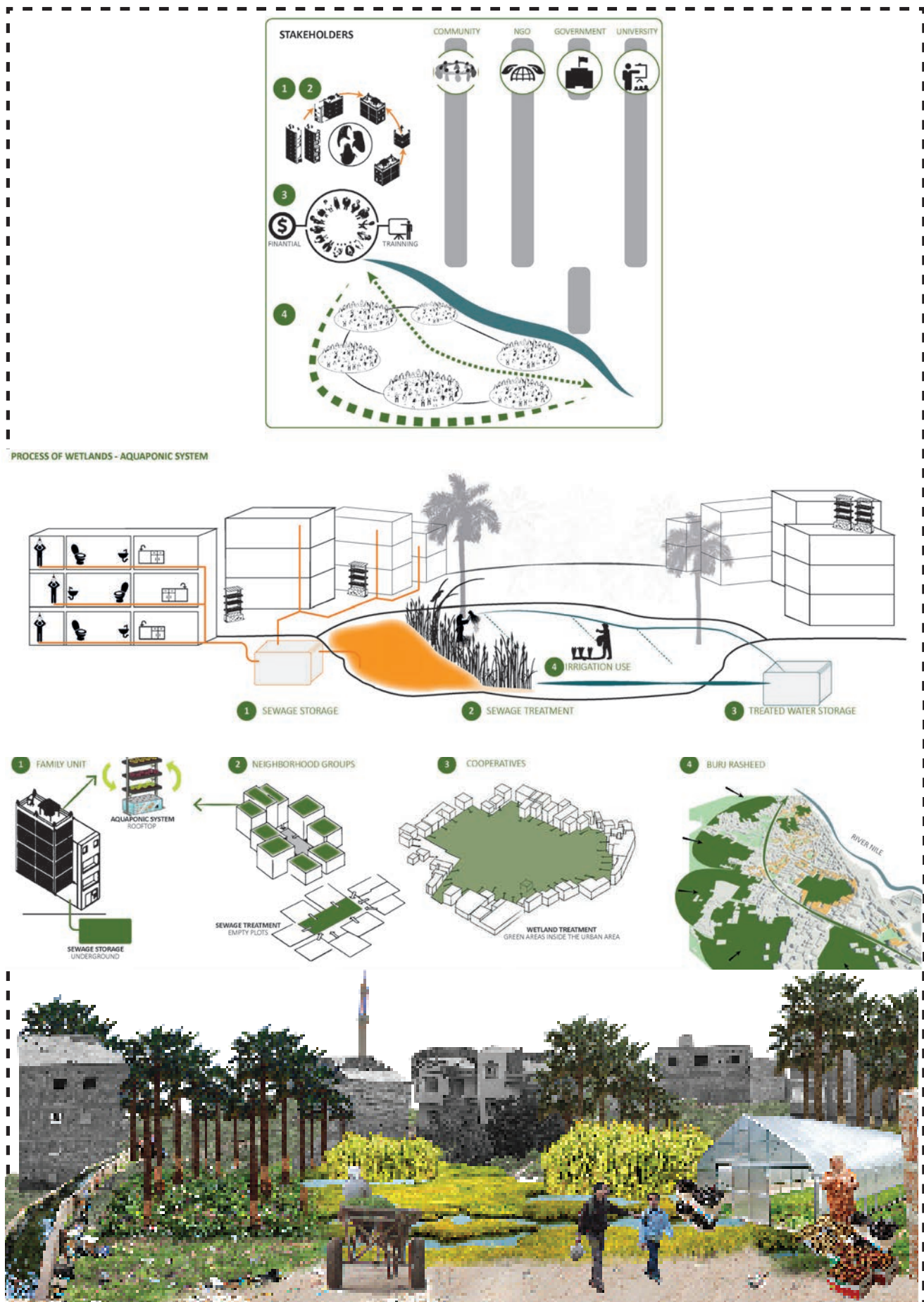
The corridors share a set of twelve specific objectives dealing with certain challenges and opportunities.

Perhaps the most far-reaching efforts will be taken in the agricultural corridor. Organized in 4 phases, the aim is to use the existing green pockets and turn them into ecological and agricultural hubs that are in a close relation to the houses surrounding them. The residents appropriate these spaces, develop and care for them themselves. Aquaponic systems on rooftops mean the efficient use of space and water. Domestic wastewater that is nowadays collected in underground tanks and disposed of in empty plots outside Burj Rasheed is collected and treated inside the green pockets in a ring of constructed wetlands. The Water is then used to irrigate crops grown in a polycultural system or within greenhouses. This results in an increased efficiency of soil use and raises agricultural yields. As a positive side effects, the increased productivity and significance in terms of water treatment means rising land values protect these spaces from urbanization and their eventual sealing. Circular fish farming methods mentioned above also serve as a link between agricultural and waterfront zones since they are buffer between land and sea, slow down coastal erosion and thus help protect valuable agricultural land.

To qualify the waterfront, the neglected historic fortress including its immediate surrounding will be integrated into the city by creating a community and educational center within, and by opening it to economic and cultural activities. This way we make use of a significant structure and give Burj Rasheed back its historic centerpiece. The second specific objective is to upgrade and strengthen the waterfront by increasing its productivity. To achieve this the production of fish is the most important asset. By introducing circular production methods including algae and mussels, not only the quality of water and fish will be increased, the additional products can be used as (fish)food as well. Flexible spaces along the waterfront will open up more possibilities for economic activities, and an up-cycling facility for waste not only helps to clean up the open spaces, it also provides jobs and possible raw materials for crafts and construction.

The dense organic street network within the settlement will be improved by creating shading out of local materials, while the introduction of green infrastructure on empty plots and open spaces further reduces temperatures in times of climate change. It doubles as a possibility for the production of food. Thus the walkability of Burj Rasheed will be improved. A network of these spaces used for economic activity, social spaces, educational or cultural venues means a heightened experience and improved atmosphere. The production of biofuels on the other hand means that agricultural wastes and reed grown in the newly introduced wetlands can be used as resources to vitalize the local economy while at the same time economically enhancing the sustainability of local transport systems.

To further improve the living and working spaces, a new recycling process for domestic waste and garbage found on the streets will be introduced. Organized in a cooperative by local people, these materials can then be used as resources for local crafts while educational measures help spread awareness about health risks and recycling possibilities.

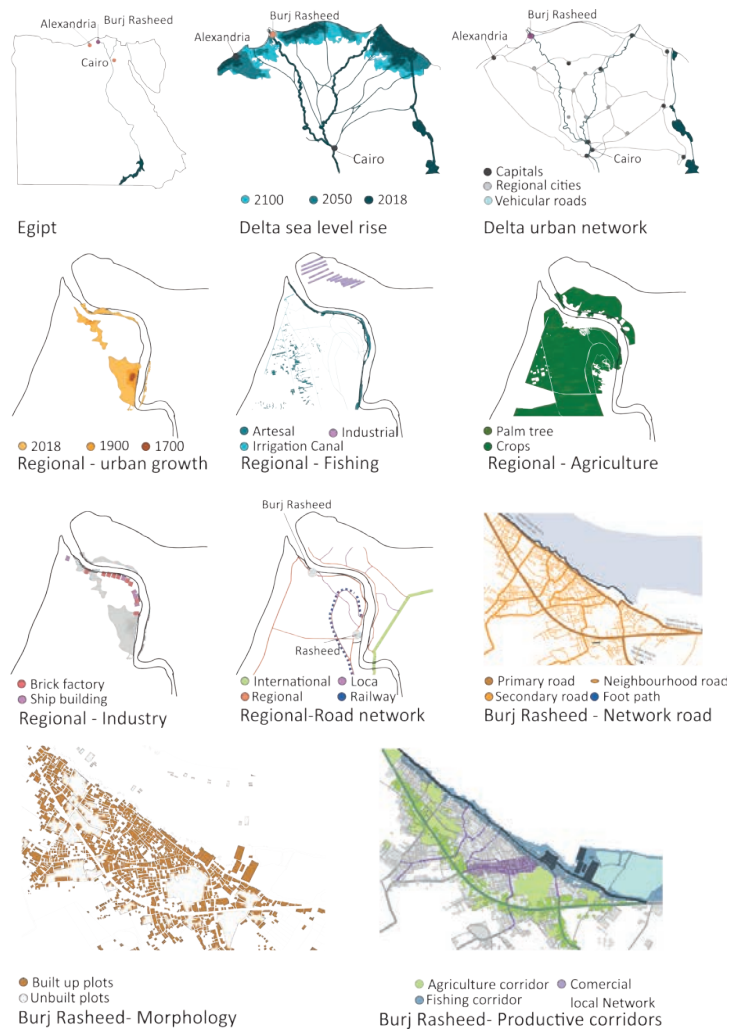


Example: Agricultural Corridor



AUDIENCE DURING THE CONFRONTING INFORMALITY SYMPOSIUM 2018

PRODUCTIVE INFORMALITY- BURJ RASHEED 2050



Challenges - Strategies - SDG's



Brickfactories along the Nile are an important employer but also cause pollution. Traditionally, Nile-mud found in the direct vicinity was used to form the bricks but today raw materials are brought from Lake Idko and the Sahara.

The 15th century documents the Rasheed as a guarding the mo in the center of isolated and un where the famo found during th Egypt in 1799.



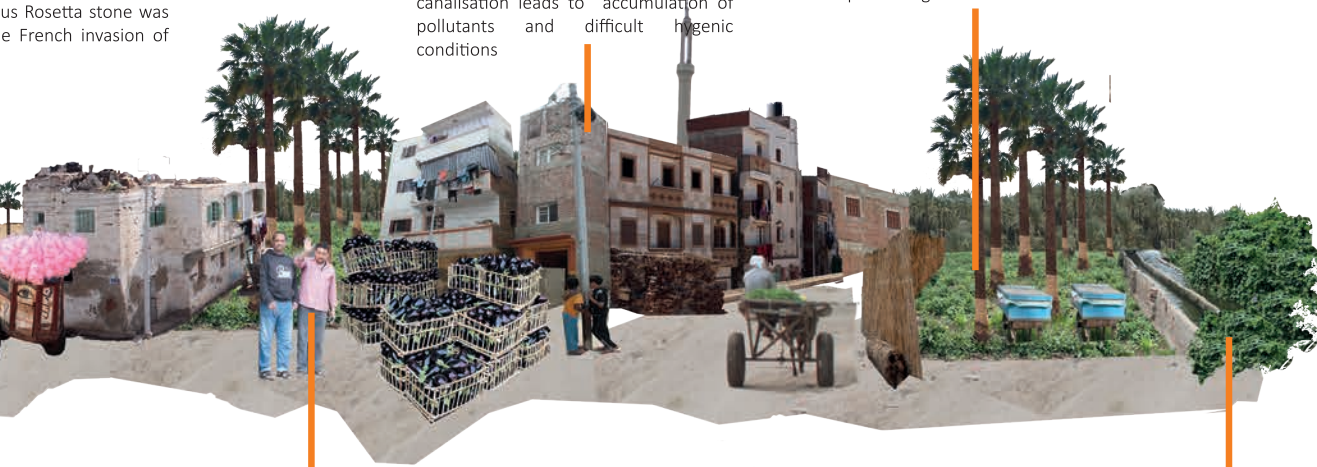
Fishing boats, markets and playing children make Burg Rasheeds waterfront vibrant, but poor quality of open spaces, garbage accumulation and wastewater released into the river pose serious problems.



century Qaitbay fort
e origins of Burg
a military outpost
outh of the Nile.
the settlement but is
used today. It is here
us Rosetta stone was
e French invasion of

Burg Rasheeds housing situation is generally in a good condition albei high densities. Concrete and brick form the typical building materials, sewage is mostly collected in tanks on the plot. Yet, a lack of waste (water) treatment and canalisation leads to accumulation of pollutants and difficult hygienic conditions

Farmers in Burg Rasheed produce a variety of goods, from dates and oranges to legumess, vegetables, cereals and honey. A lack of waste treatment leads to its disposal in agricultural areas.

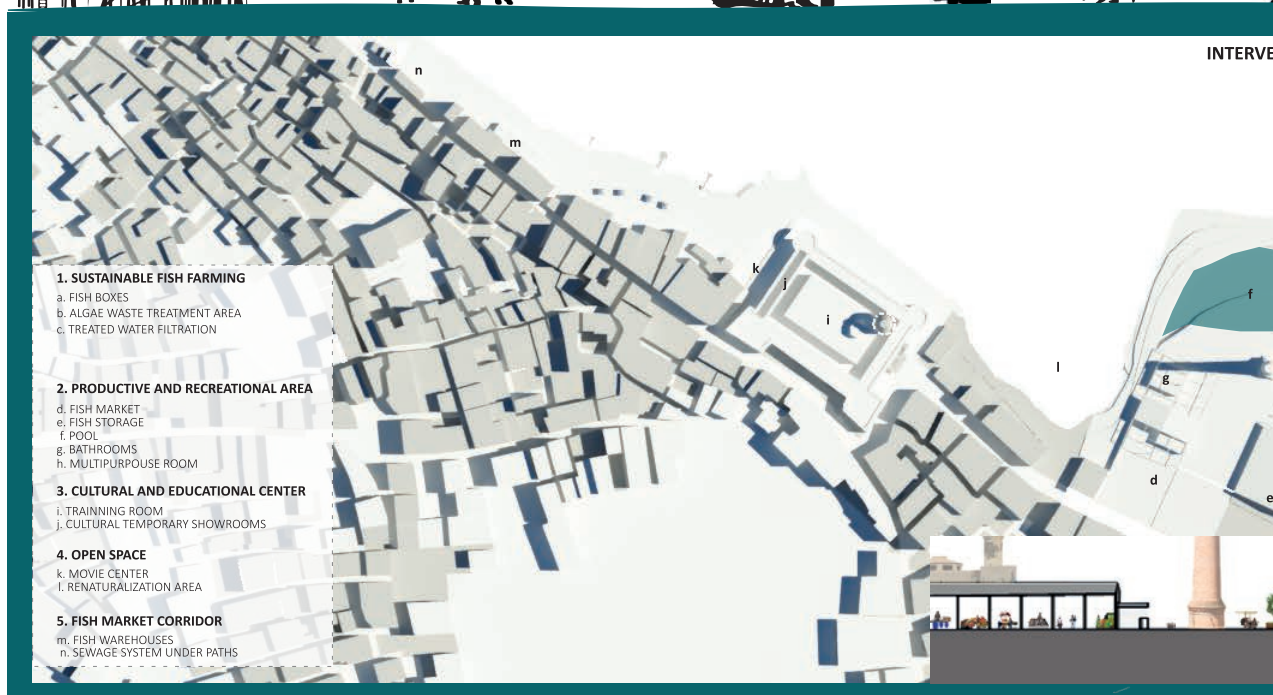
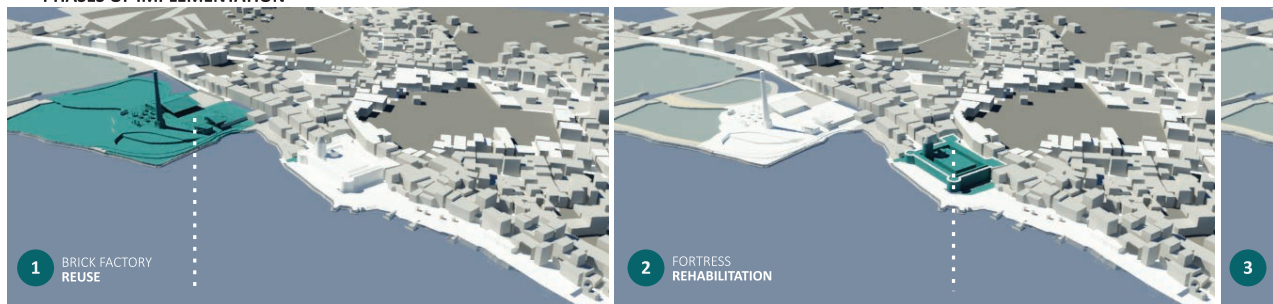


A series of green pockets of agricultural land break up the otherwise dense urban fabric, but population a lack of waste (water) treatment and urbanisation puts them under pressure.

Irrigation traditionally is done through a dense network of canals. They are the only source of freshwater today due to saltwater intrusion into the Nile and groundwater.

PRODUCTIVE INFORMALITY-BURG RASHEED 2050

PHASES OF IMPLEMENTATION



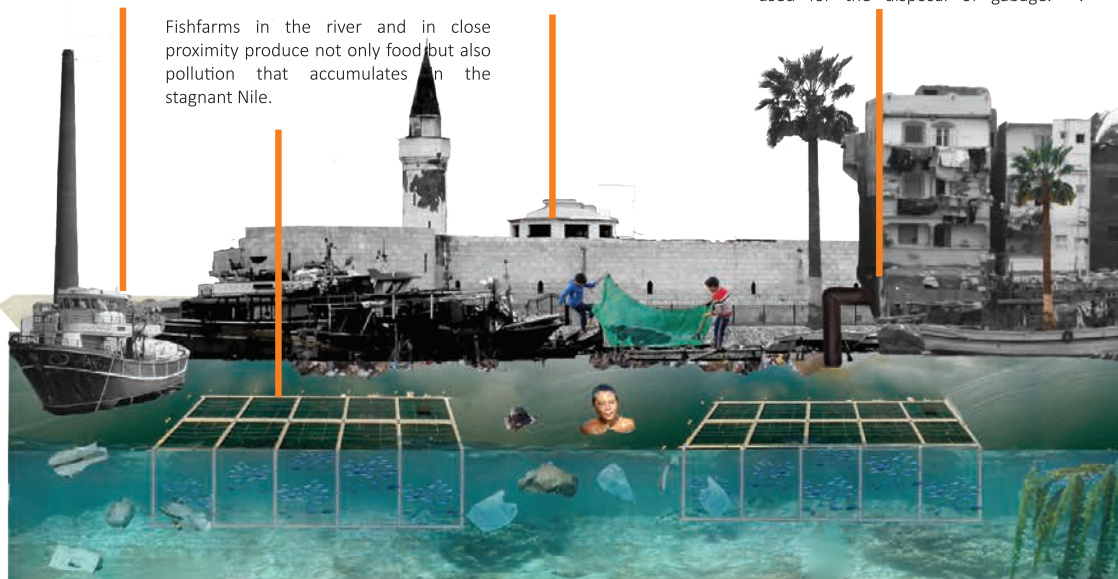
Today

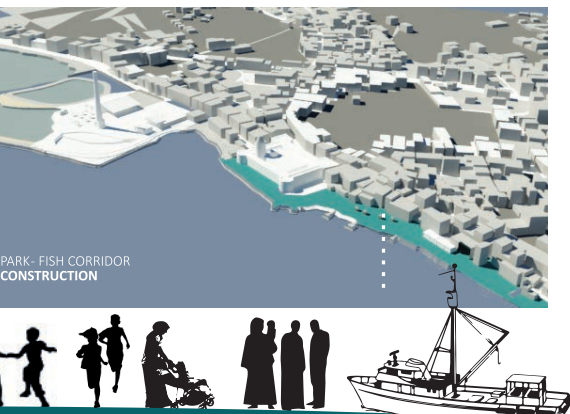
Brickfactories along the Nile are an important employer in Burg Rasheed, but they also cause pollution in direct proximity to the residential / agricultural areas.

Today, the Qaytbay fort serves as a picturesque backdrop for the busy riverside activities, yet it stands empty and isolated from the town.

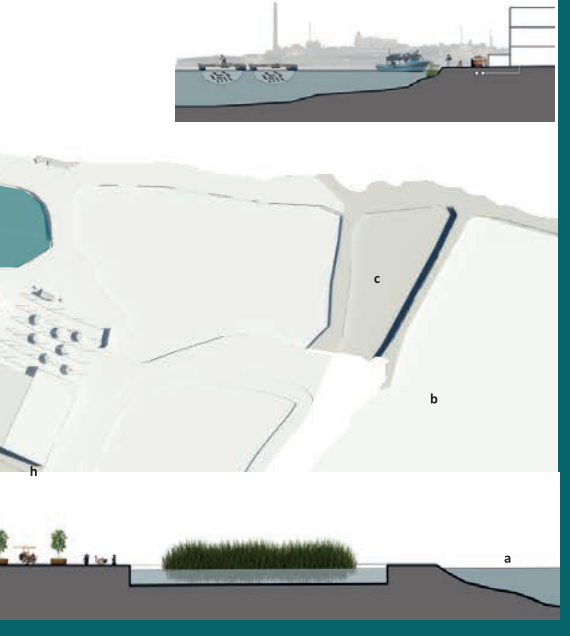
Due to lack of alternatives, untreated domestic wastewater is released into the river. Additionally, the absent waste collection system means that the Nile is used for the disposal of garbage.

Fishfarms in the river and in close proximity produce not only food but also pollution that accumulates in the stagnant Nile.





CONSTRUCTION PROJECTS

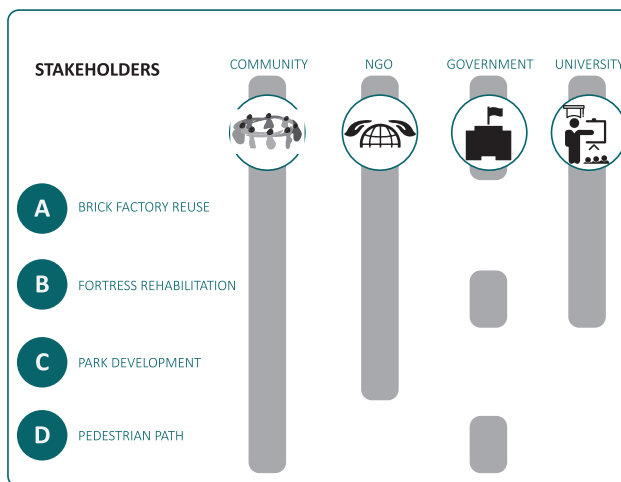


2023

A circular fish farming system is introduced in Burg Rasheed. Macroalgae and mussels neutralise pollutants and turn them into energy while doubling as an additional source of income.

2028

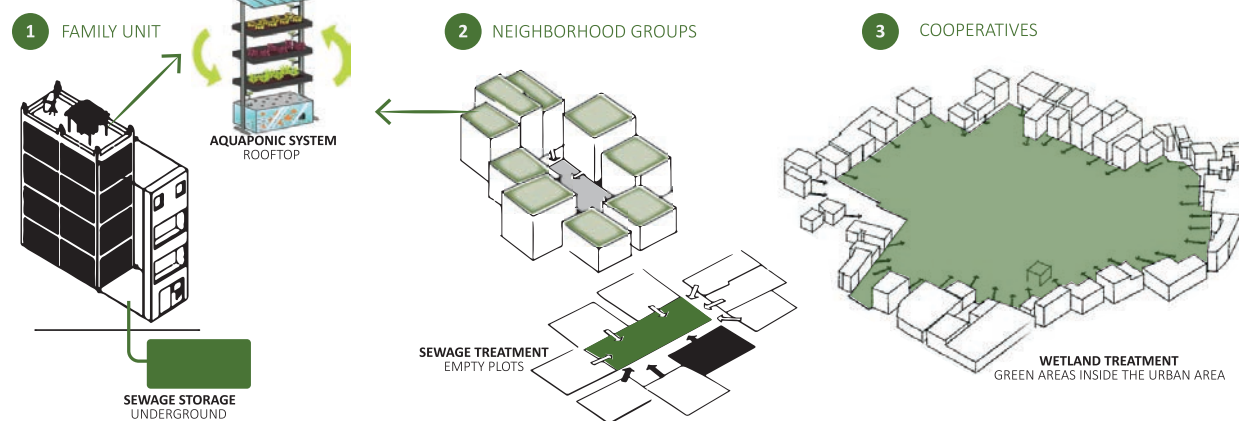
The relocation of the brick factory has opened up new spaces for economic and civic activity. The gained areas are used for a market, educational purposes and as a recreational space.



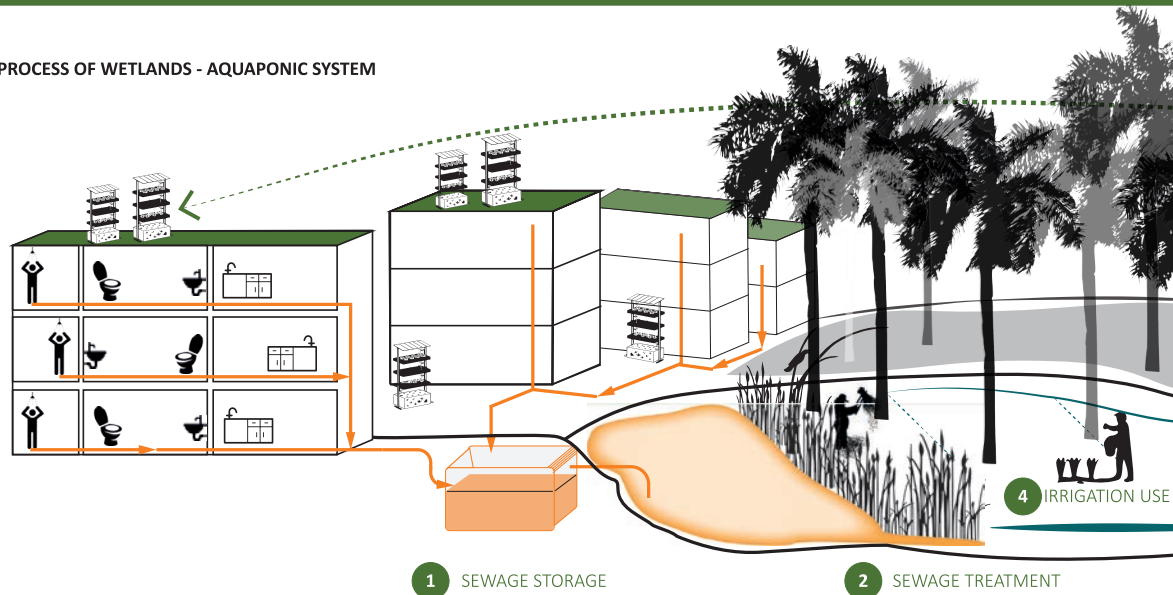
The renaturation of the riverbanks offers not only a new recreational possibilities for locals and tourists alike. Connected with a set of constructed wetlands inland it serves as an important link in the process of water purification. Consequently, living conditions, the quality of aquatic produce and locals income will be enhanced.

PRODUCTIVE INFORMALITY-BURG RASHEED 2050

PHASES OF IMPLEMENTATION



PROCESS OF WETLANDS - AQUAPONIC SYSTEM



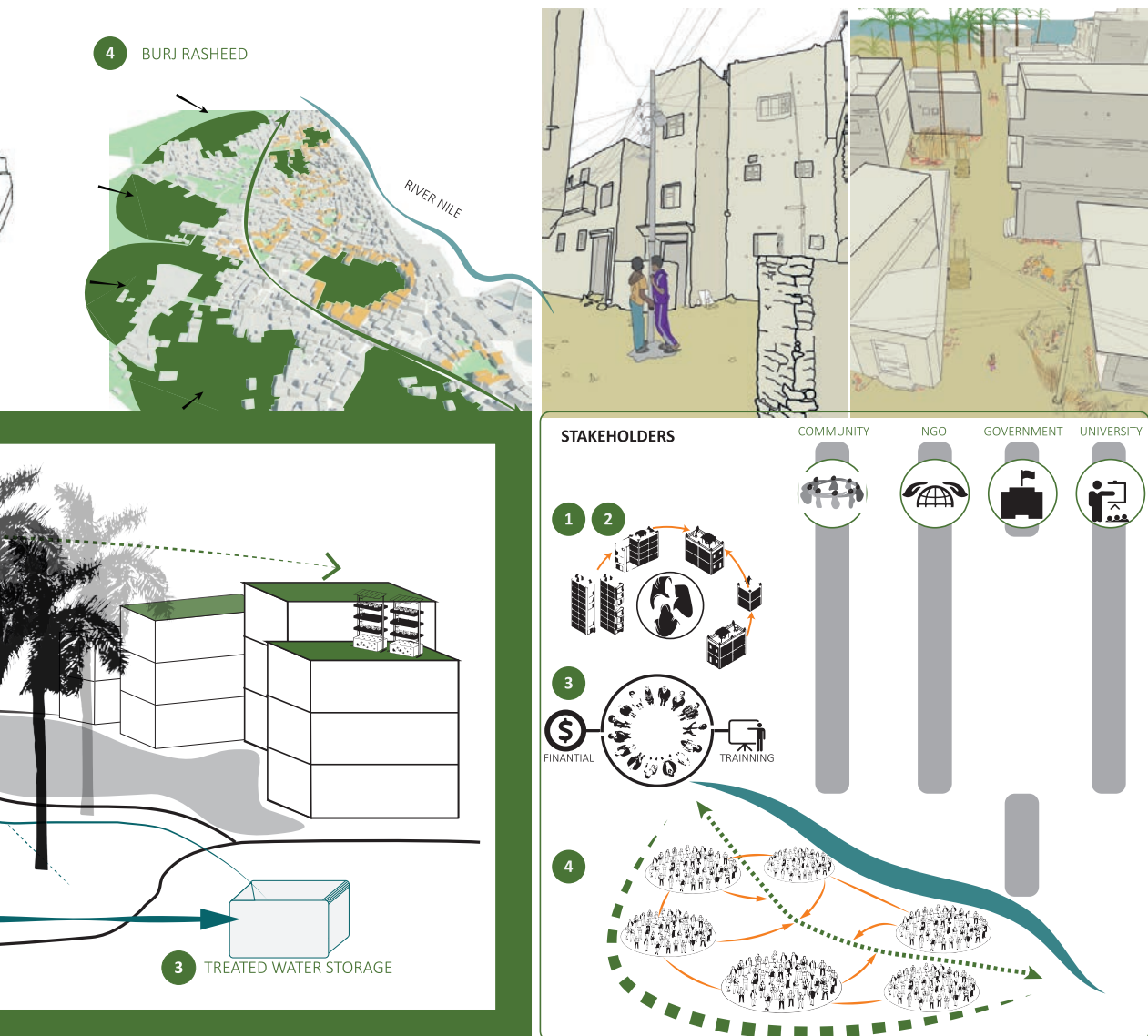
Today:

Irrigation canals running through Burg Rasheed combined with fertile soil, a subtropical climate and a comparably high precipitation rate turns means high agricultural yields. Yet, increasing temperatures and soil salination as well future reduction in water supply pose high risks

Burg Rasheed produces a variety of goods in its green pockets and agricultural hinterland. But the quality of produce suffers from waste that is accumulating and at times buried in agricultural areas out of a lack of alternatives.

Population growth and urbanisation pressure means a steady decline in agriculturally used land. Climate change and sealevel rise mean an additional reduction of these vital areas.



**2020:**

The first pilot for a constructed wetlands within a green pocket has successfully been implemented. The neighbourhood locally treats its wastewater that is then used for irrigation

2030:

A neighbourhood cooperative has built the first large scale agricultural hub in a green pocket. It combines wastewater treatment and irrigation with fertilizing soil and greenhouse farming.

2050:

A network of agricultural hubs has been established throughout Burg Rasheed, the communities agricultural production works on a circular system. Rooftops serve as additional spaces for aquaponic production.



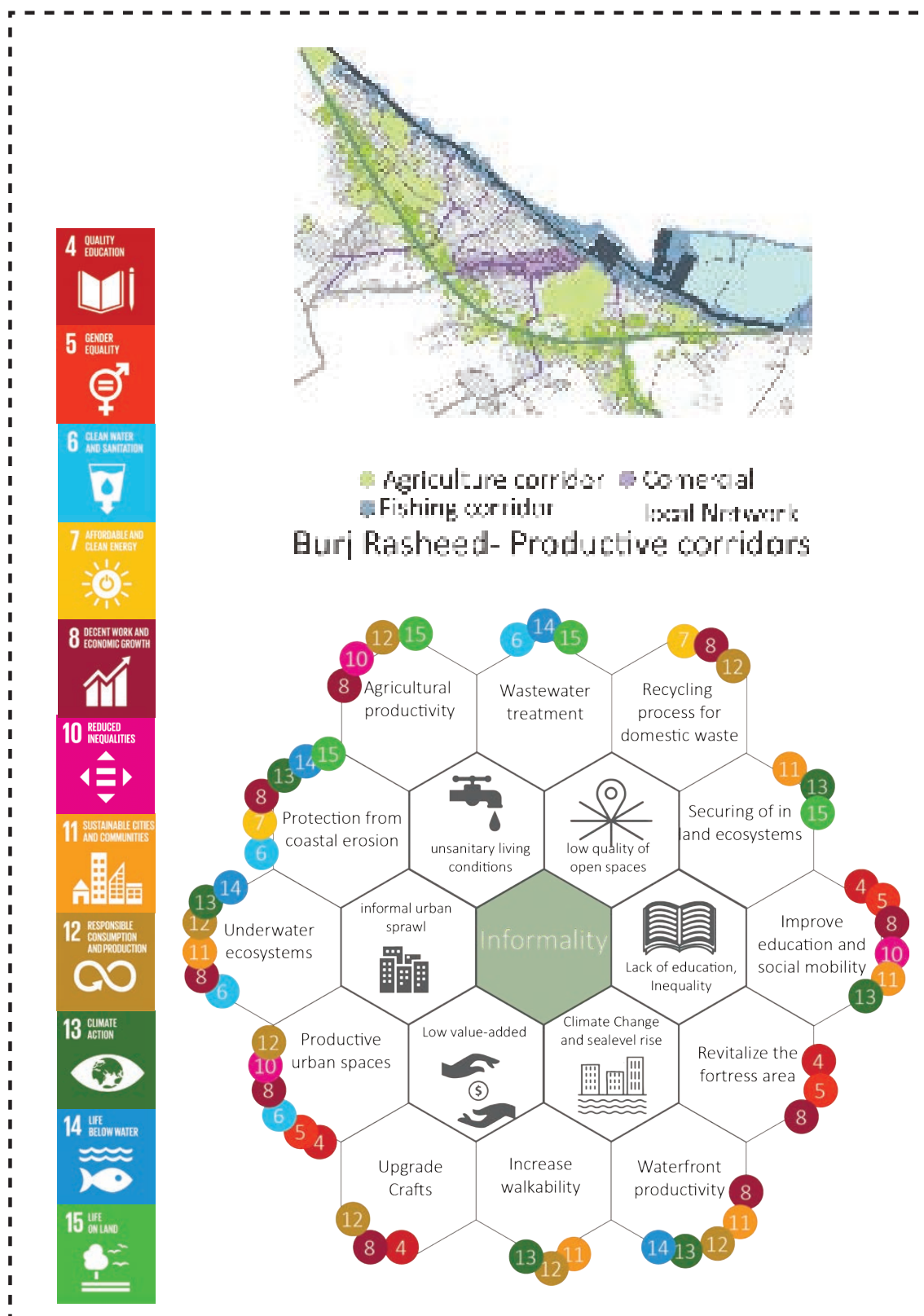
PRODUCTIVE INFORMALITY-BURG RASHEED 2050





A word from the group

FLORANGELA CHAHUAYO, AHMAD MAMDOUH, LAURA VARGAS, PHILIPP WINTER



Corridors of Rasheed; Challenges, Strategies and Sustainable Development Goals

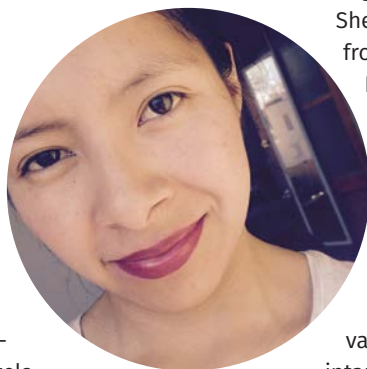
Hello from Cairo! We are Flor, Ahmad, Philipp and Laura.

Together we are developing the project 'Productive Informality' in Burg Rasheed (Rosetta), Egypt. Burg Rasheed is a fishing and farming community of 20.000 at the mouth of the Nile. It occupies a strategic location and its fortress and the Rosetta stone that was found there are of historic significance. There, we use local materials, techniques and knowledge to integrate urban and rural. The goal is to increase resilience and sustainability, economic prosperity and social integration. We do so by making use of the urban fringes and the riverfront as both ecologically and economically significant.

Our group consists of:

Florangela Chahuayo from Cuzco, Peru.

Since Florangela graduated as an architect in 2014, she has worked in several projects in the historic centre of Cuzco. This includes work on the urban cadastre, development of housing and hotels for private investors and work as a coordinator of new urban settlements. Now, she is pursuing a master of Urban Design focused on the revitalization of historic districts. She believes that the inclusion of communities as well as universities is crucial to raise awareness and address informal urbanization, not only in planning but also for its implementation.



FLORANGELA

Ahmad Mamdouh from Cairo, Egypt

Ahmad is an architect by profession and he is now studying Urban Design at Cairo University. His conviction is to help the people of his country to improve their



PHILIPP

quality of living. He wants to use resources in an efficient way in order to help people build a sustainable future.

Philipp Winter from Berlin, Germany

Philipp studied Geography with a focus on urban development and sociology at Humboldt University in Berlin. He worked in (sub)cultural urban development and a network of international urban bottom-up initiatives in Berlin, as well as in integrated, participatory urban development in Hamburg. Now he is pursuing his masters in urban design in Germany and Egypt with a focus on historic urban districts.

Laura Vargas from Bogota, Colombia.

She graduated as an Architect from Javeriana University in Bogota in 2014. She has since worked in different enterprises as project manager. She is now pursuing a masters degree in Urban Design with a firm conviction that the development of the city should take into account the values of tangible as well as intangible heritage and that it should serve as a guiding axis for future development.



LAURA

The four of us study the international Masters programme Urban Design – Revitalization of Historic City Districts, which is a cooperation between Cottbus University in Germany and Cairo and Alexandria Universities in Egypt. It aims at training students in the careful rehabilitation of old city cores and in urban and architectural design that takes into consideration existing physical and social structures. The project on Burg Rasheed is this semester's main course and is at time of writing still being further elaborated. It allows us to get in-depth experience on the current developments and issues in Egyptian cities and rural areas. Thanks to our teacher, Dr. Nabil ElHady, we were able

to explore the topics from different angles. His approach focusing on exploration and research of solutions meant we were able to think outside of the box and come up with creative and holistic ideas. We wholeheartedly thank him for what he has enabled us to do.

Living and studying Urban Design in Cairo, Egypt, it is impossible not to talk about informality. Somewhere between 60 and 70% of Cairenes live in informal areas, and developments in other Egyptian cities and rural areas do not look much different. While in our masters program this issue is addressed in a creative and sustainable way, other programs deal with it in a different manner. Slum clearance is still an option in Egypt, and only weeks ago an entire historic and derelict neighborhood in central Cairo was demolished in favour of shiny glass towers. The results are displacement, social and economic structures being broken asunder and the loss of a part of Cairo's identity and character.

To us, informality is not the problem, but part of the solution. Working with rather than against it allows to carefully make use of local potentials such as social and economic structures. Since informal urban development is a pressing issue of our time, we think it is important for students from various disciplines to be exposed to the specific characteristics of informality and learn how to work with them. It is important that the students develop a hands-on approach and work closely together with the community. The fact that our project is theoretical and will not be realized gives us wider freedom in the creative process and lets us develop greater visions. But we also believe that the continued 'reality-check'

of an actual project that is being realized poses valuable lessons to everybody who is involved.

What has helped us is the variety in our backgrounds, both professionally as well as concerning our countries of origin. Being able to view one topic from different angles by using transdisciplinary approaches in an international environment enabled us to incorporate local expertise and international experiences.

To encourage collaborations like this while keeping the "feet on the ground" seems a good solution to attract and train young professionals in the field of informal urban development.

First place



Dakha, Bangladesh

TOWARDS EQUILIBRIUM: A VISION FOR KORAIL AS AN URBAN GATEWAY

Rahfatun Nisa Nova
Nazila Sabrin Zaman
Ayesha Labiba Khalil
Md. Nazim Uddin
Monjura Khatun Nisha

BRAC University
BANGLADESH

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space
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ers. It

Reviving the old Ghat
which used to be a
major mode of
Transportation

Proposing a new formal Ghat
from this potential point

Proposing sidewalks at the lake fronts to prevent
Land Encroachment

Bridge between the sidewalks in between Korail
Gulshan residential area

Towards Equilibrium

A vision for Korail as an urban gateway

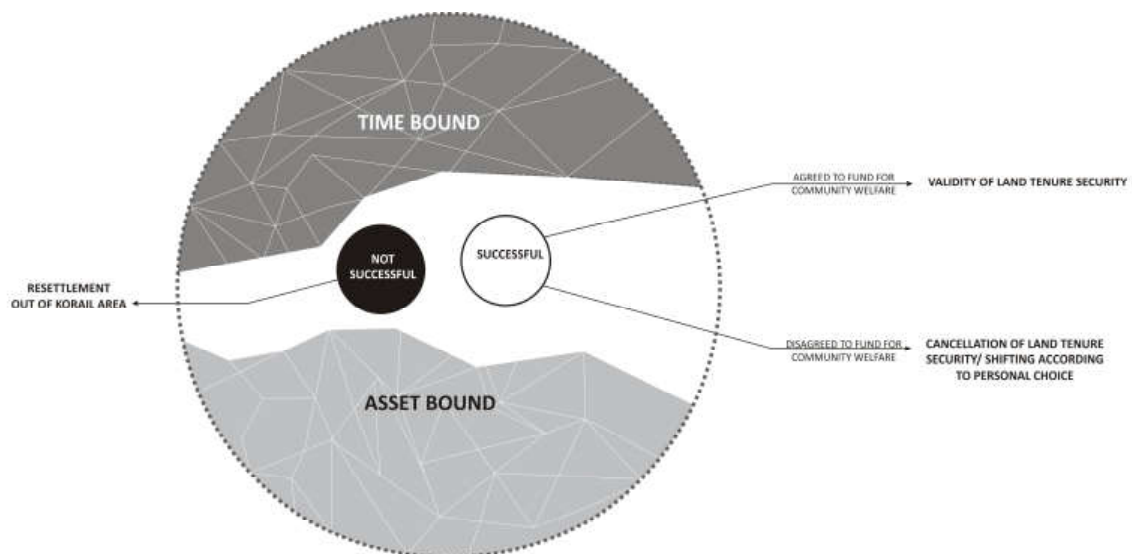
DHAKA, BANGLADESH

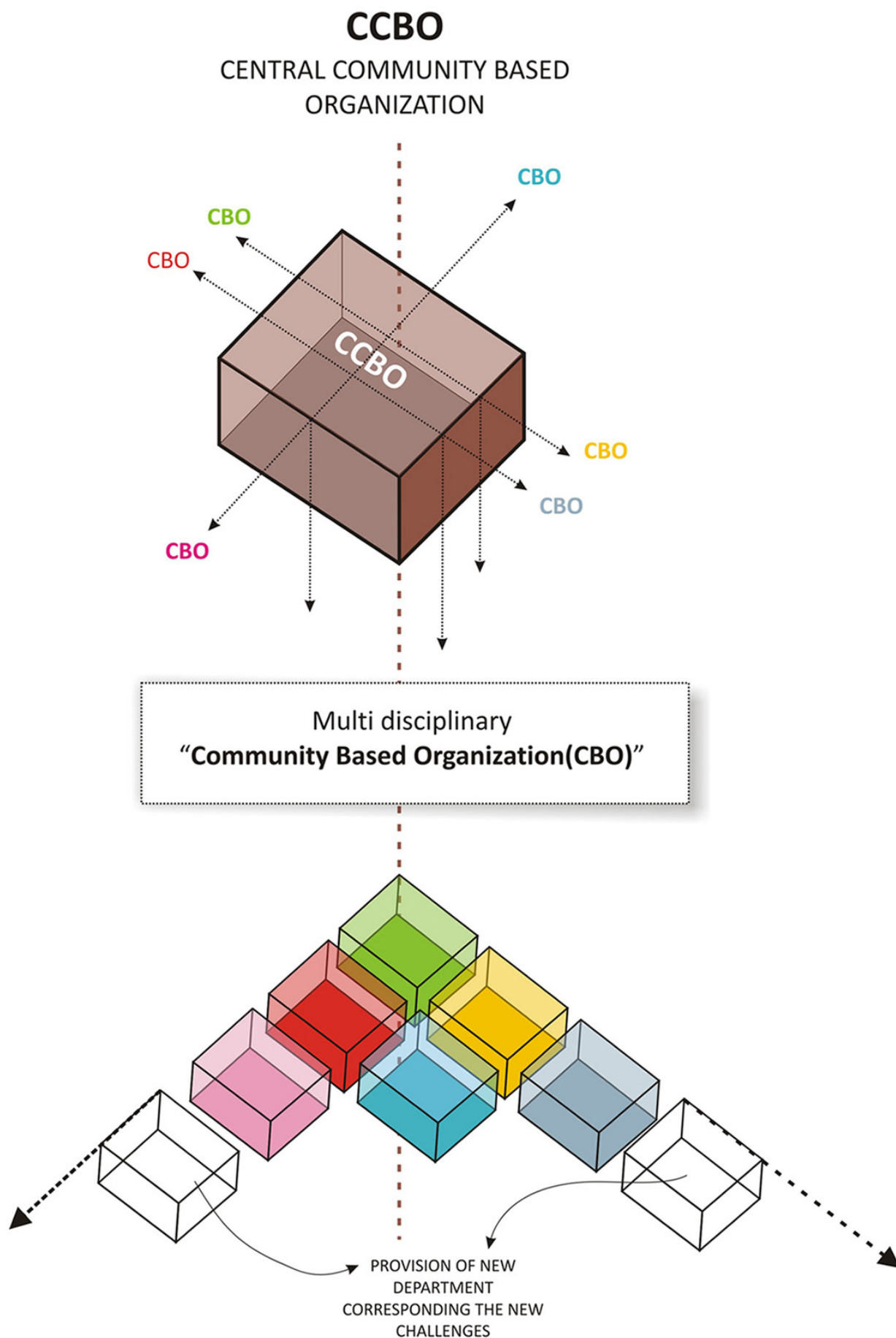
RAHFATUN NISA NOVA, NAZILA SABRIN ZAMAN, AYESHA LABIBA KHALIL, MD. NAZIM UDDIN, MONJURA
KHATUN NISHA

BRAC UNIVERSITY



A city where the rich and the poor lives side by side is not a common phenomenon. The interaction between the formal and informal creates an ecosystem where one lives in harmony with the other. Dhaka is transforming into gated communities, thus challenging the ecosystem of the city. Informal settlements are vibrant areas with intense public life, they are the gateways to the city, allowing poor families to set foot in the city and build livelihoods. However, the problem arises when the balance between the formal and informal is lost. Equilibrium in power, economy and socio-spatial aspect needs to be achieved to allow them to sustain in the city. Therefore, this project aims to bring the equilibrium into action through community participation and allow the informal communities to become self sustained to hold position in the society. It focuses on the empowerment of community-based organisations as a media for development in Korail, one of Dhaka's largest slums.





Pitch Your Idea

A city where the rich and the poor live side-by-side and serve each other is not a common phenomenon. This mix of people from different socio-economic background has become the culture of the city and has transformed Dhaka into a cosmopolitan. The interaction between the formal and informal segments of the city makes it an ecosystem where one lives in harmony with the other and a disruption in the system may lead to dramatic effects. Recent urban development drives of getting rid of informal settlements however, are sub-dividing the city into gated communities. Thus, challenging the ecosystem of the city.

Informal settlements are gateways to the city, they allow poor families to set foot in the city, build livelihoods and form strong networks of solidarity. Dwellers negotiate, work and even fight to get a spot in the city. This is spatially translated into vibrant areas with intense public life, in which many activities and uses coexist, creating an interrelated social fabric and a strong sense of belonging. However, the problem arises when the balance between the formal and informal is lost.

The informal settlements are chronically neglected in government policy, planning, and practice. This neglect is mostly due to the rural bias where the government focuses on rural poverty eradication rather than on the urban poor, as they are considered “illegal”. The evictions are mostly due the land value of the area where the settlements are located. A great imbalance can be easily observed in terms of socio-economic aspects. Even though the people in informal settlements are actively involved in jobs and activities, they are still victims of social exclusion when it comes to their living environment.

Slum dwellers experience different types of problems associated with their living conditions that manifest as a result of different forms of deprivation from the economic, physical, social, and political aspect. They live in overcrowded, poorly constructed structures, often with insecure land tenure. The lack of basic needs, forces the dwellers to turn to unfair means to achieve them, thus, giving them the tag of being “illegal”. With the lack of government’s initiatives, the only source of help that they get is from NGOs. The NGOs have contributed to a great amount to enhance living conditions in the communities; however, their work is yet limited providing services rather than empowering the entire community.

The land of the informal settlements is considered major opportunities for profit making. But what if they were viewed as opportunities for humanitarian development? Is it possible to reduce the major imbalance between the formal and informal? Through merging top-down policy structures with bottom up community level participation these initiatives may actually start to function. Equilibrium in terms of power, economy and socio-spatial aspect needs to be achieved in order to allow them to sustain in the city. They are human beings who have the right to work and sustain in urban areas and allowing the equilibrium will encourage social inclusion and thus lead to a balanced urban life.



Figure: Contextual Analysis

Context and Process

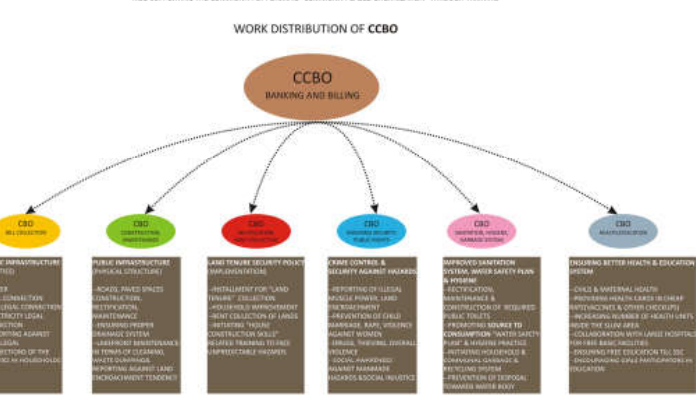
One of the best places to witness the interaction between the formal and informal is Korail. Located along Gulshan Lake; Korail is one of Dhaka's largest slums covering almost 170 acres of land and is home to approximately 148,891 people. The inhabitants work in garment factories, as rickshaw pullers and housemaids in the surrounding upper-class neighbourhood. Many of the families have been living in the area for more than 15 years and made Korail a vibrant urban neighbourhood. Being ravaged by fire almost every year, Korail still stands amidst the heart of the city, almost mimicking a jelly-fish that can regenerate its own body parts.

Sudden eviction drives and lack of land tenure security are amongst the major problems that dominate the area. Moreover, the lack of official demarcation of the area leads to land encroachment thus causing the lake being filled up to meet the growing populations' spatial demands. This causes deterioration of the water body thus affecting the surrounding areas. Like other informal settlements, lack of access to the basic utility needs is forcing the inhabitants to consider unfair ways of availing the services. Due to the lack of monitoring, the rent is unregulated and is extremely high compared to the rent per square feet in formal settlements. Due to the lack of transparency, financial transactions going on in the area is causing a huge drain in the economy.

A number of NGOs are working to develop the living conditions in Korail. These initiatives are mostly in service based where they are given direct access to health, sanitation, education and microcredit programs. However, these NGO initiatives are not participatory in terms of community engagement and thus do not contribute to capacity building. As a result, the communities are dependent on them.

An activity that has sustained and transformed into a community led initiative was the formation of a community-based organization (CBO). This CBO, formed in 2005 monitored by a local NGO, DSK, collected bills from the dwellers and paid the government in return of water supply. This initiative was fully run by the locals and was highly accepted by the dwellers. Over the years they succeeded to function properly and eventually transformed into their own entity now known as Central Community Based Organization (CCBO).

Keeping in mind the resources available and the social acceptability of the people to such initiatives, this project aims to focus on bottom up community lead development merged with top-down policy initiatives. It focuses on capacity building of the community to gain confidence of the government to run as a legal urban settlement. It aims to transform Korail into a self-sustained community that has the capacity to function on its own as an incubator for the urban poor.



Design Vision and Strategies

Considering the existing condition of Korail, there are three things that need immediate attention in order to reach equilibrium. These are, land tenure security, access to basic utility and services and capacity building of inhabitants for community empowerment. Keeping this in mind, the project considers two aspects, policy and strategy development and spatial development to complement the development activities.

In rural areas, a common practice for community development is through formation of community based organisations (CBO), this involves a participatory bottom up approach in community development and often is seen to have positive outcomes. This initiative however, is not widely seen in informal settlements in urban areas. "A small tree could not grow if it is underneath the shadow of another, larger tree." Keeping this in mind, this project proposes the existing CCBO to be enhanced and used as a media for communication and development for the community. The responsibility of the CCBO will be to develop policies and strategies with collaboration with the government and NGOs and also manage the community.

Currently, the CCBO has 15 core members and 45 general members with 200 to 800 households being monitored per member. Working with collecting bills for water supply, CCBO's success and its social acceptance, can allow a similar initiative for other services to take place as well. Therefore, the first segment of the project involves the formation of a more comprehensive CCBO.

The proposed organogram of the organization has a team consisting of the president, vice-president and corresponding office staff that will be in the headquarters and will be in-charge communicating with NGOs and government authorities to ensure the policy management, monitor the community as well as arrange capacity building programs. The committee members are divided into two parts, core members and general members. The general members will be responsible for monitoring clusters within the area, which now will consist of around 200 to 250 households.

Now, how will the CCBO function? The mission of the CCBO is to be a comprehensive media for development to build a self-sustained community; hence it will be divided into eight wings, namely: bill collection, construction and maintenance, rectification and rent collection, security and public rights, sanitation and waste management, health and education. Each of these wings will have a set of goals and objectives that need to be achieved over time. The Headquarter will be responsible for the collecting initial funds and required support for these activities.

With the expansion of the CCBO, a lot more members are needed. Currently, the CCBO has a lack of participation from women members therefore the newly proposed organization seeks to encourage female participation. In order to make women the leaders of the CBOs women empowerment through providing education and training is highly needed. Therefore this project proposes to use the UPPR Social model to enhance their participation. This model works with women and girls to overcome their disadvantaged social position by encouraging them to take on leadership roles within their communities.

The CCBO is expected to be a fully community-run organization where community participation will be highlighted. This approach is expected to allow the government to gain confidence over the community's capacity and encourage the government to promote poverty eradication drives for the urban poor. Through being with the government, can legalize access to utility services, allowing a more transparent financial transaction, which has been missing from the system over the years. This way the government can benefit through collecting the revenue for providing the service and the dwellers benefit through a more regulated billing system and access to proper electricity, water and gas supply.

Despite proposals of the government, resettlement in an outside location will ultimately not benefit Korail inhabitants, because their livelihoods are based in the area and its surroundings. Also the sharing of the land with private or public developers cannot be considered a solution. Therefore it has become essential for the government to reconsider its land distribution activities and include the option to lease out land to the urban poor. Considering the land tenure problem, the government can provide land tenure to the inhabitants and also impose certain policies that can be applied in order to receive and maintain land tenure security. All associated stakeholders are taken into consideration and the project proposes a policy for tenure legalization through which tenure security may function. This policy will allow the government to monitor and control the population of the area and in addition, reduce land encroachment.

The policy involves a set of criteria that need to be met in order to achieve tenure in the area. This policy will consider the income generation of a household based on two aspects, time bound and asset bound. The expected scenario of the policy is as follows:

The existing inhabitants of Korail will undergo an initial asset calculation that will be conducted by the CCBO. Households that are found to have an accumulative asset that goes beyond the ultra-poor or poor income level will be entitled to pay community welfare funds on a monthly basis in order to achieve and maintain the tenure or will be offered a space in the government resettlement community. The households that are at the poor and ultra poor level will be given a tenure for a period of time as an opportunity to earn a living by staying in this area. At regular intervals this process will be repeated. In the next round of asset monitoring, the households will be expected to generate a certain amount of income. If a household fails to generate the expected amount of income over the given time, they will be entitled to shift the government proposed resettlement communities. On the contrary, if a household reaches the low-income level they will be entitled to pay the community development fund in order to continue their tenure.

The core idea is to convert Korail into an incubator. A space where urban poor will be given an opportunity to flourish in the urban area. During the tenure, the families will have an opportunity to gain hands on training in various skills. Vocational training organized by the CCBO in collaboration with NGOs offered will enable them to get jobs in the formal sector. The poverty reduction initiative and community empowerment objective can also be achieved to an extent through this proposal.

Spatial development is essential to allow these activities to take place. Capacity building activities will require space, which at this moment is almost non-existent in the area. Some roads need to be reconstructed; this can be conducted by the CCBO through the fund that will be generated by the community welfare fund collected from the dwellers themselves. Interactive activity spaces will be located on important interactions of road networks, this will allow the activities to be more visible and increase social acceptance and also attract more people to be a part of it. In addition to this, some platforms for community recreation as well as multipurpose activities are being proposed on the water edge, thus allowing the water edge to be preserved.

Korail is an excellent place to create a developmental model that exhibits sensitivity to residents and allows their participation in an equitable redevelopment of their neighbourhood. Reaching an equilibrium is essential, through this proposed model, an equilibrium can be reached in term social acceptance of informal settlements and allow economic balance within the community as well as the formal environment. It will allow the people of informal settlements gain equal opportunity to be a part of the urban society rather than a burden on it.

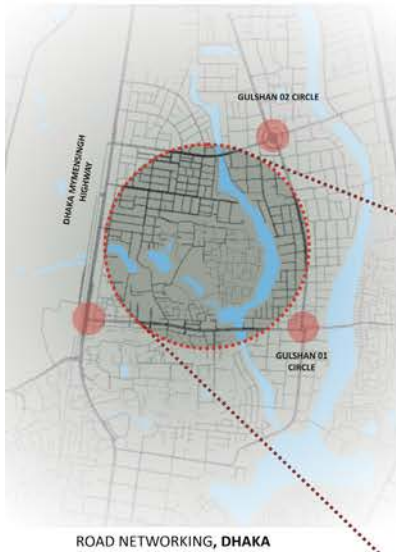


TOWARDS EQUILIBRIUM A VISION FOR KORAIL AS AN URBAN GATEWAY

ONE OF THE BEST PLACES TO WITNESS THE INTERACTION BETWEEN THE FORMAL AND INFORMAL IS KORAIL. LOCATED ALONG GULSHAN LAKE AND LARGEST SLUMS. THE INHABITANTS WORK IN GARMENT FACTORIES, AS RICKSHAW PULLERS AND HOUSEMAIDS IN THE SURROUNDING UPPER-CLASS AREA FOR MORE THAN 15 YEARS AND MADE KORAIL A VIBRANT URBAN NEIGHBOURHOOD. BEING RAVAGED BY FIRE ALMOST EVERY YEAR, KORAIL IS A

JELLY-FISH THAT CAN REGENERATE ITS OWN BODY PARTS.

SUDDEN EVICTION DRIVES AND LACK OF LAND TENURE SECURITY ARE AMONGST THE MAJOR PROBLEMS THAT DOMINATE THE AREA. DESPITE PROPOSALS FOR UPGRADES, IT WILL ULTIMATELY NOT BENEFIT KORAIL INHABITANTS, BECAUSE THEIR LIVELIHOODS ARE BASED IN THE AREA AND ITS SURROUNDINGS. DEVELOPERS CANNOT BE CONSIDERED A SOLUTION. THEREFORE IT HAS BECOME ESSENTIAL FOR THE GOVERNMENT TO RECONSIDER ITS LAND POLICY TO THE URBAN POOR.



ROAD NETWORKING, DHAKA



ROAD NETWORKING



LAND USE PATTERN



01. ONLY OPEN SPACE INSIDE KORAIL SLUM
(GOV. SCHOOL PLAYGROUND)



02. MARKET AREA INSIDE KORAIL SLUM



03. HIGH CONTRAST OF TWO SOCIAL GROUPS
(GULSHAN & KORAIL SLUM)



04. PREVIOUSLY EXISTING GHAT, USED TO BE A MODE OF
TRANSPORT, CURRENTLY UNUSED DUE TO ENCROACHMENT
OVER IT



05. WATER LOGGING DUE TO POOR
INFRASTRUCTURE



06. TENDENCY OF LAND ENCROACHMENT BY
THROWING WASTE TOWARDS THE LAKEFRONT



INSIDE KORAIL SLUM

LAND ENCROACHMENT IS SO DRAMATIC THAT, WATER IS ALMOST INVISIBLE NOW, CAUSING ENVIRONMENTAL DEGRADATION.



-EDUCATION,
-MICRO CREDIT
-SANITATION
-INFRASTRUCTURE

NGO

(DIRECTOR)

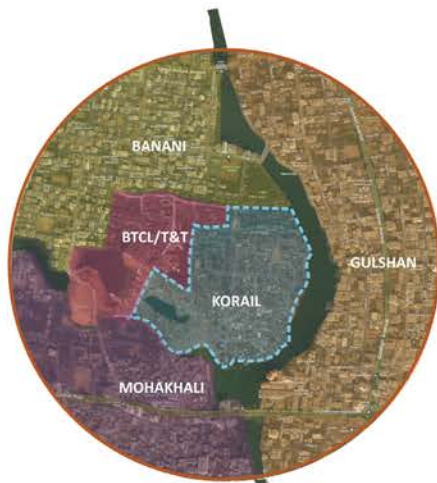
WHY NOT CATCH

AN ACTIVITY THAT HAS
FORMATION OF A COMMUNITY
BILLS FROM THE DWELLERS
WAS HIGHLY ACCEPTED
FORMED INTO THEIR OWN

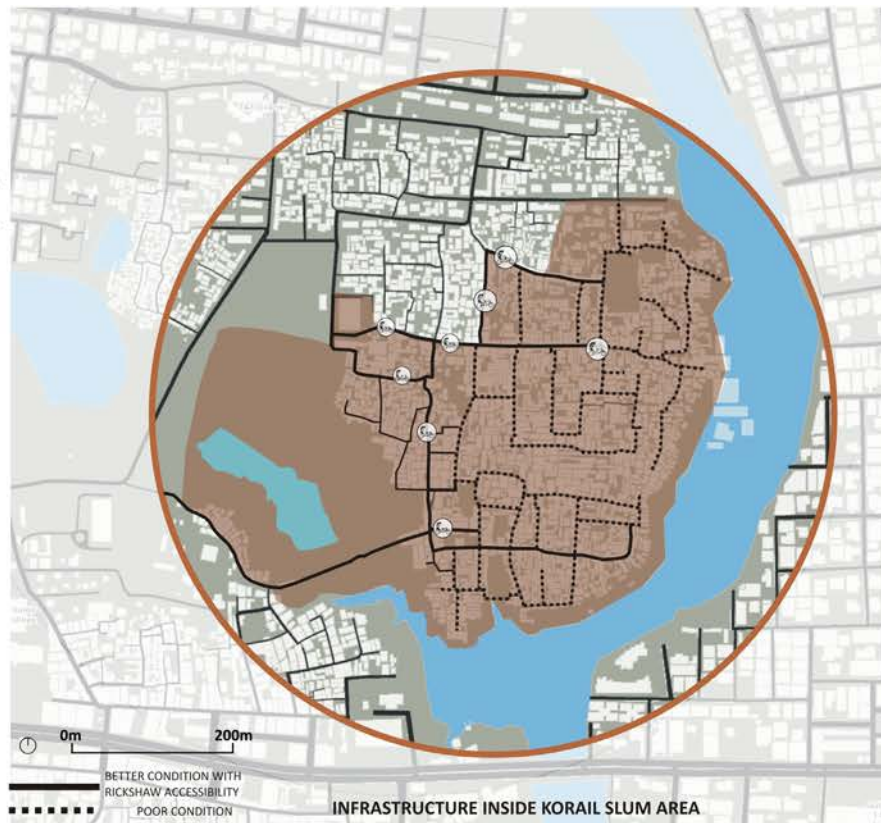
WAY

HOME TO APPROXIMATELY 148,891 PEOPLE, KORAIL IS ONE OF DHAKA'S
SS NEIGHBOURHOOD. MANY OF THE FAMILIES HAVE BEEN LIVING IN THE
L STILL STANDS AMIDST THE HEART OF THE CITY, ALMOST MIMICKING A

POSALS OF THE GOVERNMENT, RESETTLEMENT IN AN OUTSIDE LOCATION
NGS. ALSO THE SHARING OF THE LAND WITH PRIVATE OR PUBLIC
AND DISTRIBUTION ACTIVITIES AND INCLUDE THE OPTION TO LEASE OUT



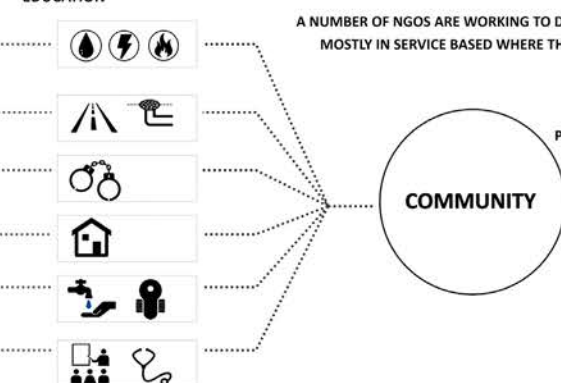
NEIGHBORHOOD LOCATION



LAND ENCROACHMENT OVER THE YEARS



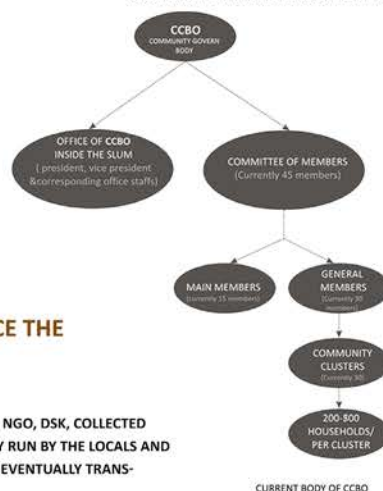
A NUMBER OF NGOS ARE WORKING TO DEVELOP THE LIVING CONDITIONS IN KORAIL. THESE INITIATIVES ARE
MOSTLY IN SERVICE BASED WHERE THEY ARE GIVEN DIRECT ACCESS TO HEALTH, SANITATION, EDUCATION
AND
MICROCREDIT PROGRAMS.
HOWEVER, THESE NGO INITIATIVES ARE NOT
PARTICIPATORY IN TERMS OF COMMUNITY ENGAGEMENT AND THUS
DO NOT CONTRIBUTE TO CAPACITY BUILDING. AS A RESULT, THE
COMMUNITIES ARE DEPENDENT ON THEM.



THE WAY NGO, SUPPORTS KORAIL SLUM
CT ADVOCACY AND AID TO THE COMMUNITY)

ANALYZING THE CAPACITY OF CUMMUNITY POWER TO FACE THE CRISIS THEMSELVES?

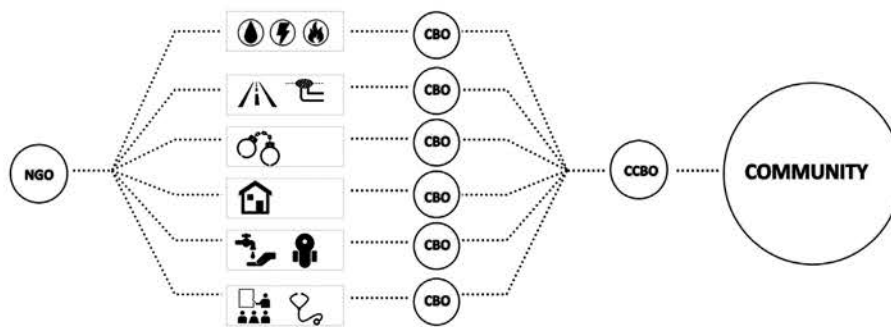
SUSTAINED AND TRANSFORMED INTO A COMMUNITY LED INITIATIVE WAS THE
COMMUNITY-BASED ORGANIZATION (CBO). THIS CBO FORMED IN 2005 MONITORED BY A LOCAL NGO, DSK, COLLECTED
ERS AND PAID THE GOVERNMENT IN RETURN OF WATER SUPPLY. THIS INITIATIVE WAS FULLY RUN BY THE LOCALS AND
BY THE DWELLERS. OVER THE YEARS THEY SUCCEEDED TO FUNCTION INDEPENDENTLY AND EVENTUALLY TRANS-
OWN ENTITY NOW KNOWN AS CENTRAL COMMUNITY BASED ORGANISATION (CCBO).



CURRENT BODY OF CCBO

CCBO (CENTRAL COMMUNITY BASED ORGANISATION)
INSIDE KORAIL SLUMSOCIAL MAPPING DONE BY COMMUNITY PARTICIPATION (MONITORED BY
CCBO), IT GETS UPDATED IN EVERY 3 MONTHS

CREATING THE EQUILIBRIUM BY RESTRUCTURING THE COMMUNITY



The CCBO structure strategizes to mobilize and empower the community of the slum dwellers by providing them a media for "communication and development".

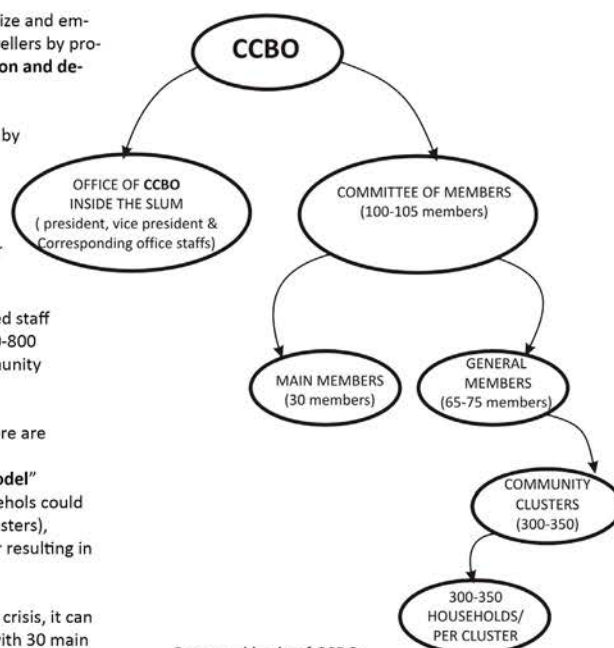
The proposal is to help the community by empowering them through "enhancing the capacity of CCBO". This organisation will accommodate the growing multidirectional problems of Korail slum, based on their growing needs.

As per the current structure with limited staff members, each member overlooks 200-800 households (considered as single community cluster).

Based on the 2017 survey of CCBO, there are 22,659 households living in Korail. Brainstorming it as a refined "social model" inspired by UPPR, the number of households could be 300-350 households (community clusters), represented by single General Member resulting in 65-75 General Members in total.

Categorising the current aspects of the crisis, it can be six CBO departments under CCBO with 30 main members and 100-105 Committee members.

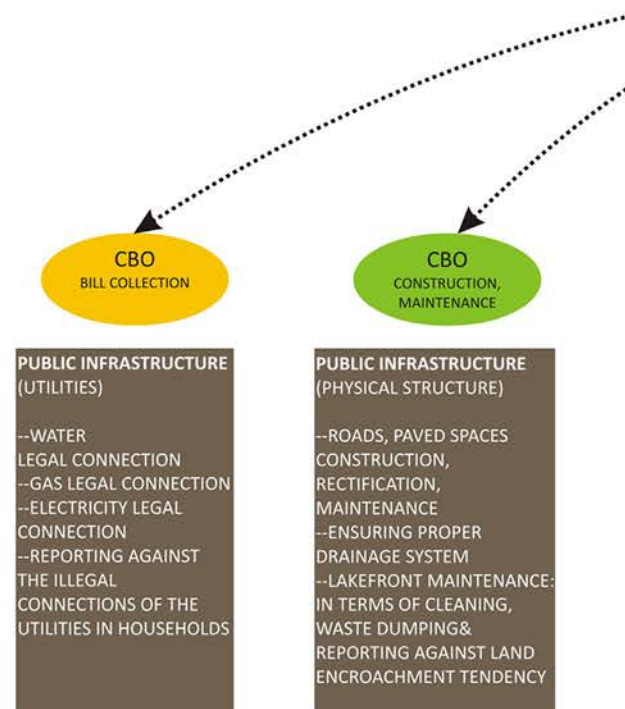
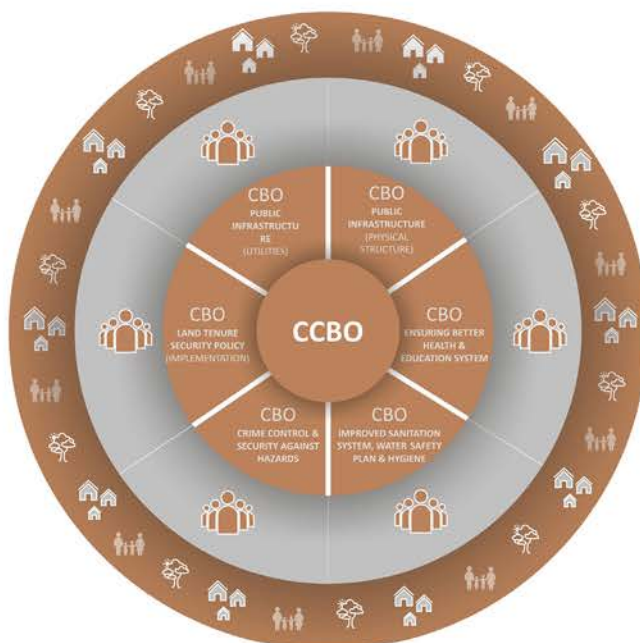
(survey done by CCBO, 2017; Calculation based on their survey report)



With the expansion of CCBO, a lot more members are currently, the CCBO has lack of participation from women. Therefore the newly proposed organization seeks to enhance their participation. In order to make women the CBOs women empowerment is highly needed. The project proposes to use the UPPR (Urban Poverty Reduction Programme) Social to enhance their participation. This model works with girls to overcome their disadvantaged social position encouraging them to take on leadership roles within their communities. The core of this program is making a banking system by giving a sum of money from every family in every week to resolve economic crisis and using this common fund for community development.



UPPR (Urban Poverty Reduction Programme) is to provide support towards contributing to balanced, sustainable growth and reduction of urban poverty in Bangladesh in 23 cities (not in Dhaka)

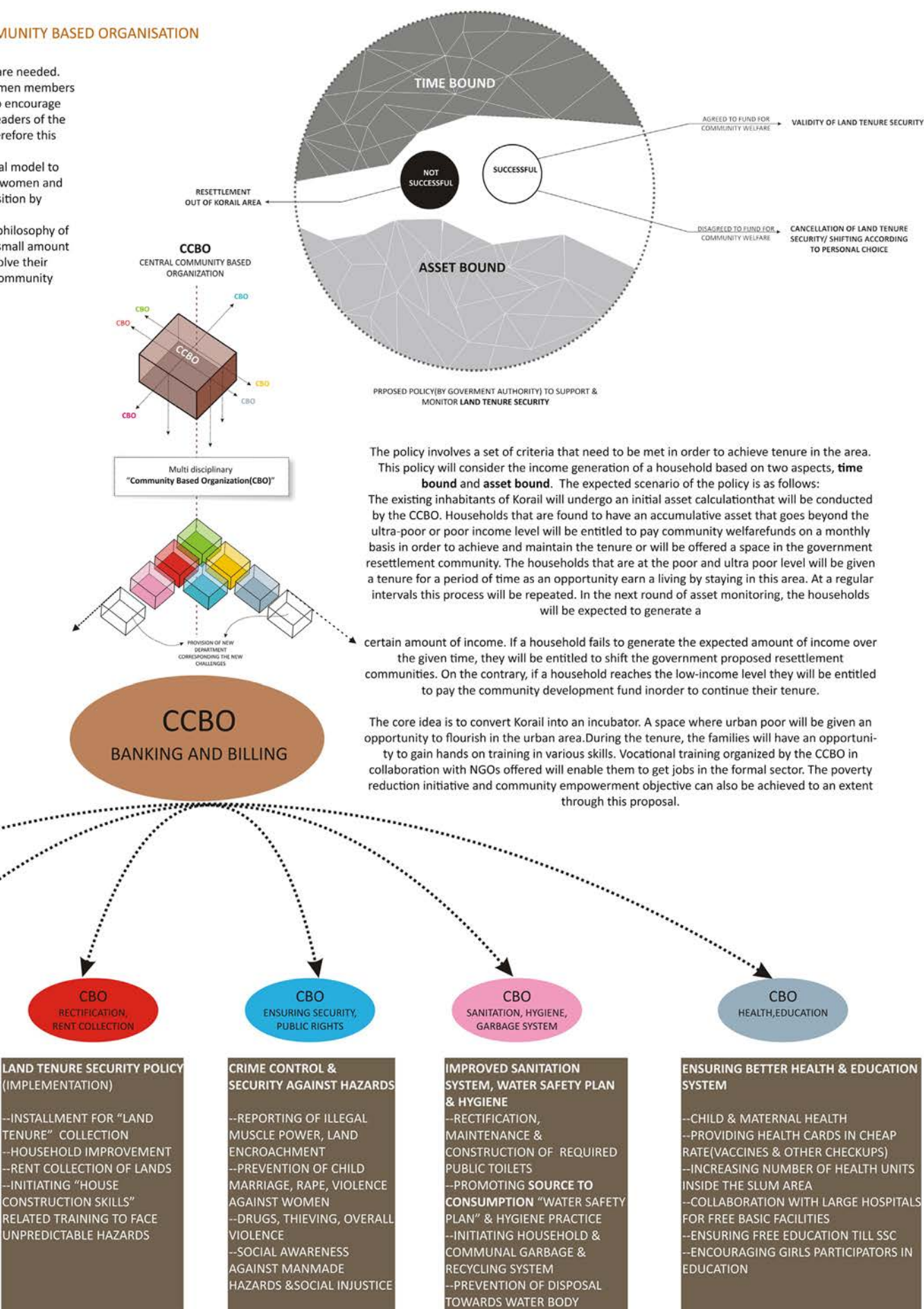


COMMUNITY BASED ORGANISATION

are needed.
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small amount
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community





Korailis an excel
an equitable red
librium can be r
well as the form

Proposing sidewalks at the lake fronts to prevent
Land Encroachment



"ASHAR MACHA" AT KORAIL SLUM : AN OLD BAMBOO MADE PLATFORM FOR COMMUNITY PEOPLE INSIDE KORAIL SLUM, GOT EVICTED BY GOV. AUTHORITY FEW YEARS AGO



ment is essential to allow these activities to take place. Capacity building activities will require space, which at this time is non-existent in the area. Some roads need to be reconstructed; this can be conducted by the CCBO through the funds generated by the community welfare fund collected from the dwellers themselves. Interactive activity spaces will facilitate important interactions of road networks, this will allow the activities to be more visible and increase social cohesion. Also, it will also attract more people to be a part of it. In addition to this, some platforms for community recreation as well as community purpose activities are being proposed on the water edge, thus allowing the water edge to be preserved.

It is a great place to create a developmental model that exhibits sensitivity to residents and allows their participation in the development of their neighbourhood. Reaching an equilibrium is essential, through this proposed model, an equilibrium is reached in terms of social acceptance of informal settlements and allows economic balance within the community as well as a healthy urban environment. It will allow the people of informal settlements to gain equal opportunity to be a part of the urban society rather than a burden on it.



The current scenario, dynamic relationship between the service provider & the service receiver, is both buffered and connected by this water body. This lake is being encroached everyday a little in some major points.

A word from the group

AYESHA LABIBA KHALIL, MONJURA KHATUN NISHA, NAZILA SABRIN ZAMAN, NAZIM UDDIN, RAHFATUN NISA NOVA

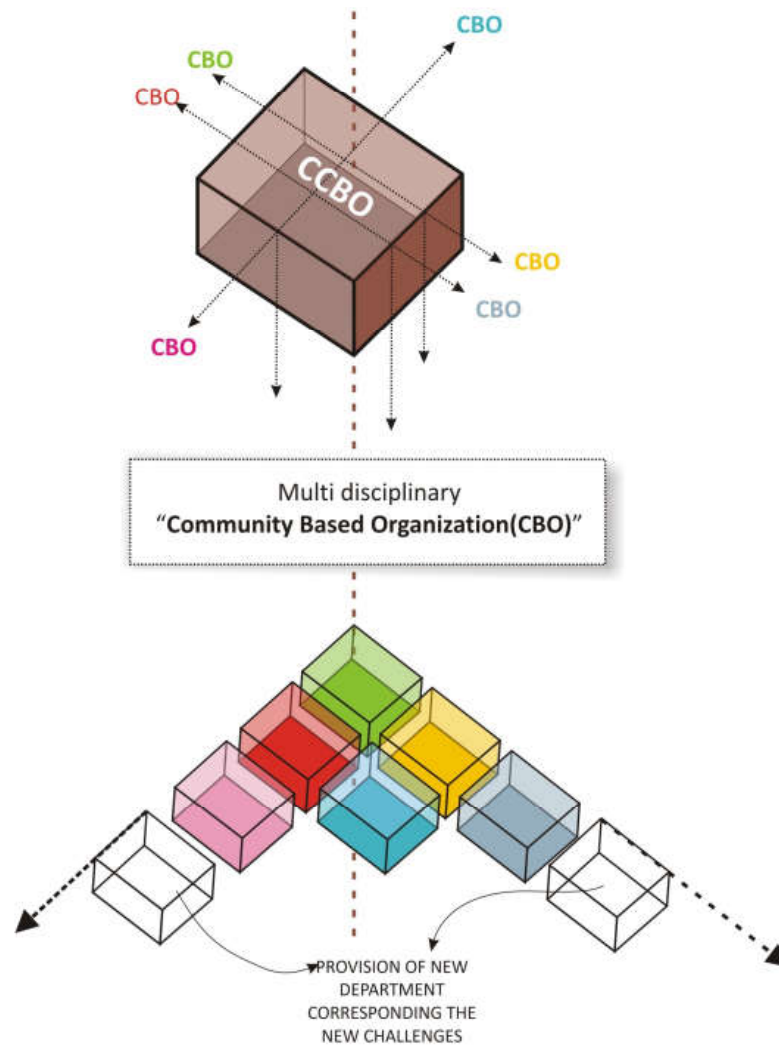
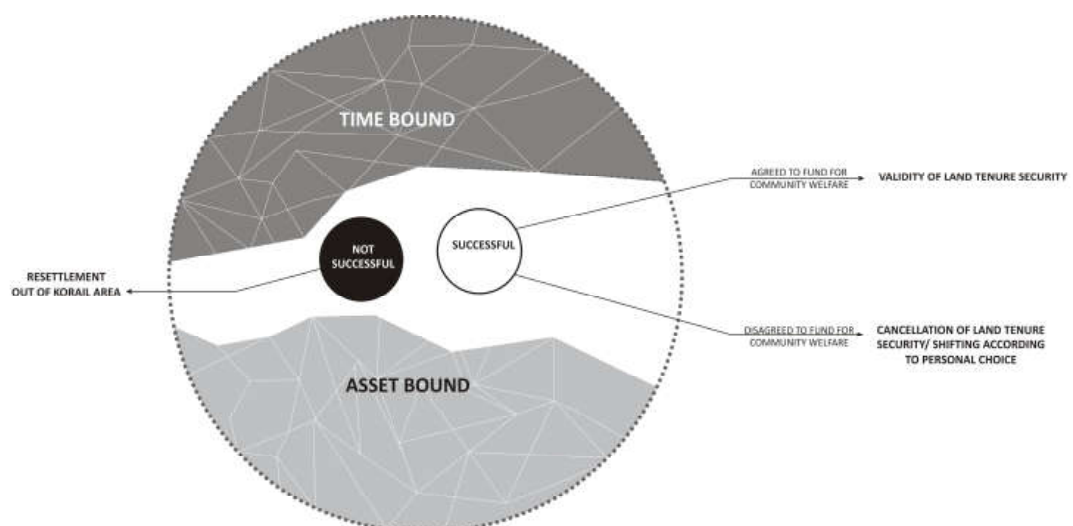


Figure: Idea for CCBO



Towards Equilibrium is the brainchild of a five-member group comprising of Architects, a community-mobilizer and a public health specialist.

Rahfatun Nisa

Nova is an architect, with a special interest in built environment and development. After graduating from BRAC University, Dhaka in 2013, she worked under the supervision of Ar. Marina Tabassum (

Rahfatun Nisa Nova

Award recipient of Aga Khan Development Network, 2014-2016 cycle) for four years. Besides this, she also worked as research assistant and participated in various development projects and training funded by the World Bank and other organizations.

Monjura Khatun

Nisha is a current PhD candidate from the Sydney School of Public Health at the University of Sydney. She has worked with ICDDR,B as a research investigator for two years.

Md. Nazim Uddin is community mobilizer working with Dustha Shasthya Kendra (DSK ngo) since 2012. Over this time he has worked on various projects based in Korail such as PEHUP (Promoting Environmental

Help for the Urban Poor, 2012-2016). Currently he is working under the project WASH for Urban Poor (Improving environmental health & resilience of WASH amongst Urban) (2016-till now) in Korail. Through these

work Mr. Uddin has gained first-hand experience of working in Korail, which has been a huge contribution in this project. His understanding of the people and their issues has enabled the team to gain in depth knowledge about how this area runs.

Nazila Sabrin Zaman is a recent graduate from the Department of Architecture at BRAC University. She has a small online based business, through which she is pursuing her interest on making small crafts.

Ayesha Labiba Khalil is an architect and an aspiring academic. Upon graduating from BRAC University in 2016, she is currently working as a teaching assistant and also pursuing a masters in Disaster Management at department of Architecture at BRAC University. She has a keen interest in working with urban development issues in the global south.

Being an architect in a developing country is no simple

task. Besides understanding the aesthetics and functionality of a building, a lot of attention needs to be put on the informal sector as it plays a huge role in the urban form. As a part of

our formal architectural education, we were always encouraged to work with social issues and low-income communities. This has played a vital role in shaping the way we perceive informality. Informal sector plays a huge role in the process of urbanization of a city. It is not just a domain for the urban poor but the formal sector also benefits from the activities that take place in the informal sector. We feel it is important to address the informality within the city and its confrontation must be done through a bottom up and inter-disciplinary approach. We believe it is important to understand informality and discuss informal urbanization in both undergraduate and graduate level

as it allows the student to broaden their perspective of the world.

Urban development for many countries might not be a necessity for many cities, but it is surely an important issue for the global south. However, we believe it should not just be limited to the global south. The curriculum should promote a more sensitive approach where inclusivity should be embedded. It is important for students from all parts of the world to under-

stand the issues going on around the world. Urban design taught around the world is often seem to be inapplicable in developing countries like Bangladesh. This is where the conflict between theory and practice arises and therefore we feel, it is important that a more responsive approach is practiced and taught so that theory and practice can complement each other rather than conflict.

Correspondingly, when the Global South is being addressed, it is quite important to identify the differences among Africa, Latin America and South Asia in terms of geography, culture, and every other aspect. To acknowledge the in depth contextual challenges, it is really important that we have region-focused curriculums. Moreover the particular faculty, field trips and action-oriented studios should have the reflection of such integrity.

In addition to that, sharing perspectives, opinions and expressions is an integral part of the learning process, therefore we believe, making the student body more diversified by enrolling student from cross-cultural backgrounds is essential. With students from developed countries and developing countries learning together, we believe the intellectual products that will result will surely be comprehensive and have a vital role to play in the field of development.



Nazila Sabrin Zaman



Monjura Khatun Nisha



Ayesha Labiba Khalil



Nazim Uddin



**ORGANISERS DURING THE
SELECTION OF THE 20 FINALISTS**



The 15 finalists



**ORIANA DE LUCIA & RICARDO
AVELLA DURING THE SELECTION
OF THE 20 FINALISTS**

The Walkable City

The case of Sector 4, Dharavi

MUMBAI, INDIA

PRAMADA JAGTAP, PRANAV THOLE, KAMLA RAHEJA VIDYANIDHI

KAMLA RAHEJA VIDYANIDHI INSTITUTE FOR ARCHITECTURE/ MUMBAI UNIVERSITY

The project is an exploration to address the complex issue of affordable housing through the case of sector 4 Dharavi, Mumbai. Dharavi is one of the largest informal settlements, covering an area of 200 hectares in the city of Mumbai. It houses approximately 1 million with a density of 600-1000 people per hectare. The intent of the project is to look at Dharavi Redevelopment plan and build a critical response to it by testing it to a certain capacity and in doing so, look into the details of policies and regulations while suggesting alternative methods to counter the pre-existing notions of building construction.

Why do we need to address the issue of informality?

The issue of informality in urban settings, and how to approach it has been an important issue for decades. It presents several challenges ranging from the imagery that it provides along with living and infrastructural concerns.

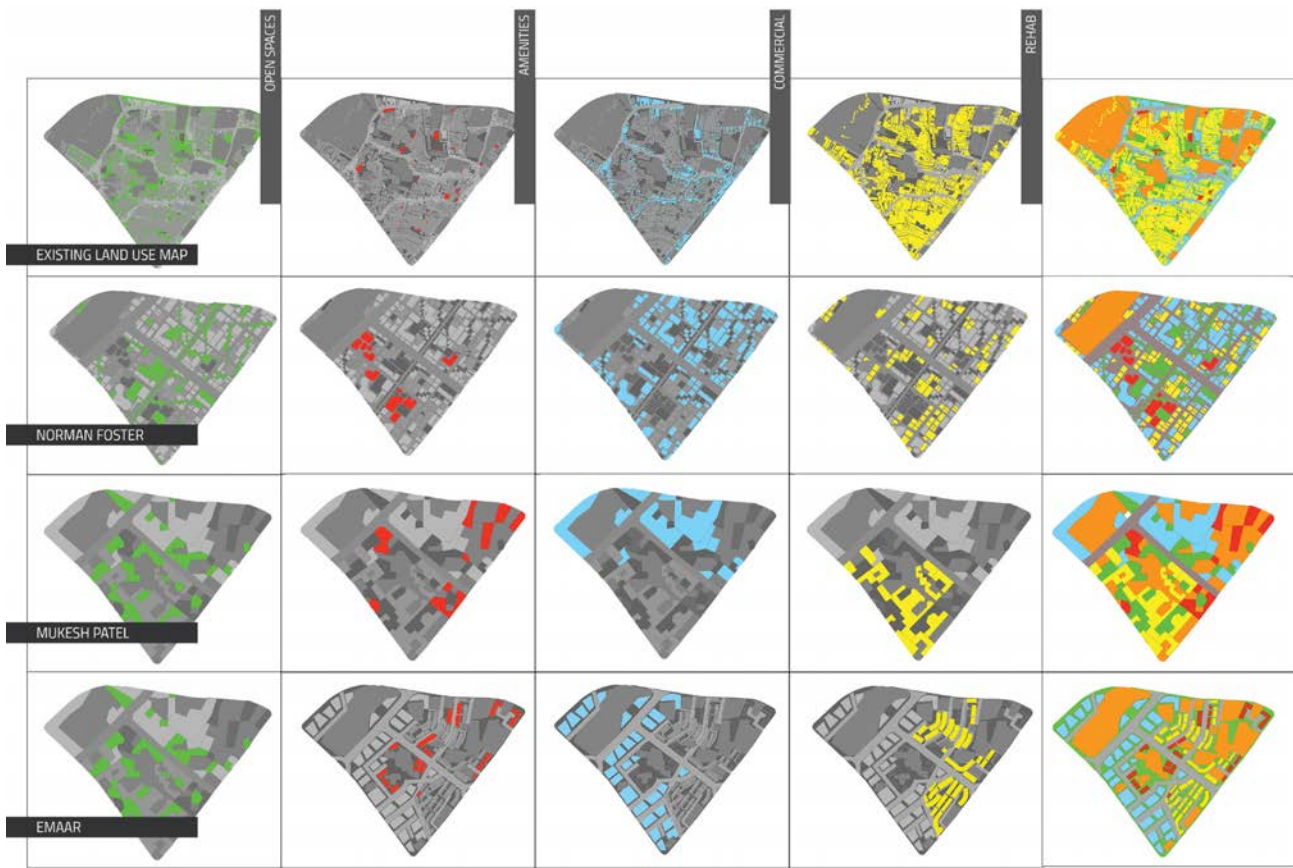
The current living conditions in Dharavi is always under scrutiny, due to several issues like lack of security of tenure in such high densities, lack of open spaces even according to Mumbai standards, narrow alleys which are almost an extension of people's houses, insufficient health and sanitation, no security of jobs with a constant intake of migrant population, amongst several others.

There have been several attempts undergone by multiple government and private organisations to address the living conditions at Dharavi. However, these are interested in the large chunk of real estate value that this piece of land has to offer rather than addressing the living conditions.

The project on the contrary attempts to approach this issue with the idea of building an inclusive community, by not only improving their way of life and infrastructure but trying to retain their sense of place and their existing social structure.

The study involves mapping various aspects of the settlement through a set of parameters that were used as lens to look at the fabric. These parameters addressing the issues of density, topography, typology, communities and governance, amenities, and psycho-geography, urban morphology, economic basis, and ownership patterns allow us to understand the livelihoods and economy so as to challenge existing notions of redevelopment.

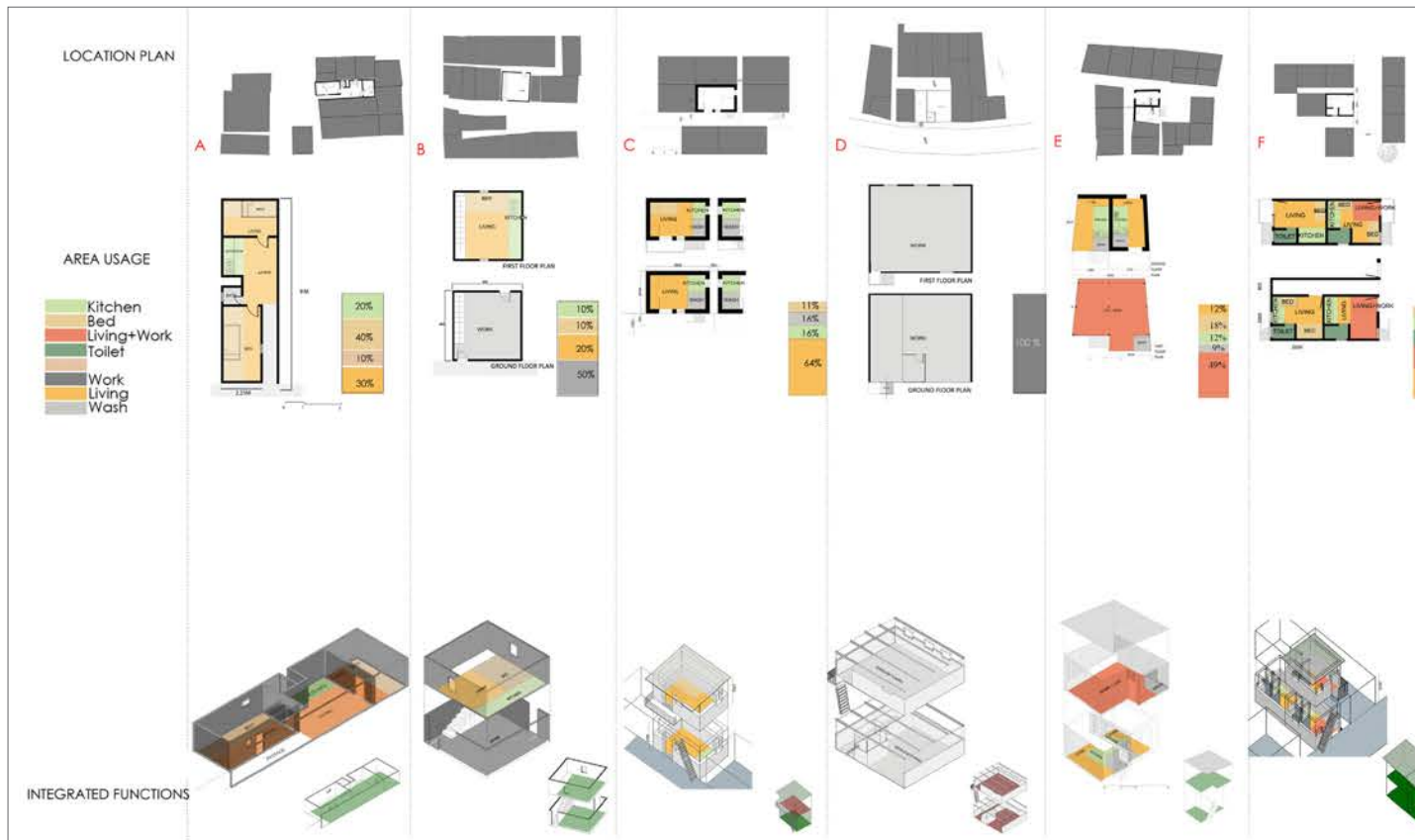
The project attempts to develop unique living typologies for the work-live population of Dharavi. It is an opportunity to look at its redevelopment to form communities and homes for those while adhering to their existing social structure of rentals and owners. Being one of the most densely populated areas on earth, along with its issues of ownership, lack of infrastructure, the issue of Dharavi and its complexity desperately demands affordable and appropriate solutions for living and a new way to tackle informality.



Analysing proposed masterplans for Sector IV

<p>OWNERSHIP Appendix-22-3- any undertaking land on which the Renewal-Rehab Component of DRP will be shall be leased to the cooperative Housing Society of the occupants on 30 year lease-2</p> <p>1.14 (vi) "A pitch of about 3m X3.5m will be given elsewhere if and when available, and construction therein will have to be done on their own." To those people who do not fall in the 70% agreeing category of redevelopment seem to be hand twisted and told to take about 100sqft of un-built space and undefined location:</p> <p>OPEN SPACES 6.20 "Even if the amenity space is reduced to make the planning of the rehab sub plot viable, a minimum of at least 15 % amenity open space shall be maintained."</p> <p>REHAB COMPONENT "6.1-A residential rehab/renewal tenement shall essentially have a separate living room; kitchen; bedroom; water closet; bathroom along with enclosed balcony merged in carpet area of the tenement."</p> <p>AMENITIES AND INSTITUTIONS The DRP states that welfare hall, balwadi, society office and religious structures existing prior to redevelopment shall be given equal amount of area.</p> <p>COMMERCIAL AND INDUSTRIAL STRUCTURES 5.3 (a) "Built up area for Commercial and Industrial establishment up to 225 sq-ft carpet area or actual area or actual area whichever is less; shall be provided to the eligible person free of cost as part of the rehabilitation project. Any area in excess of 225 sq-ft may, if required, be sold to the extent of area as shown in table. However, only non-polluting and non-hazardous industry can be allowed to be re-accommodated."</p>	<p>People have apprehensions about the lease and the cost of its renewal. Long term leases are modified to become 30 year leases.</p> <p>The policy does not define an "open space". The ambiguity could lead to the law getting manipulated in certain areas and on the whole. The policy looks at open space, without defining its nature as a commodity and not as a social space for the neighborhood, as it exists in Dharavi today.</p> <p>There is a need to redefine typology considering the existing model that exists in Dharavi. The flexibility of Dharavi units may be one of the reasons for its great dynamism and partial success. Rehabilitating these into a rigid model based on levels of privacy, would end up killing thousands of small business.</p> <p>The settlements in Dharavi have developed around religious structures/schools/amenities. These structures are important to the people, but also the open spaces around them. The DRP fails to identify these open spaces and is treating the built space of these structures in isolation.</p> <p>However, the DRP does not specify what qualifies as a hazardous/polluting industry. Also, it does not account for small scale industries and workshops that take place inside houses. There is no mention of the Residential + Commercial / Residential + Institution, which is an essential way of life in Dharavi.</p>
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Critically analysing Dharavi redevelopment plan.



The new imagination for Dharavi: Proposed Masterplan



Dharavi is situated right in the geographic centre of the city, next to the Mithi river and is in close proximity to various transport systems. 50 % of its population walks to their destination, while majority of the remaining uses public transportation. Only upto 2% of the population uses private vehicles. The total area of sector 4, (34 hectare) is split between the state + the MCGM owned land, and the land leased to Tenants. The koliwadis situated next to the mangroves have existed since the beginning of the settlement and are the owners of their land, and are less dense as compared to the remaining land. The densest portion of the land has about 1200 tenements per hectare.

The SRA, i.e, Slum Rehabilitation Authority, assigned with the task to develop the slums in Mumbai has looked at the redevelopment model through the lens of treating land as a commodity, thereby splitting the build able area between the rehab components and sale components, generating profit. Shirish Patel, an urban planner from Mumbai rightly points out that during redevelopment, we must acknowledge that there is a demand for a rise in the PGA, to meet basic standards. An increase in FSI in such neighbourhoods, would result in severe pressure on the infrastructure, public amenities, open ground spaces, roads and footpaths. Hence, one needs to approach an increase in FSI with care, while attempting to increase the PGA, so as to not make the area dysfunctional.

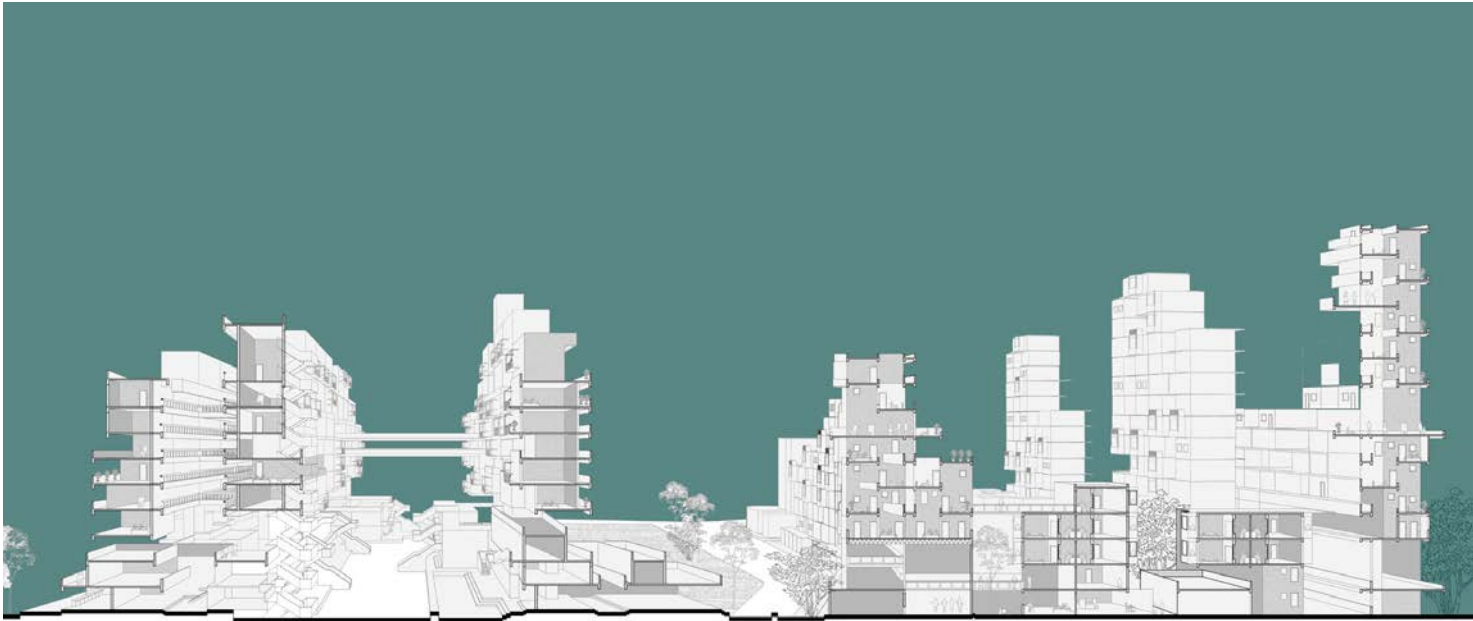
The intent of the project is to look at Dharavi Redevelopment plan and build a critical response to it by testing it to a certain capacity and in doing so, look into the details of policies and regulations while suggesting alternative methods to counter the pre-existing notions of building construction. Several surveys, interviews of local population.

The project looks at the National Cooperative housing Federation of India and the idea of the cooperative.

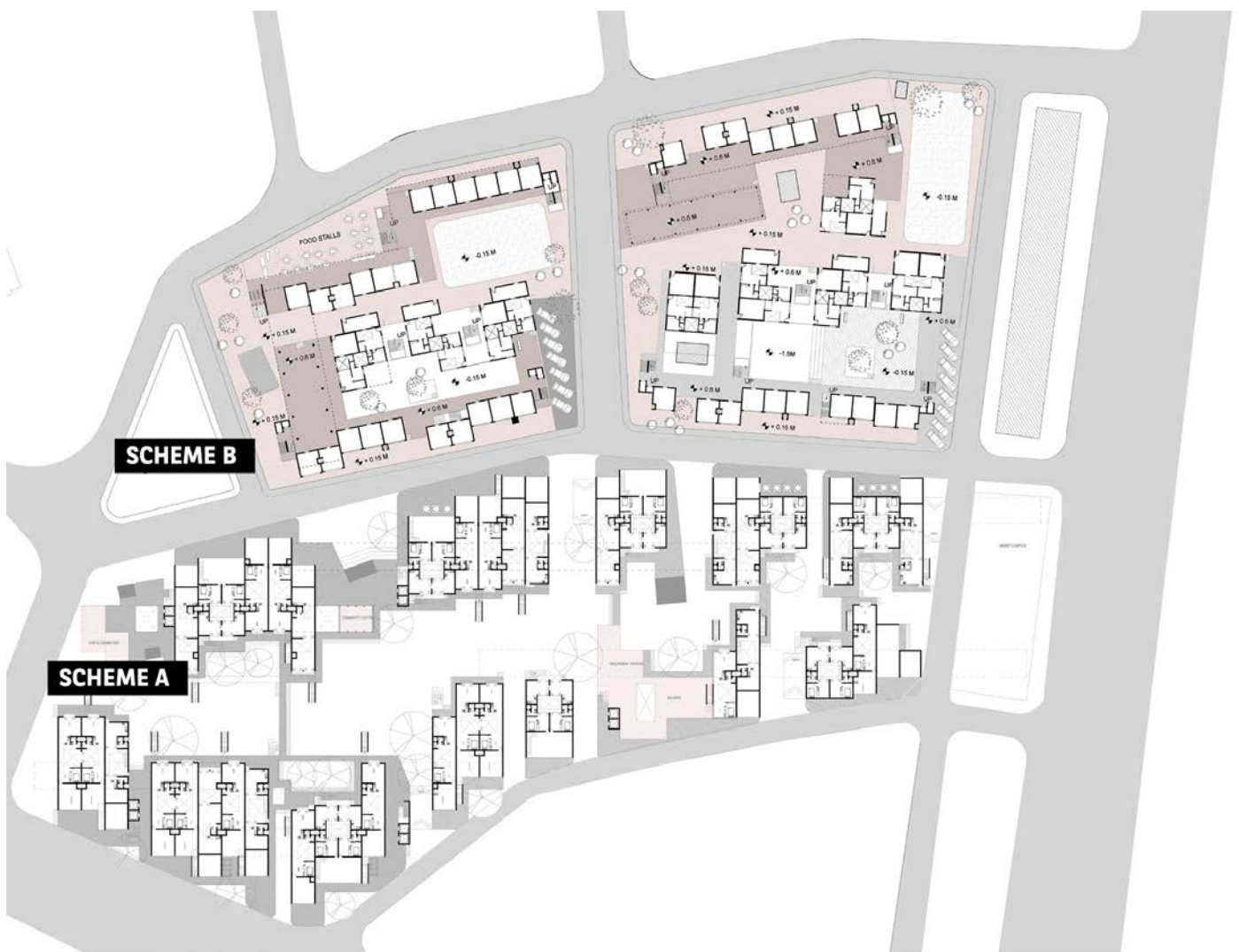
The way the DRP and SRA measures the population to be rehabilitated has a huge discrepancy. The number of tenements that are rehabilitated is based on the number of footprints that exist on a certain plot of land i.e one house gets a flat in the rehab structure. however it fails to acknowledge the rental population that is around 48% of the total population, forcing them to be displaced once the rehab structure is built.

The project looks at the idea of cooperative between the owners and the rentals, who live together creating a certain social structure in Dharavi today. The idea is to look at an economically self sufficient system for the tenants, building a sense of collective belonging and still providing them with a better quality of life.

The cooperative is formed by the owners and the rentals. The owners will own their own houses, whereas the co-operative builds their house for them. The cooperative holds the share of ownership of the rentals, whose rent is used as a way to fund the cost of construction. The rentals have a right to occupancy, and the right to be co-owners. Multiple cooperatives collectively form a sector, as per existing sector boundaries. The cost of construction can be funded through loans by the state as per the NCHFI. The loan required for the cost of construction be reimbursed through the rents paid by the rental population in a certain time period.



Section through Scheme A and B



Ground floor plan through both schemes

Can we plan for informality?

The existing roads are strengthened on the basis of existing roads and cluster boundaries with access to major transport services, and widening the existing primary and secondary roads. The settlements in Dharavi have developed around religious structures/schools/amenities. These structures are important to the people, but also the open spaces around them. The DRP fails to identify these open spaces and is treating the built space of these structures in isolation. The project looks to retain existing social amenities and the SRA's and strengthens the existing open spaces around them through adding new amenities in proximity. The pedestrian network connects all of these amenities creating a thoroughfare, with a minimum of 15% of open spaces, thereby increasing the PGA. The commercial is aligned along existing major commercial streets and open spaces. The later part of the project involves testing a part of the masterplan through built form.

SCHEME A

The lower floor is a tubular unit consisting of a live + work unit with multiple courtyards determined by their work type; with the commercial units on the streetfront and the studios spilling out on the central open space. The thoroughfare cutting across the central open space connects the two major commercial streets and subsequently the adjacent open space.

The Pedestrian thoroughfare cutting across the site has been developed around the existing religious amenities; new social and educational infrastructure like the balwadi, vocational centres and others has been built around these to strengthen the open spaces created. The social or communal spaces happen at multiple levels, starting from the ground which is an extension of the live work units, and an important part of the urban life, the intermediate floor, creating a semi public space for people to gather and communicate, terraces at multiple levels offering views of the outside, and pockets adjoining circulation cores offering opportunities of engagement during the journey from the street to the house.

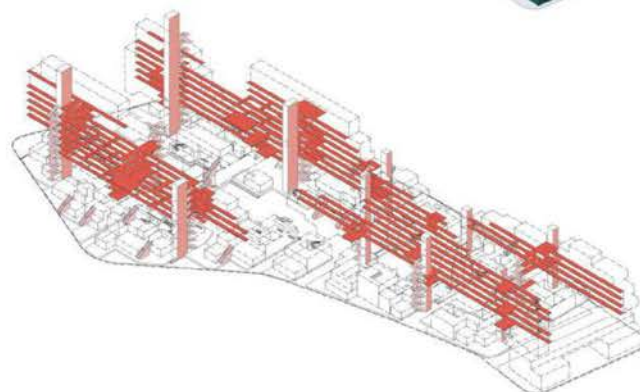
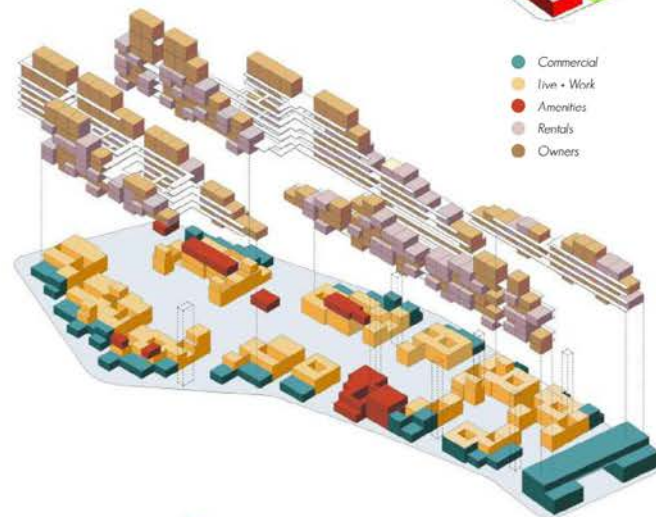
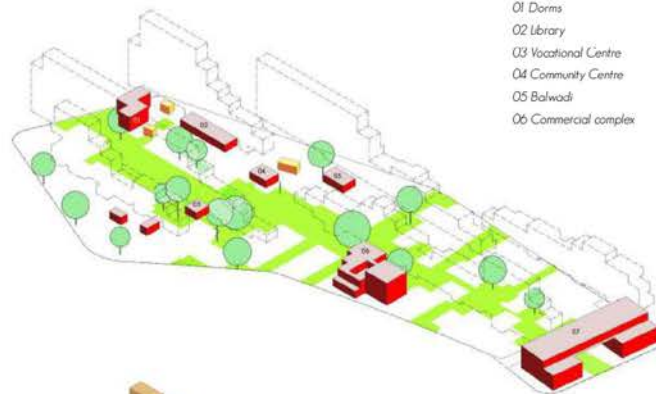
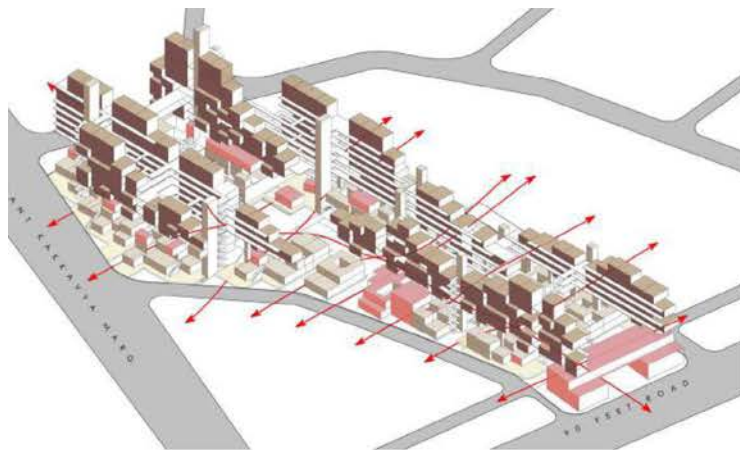
The intermediate floor becomes a parallel ground area, allowing for various communal activities separating the very public and private areas whereas the upper floors are singly loaded structures overlooking the courtyard or the street, allowing for smaller terraces and gathering spaces, connected by corridors and staircases.

SCHEME B

This scheme tests two different types of housing. one is tower type, which lines the external edge of the cluster and is a singly loaded typology. The other is the mat type, which covers the ground plane with 3-4 storey low maintenance structures.

Multiple unit layouts have been worked out, to line the singly loaded corridor, to provide maximum community interaction. Different sizes of the units have been provided, each having a smaller living room inside, providing a larger combined "Otlā" outside the unit, which is linked to the corridor. The Different unit layouts allow variations in the volume of the "Otlā's". Buildings are placed parallel to the wind direction on site, and have niches (that double up as refuge or amenity) to allow maximum wind permeability. Courtyards are oriented in a way to allow cross ventilation. The terraced roof top is imagined to be densely vegetated. These roofs along with bioswales are connected to water retention areas placed near the open spaces to control storm water flooding, which is common in the area.

SCHEME A





SCHEME B

Settlement in a fragile soil:

A case study in Favela Rio das Pedras

RIO DE JANEIRO, BRAZIL

HERICK RIBEIRO DO NASCIMENTO, TAYNÁ SANTIAGO PINTO

PUC-RIO - PONTIFICAL CATHOLIC UNIVERSITY OF RIO DE JANEIRO

RIO DAS PEDRAS

In the context of the neo-liberal ideology of globalization that valued urban land as a highly contested commodity, in the large and medium-sized cities of the Global South, while cities grow with a high degree of socio-spatial segregation, the demand for housing for the poor is being supplied by the informal market of urban land. The informal real estate market occurs in favelas and clandestine settlements that occupy low value land sites oftentimes environmentally vulnerable like occupations of slopes subject to landslides, riverbanks or flat areas subject to flooding and occupations of improper soils like soft clay. The occupation of human settlements in areas of improper soil is a common issue of different cities of the Global South and will be the focus of this work for “TU DELFT CONFRONTING INFORMALITY”.

As a case study, we chose Rio das Pedras, a favela with almost 100.000 residents located in the region of greater urban expansion of the city of Rio de Janeiro-Brazil between the neighborhoods of Jacarépaguá and Barra da Tijuca. These neighborhoods registered the largest number of real estate launches in the city between 2000 and 2010, represented mostly by closed condominiums for upper middle class, considering population growth in the order of 28% in the period. Despite the warming of the construction industry had generated thousands of employment opportunities, neither the State nor the Market created new housing opportunities for lower income population that migrated to the region in search of employment. The result was the excessive and accelerated growth of the pre-existent informal settlements in the order of 53% growth in the period, that not accompanied by improvements in urban infrastructure and services, created situations of urban congestion that in the case of Rio das Pedras favelas, because of the fragility of the soil, became dramatic.

Recently the municipality of Rio de Janeiro launched the idea of a Public-Private Partnership for the replacement of the favela by a new vertical residential condominium, which units would be financed to favela residents. The proposal revolted residents who protested strongly against it, because : First, residents had not been consulted, second the proposed model does not meet the needs of the local because of higher maintenance costs, inflexibility of the units for commercial or production uses, and extinction of the street as the main element for social activities and leisure.

Will the solution to the serious problems of infrastructure of Rio das Pedras necessarily pass through the removal or tabula rasa solutions? Would not it be possible to rethink the construction of the urban blocks in order to preserve the existing urban fabric, economic and social structures?

These questions guided the development of this work.



Photo 1- Aerial view of Rio das Pedras and Barra da Tijuca neighborhood in the background. Source: Herick Ribeiro, 2018.



Photo 2- Commercial street. Source: Tayná Santiago, 2018.



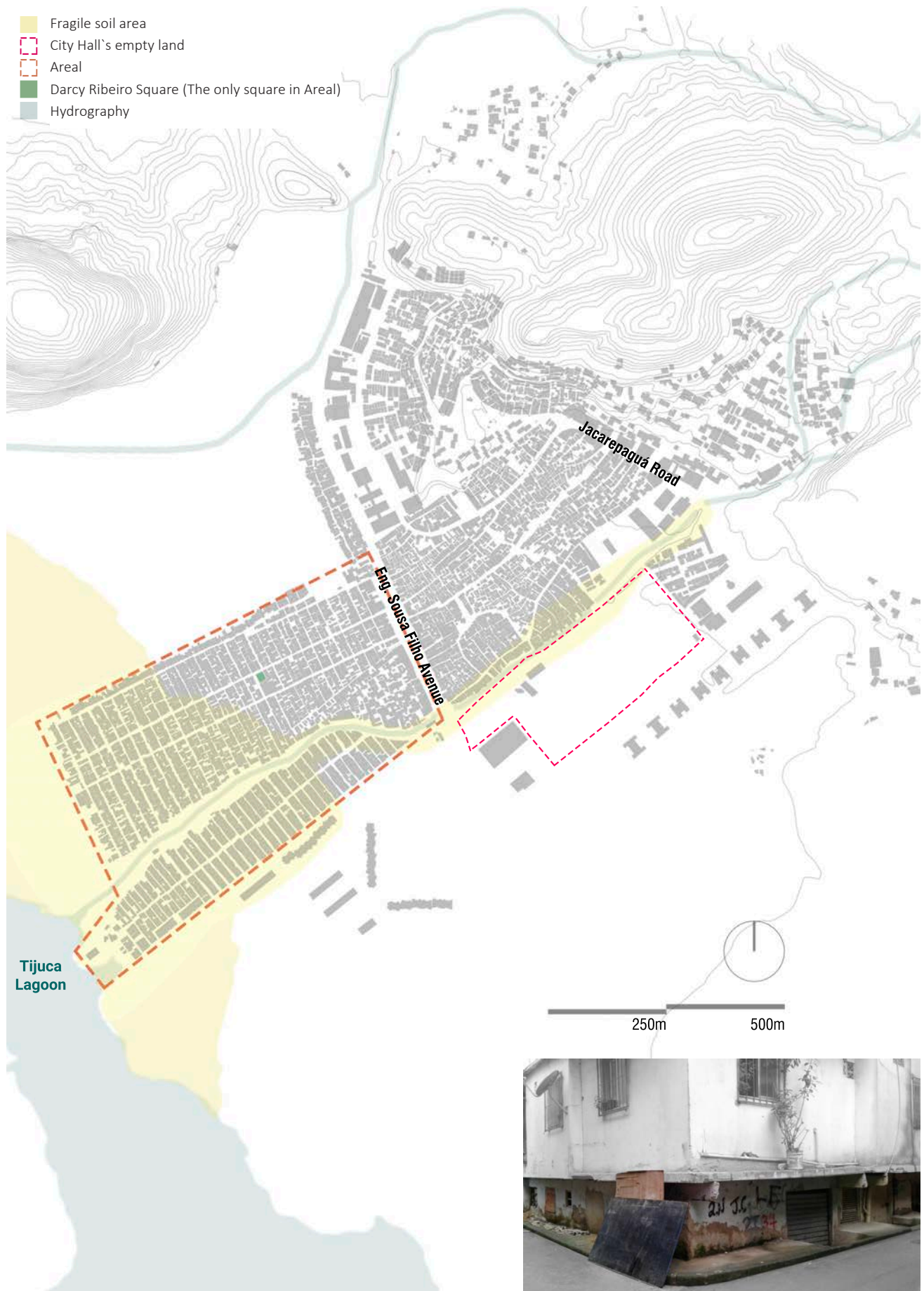
Photo 3- New buildings along the river. Source: Tayná Santiago, 2018.



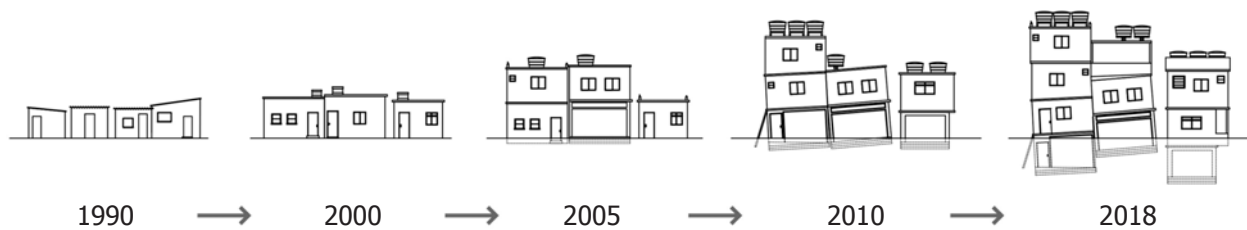
Photo 4- The new condominium proposed by Municipality. Source: nabarra.tv



Photo 5- Protest against Municipality project. Source: Gaby Rocha.



The settlement of Rio das Pedras in yellow areas of more fragile soil (soft clay). Below: photo of one sunken house.



Scheme that illustrates the problem of sinking houses with huge losses to resident households.

SINKING HOUSES

Although the beginning of the occupation of Rio das Pedras took place in 1951, it was from the year 2000 that occurred the great explosion of growth. Affected by housing crisis in the region, the residents organized through an Association of Residents required from the government the expropriation of a large private land, a claim that was attended in the late 1980s with the agreement that it would be the Association of Residents who would plot the area and distribute the land. The result was a regular fabric with lots of 50 m² (5m x 10m) of very high density in a soft clay soil. As initially the occupation of the lots was done by tents or wooden shacks (light constructions), the situation of repression was practically imperceptible, but when the constructions began to be reformed and expanded with more durable materials: structures in concrete and walls in masonry of brick, the buildings literally began to sink.

The repression process comes to bizarre situations in areas of more fragile soil where a dwelling unit of 2 stages sinks up to one meter every 3 years, which means that in less than 10 years a whole floor stay below street level, what generates humid and floodable spaces, making the ground level inadequate for living. The problem had being corrected by families through new landfills and repositioning the slabs to fit the right foot, which means a complete renovation of the house every 10 years, what consumes all the families' savings, an untenable situation.

OPPRESSION AND COMMERCIAL EXPLOITATION BY DOMAIN GROUPS

In the context of state retraction in Latin America, informal settlements are increasingly being influenced by networks of paramilitaries groups that exploits these territories by selling private security services, alternative transportation, internet and cable TV services, monopolizing the sale of some essential products like gas, drinking water and eventually also acting with illegal products such as drugs or stolen goods. As powerful groups that act with connivance of the State and politicians, they exert power through oppression expelling families who refuse to follow the rules of monopoly. This social context affects families economically and consequently is generating negative implications to the environment.

The high cost of living in Rio das Pedras caused by the exploitation by domain groups and soil fragility has generated a vicious cycle of exploitation that replicates at many levels. Residents who are owners are expanding or reforming their homes to exploit new alternative sources of income opening stores on ground level or attaching tiny apartments for location on the roof slabs, but this expansion has aggravated the problem of constructive repression, making clear that to face the problem of sinking we have to consider physical-structural solution but also social and economic issues.

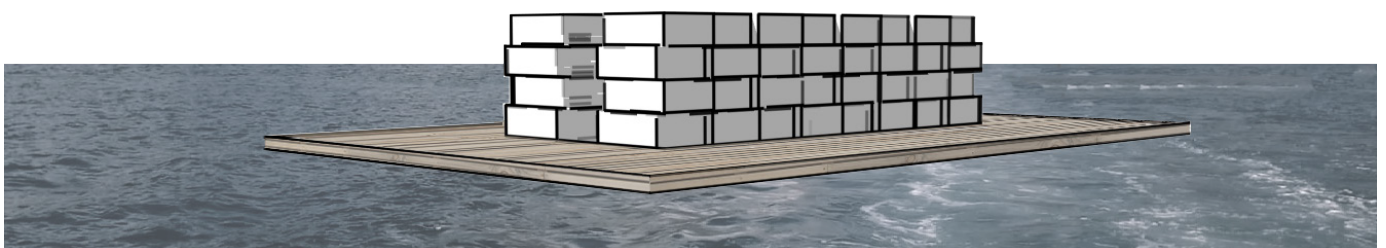
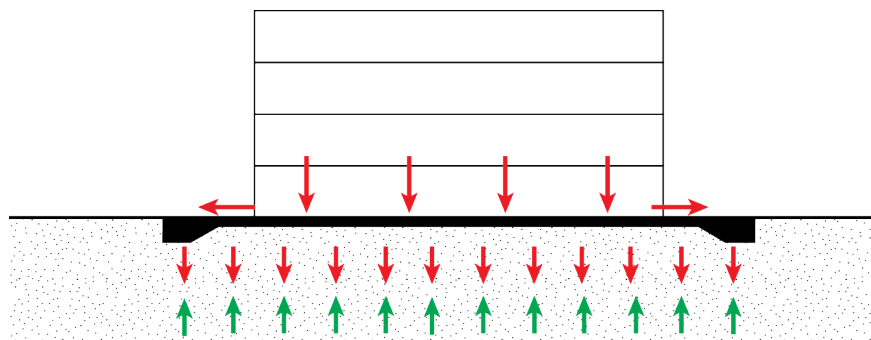


Image 1: Proposal of blocks. Image 2: Reaction diagram. Image 3: Ferry block.

As Rio das Pedras is located on the banks of a river and a lagoon with soft clay soil; blocks are occupied by single-family residences with conventional foundation of reinforced concrete that are seriously affected by repression, it is impossible to preserve the existing constructions, we considered the possibility of relocation and reconstruction of each block in the same place they are in order to promote a gradual intervention in the existing fabric, block by block, avoiding great impact on the daily life of the resident population. The first challenge was about what kind of construction and foundation could, preserving high densities, present stability on that type of soil. The first option, discarded by the costs, would be deep foundations with stakes of 10 to 15 meters depth. The second one, which was adopted, was the solution of a radier foundation larger than the projection of the supported cargo that should be well distributed in the most balanced way possible, we called FerryBlock Concept.

THE FERRY BLOCK CONCEPT

The concept of the ferry block is that of a large structural surface that occupies the whole block and supports loads very well distributed as if it were a ferry floating on a very soft soil. The very rationalized type of construction in terms of loads brought the idea of replacing the set of single-family units with multi-family residential units, which, in a way, contradicts the housing pattern found there.

COMMUNAL CONDO

Although not a very common typology in the favela, the multifamily residential complex presents some interesting advantages for the case of Rio das Pedras. It is due to the aspect of being a collective construction that is planned allowing a greater rationality of the distribution of loads, including good distribution of weight elements such as vertical circulation towers (stairs), water storage devices and lighter materials such as plaster panels and adoption of steel frame system in upper floors.

One important aspect of the multifamily residential complex is the preservation of the relation between the new building and the street, considering that if the morphology resulting from the complex is very close to the reality of the favela, it will be easier to adapt the resident families. In this way we proposed the maintenance of the same number of floors (ground floor + 3 floors) and the existence of commercial units on the ground floor.

The new set makes it possible to solve various problems of inadequate housing as the example of poorly dimensioned ladders that become collective and standardized, for instance and problems of natural ventilation and lighting caused by occupancy of the hole lot (buildings confined with doors and windows just facing the street). Considering that climate is very hot and humid, houses are very humid because they sink, it is very important to guarantee natural ventilation and the incidence of sun. This condition is important to avoid the spread of diseases such as yellow fever and tuberculosis, that even today are still recurrent in favelas.

To inhabit a multifamily building means to build relationships between neighbors that allow the collective management of a space, maintaining common areas of use; taking care of the networks of building facilities; managing the garbage, mail, water reserve and distribution; controlling expansions; creating condominiumal rules and caring for security. We do not see this as a problem, on the contrary, it can be potential to reinforce neighborhood relations, mutual help and solidarity, normally present in these communities. We consider the maximum number of 64 housing / commercial units (population of 250 residents) for the establishment of these neighborhood units, which we will call here "communal condominiums". As the proposal is focused on existing urban blocks, the proximity between families is already present, giving greater conditions for structuring social networks of each communal condo.

Believing that the urban form is a powerful instrument to dynamize the social relations, we proposed the incorporation of common spaces between two or more buildings as semi-public spaces of permanence, configuring a network of small public spaces that can help to promote vicinal networks. We believe that this can be a political instrument of resistance against exploitation and oppression practiced by domain groups. We believe that in order to assert the "Right to the City" (LeFebvre) it is very important to think beyond the power of the State and Justice (Top-down), empowering citizens in their daily life of dwelling (Bottom-up).



The Housing Program Over Time.

THE HOUSING PROGRAM OVER TIME

1. Urbanization of the City Hall's empty land with construction of new building for resettlement of the families occupying the banks of the river.
2. Resettlement of the families from the river banks.
3. Protection of river banks with a linear park. Construction of the ferry blocks in the land of the destination (show-room).
4. Negotiation with families of a pilot block (in area of worst fragile soil).
5. Temporary relocation of families from the pilot block to the ferry blocks in the City Hall's land.
6. Works in the pilot block for rebuilding according to the ferry blocks model.
7. one year later- families return to the home in a ferry blocks model.

Reforming Waste: Piping Mansheyat Naser The Garbage City – Egypt's Untouchables

CAIRO, EGYPT

ARISE WAN, CHARLENE CHAN HUISHAN, KAREEM NEMS, LEE XIAO HUI, MOHAMED MOHARRAM

DESSAU INTERNATIONAL ARCHITECTURE GRADUATE SCHOOL (DIA)/ ANHALT UNIVERSITY OF APPLIED SCIENCES

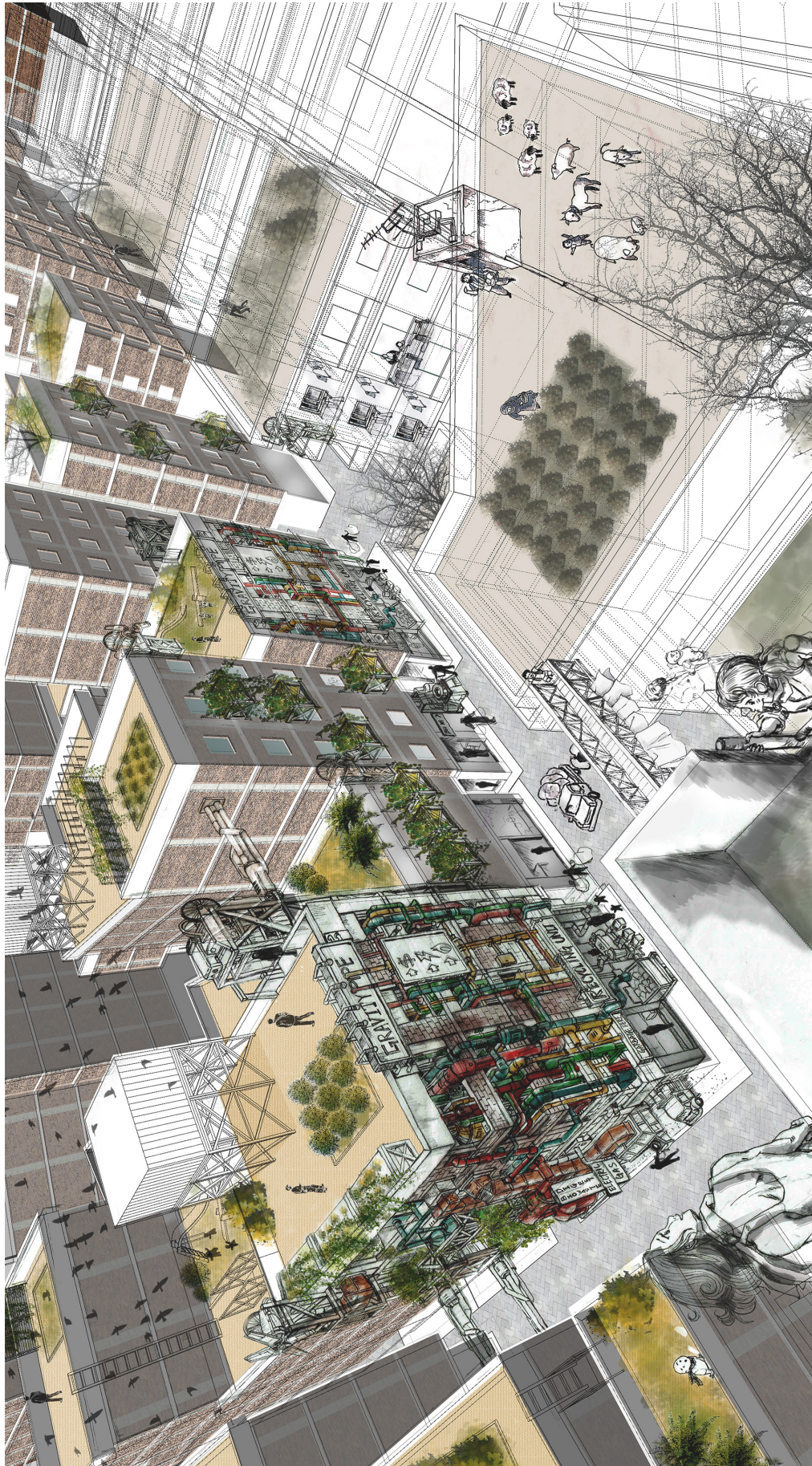
The Idea

The relentless growth of cities urges for solutions that relate to the improvement of levels of comfort in confined spaces and a right to public spaces for the well-being of the living quality of a citizen. This is especially necessary for a change in the forgotten community at the base of Mokattan hill on the outskirts of Cairo, Egypt - the world's largest garbage village: the garbage city.

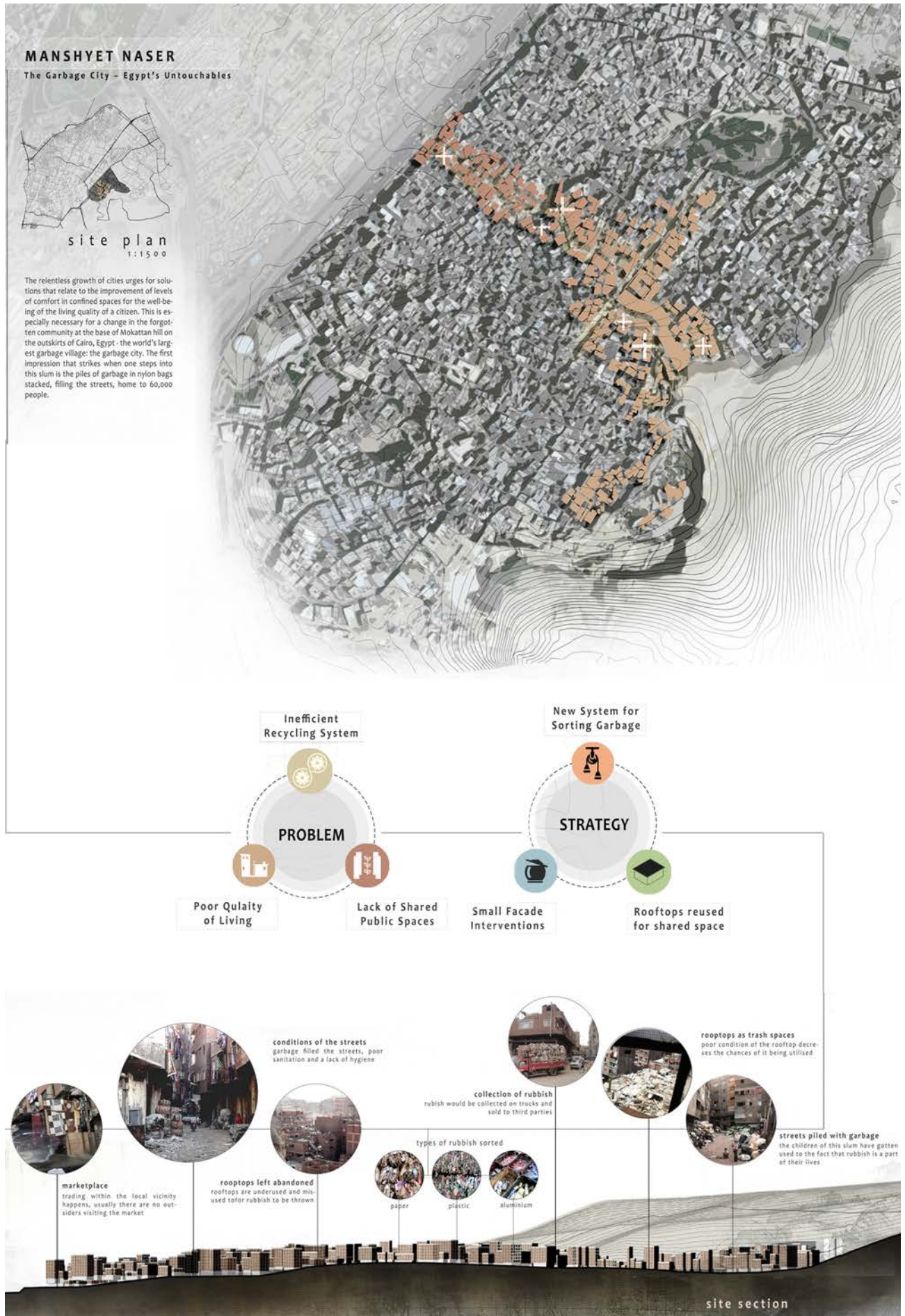
When you step into the slums of Mansheyat Nasser, the first unique impression that strikes you would be the piles of garbage in nylon bags stacked, filling the streets, and this is uniquely why this particular slum home to 60,000 people is also known as 'the Garbage City'. Cairo's city garbage is brought to the Garbage City in by this group of residing locals called the "Zabbaleen" (Arabic for garbage people), who then sort through the garbage to attempt to retrieve any potentially useful or recyclable items. The Zabaleen are born into the trash trade and grow up in a ghetto but they've developed efficient way of sorting. These garbage collectors comprise of almost 70% of the city's population, thus the reason for its given name. They are inevitably one of the most efficient garbage sorters because they manage to sell of 80% of the garbage they collect on a daily basis.

Garbage here consist of the city's thrown-out and leftover stories. The garbage's are the basic energy of the city. There are leftover stories that garbage city absorbs to make a livelihood out of what they have. Considering the amount of garbage they have to collect and sort to earn a living, the garbage they collect back to their homes are of an even larger amount. They would sort the garbage in their homes and then sell it after. With the lack of access to proper sanitation across the slum, it makes diseases easier to spread within the city. At present there is little provision of public spaces within the slum area and the infrastructures provided are fragmented, abandoned and therefore impractical to improve the living quality of the people. Heavily affected by the negative perception of the citizens in the city of Cairo towards the slum, Garbage city is one place not every local Egyptians would step in.

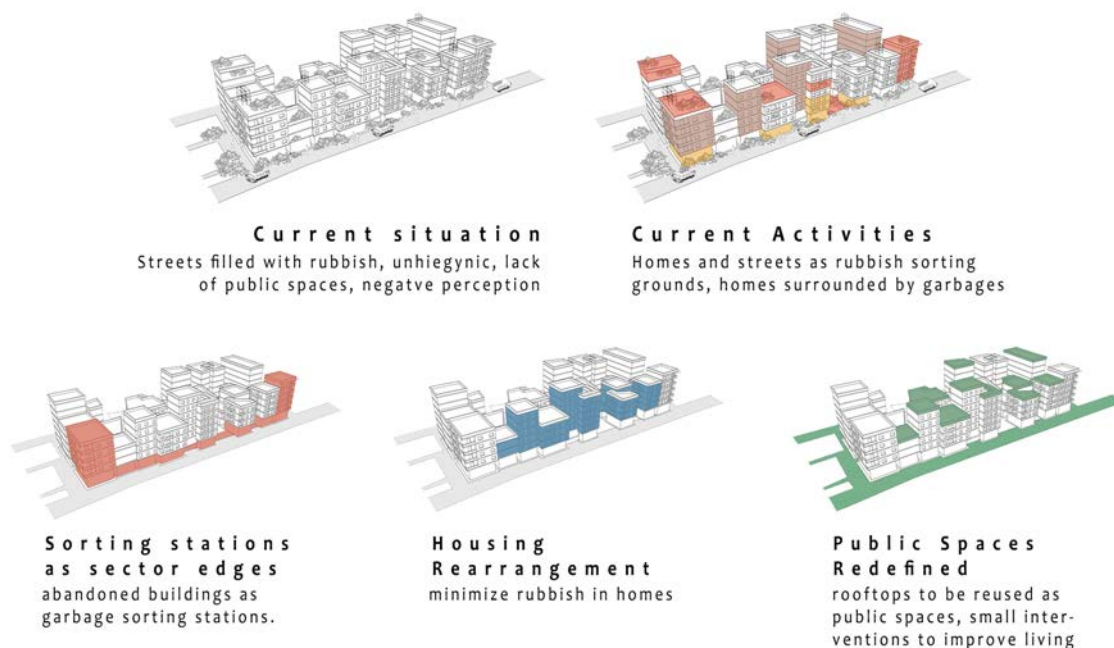
This proposal are ideas that are hands-on, in the form of small-scale initiatives that uses the scraps and waste they have to convert them into reusable energy and adding value to an under-looked element as a shared space among neighborhood. It is our fundamental assumption that a healthy community should have a right to a clean living conditions and spaces for engagement and exchange among neighbors and where strong bonds can be maintained. Initiatives that are people-centered, empowering all individuals and communities, while enabling their full and meaningful participation in the process. While the initiatives may be small, the idea of changing one street, one initiatives at a time could be a big catalyst that could stir up a pride in the people of the city and improve their living quality all in all while diminishing the prejudice against them in the process.



an overall graphic vision of the piping system attached on the abandoned building with the strategy in place.



Introduction of the site, its problems and the existing conditions.



Simplified diagram explanation of strategies and approach.

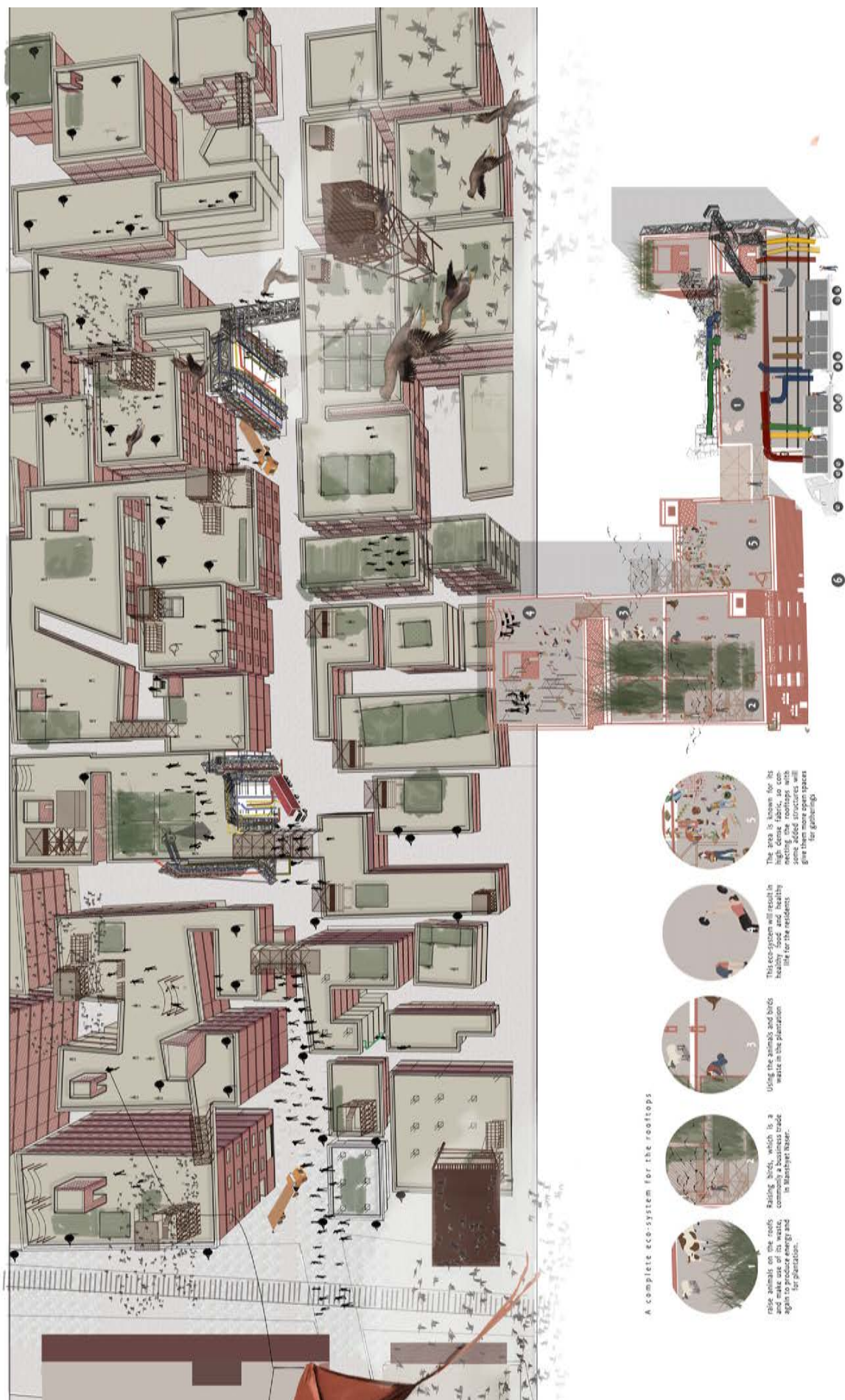
Context & Process

Behind the mountains of rubbish one starts to see the order, discipline, diligence and the strong sense of pride the Zabaleen have in their work. Families work together and earn a living; at dawn every morning, young Zabaleen members of the community start their daily journey to Cairo in horse-drawn carts and trucks in order to collect rubbish from the city's apartments and businesses. By lunchtime all the rubbish collected has been brought back into the slum settlement where every member of the family; children, parents and grandparents set to sorting it. This kind of livelihood has been passed on for a few generations.

We would start the first phase of this proposal by addressing the quality of living for each of the families. We believe addressing informality is not just about creating more buildings and typologies, rather it's about understanding the context and its needs while coming up with solutions that are affordable, practical and workable. Therefore, the proposal would first be looking at the site in a macro scale and categorizing buildings on the site. A reuse of abandoned buildings in the area would be dedicated to rubbish sorting, so that the people would not or lessen the amount of garbage brought back home. Through this simple logic, it would already have decreased half or more of the amount of rubbish and diseases.

In the second phase, the regeneration is on an architectural element of Mansheyat Nasser that has being left abandoned – on the rooftops. These spaces will be regenerated based on the assumption all the rubbish on the rooftop would be cleared and these spaces could then become shared spaces for the local community. The improvement of the highest layer of this city would be then a new layer for communal interaction.

In a third phase, smaller initiatives and ideas would spread out across the fabric of the slum. The lessons learnt by the local population through their involvement and participation in the construction of the buildings could, and hopefully would, then move into the construction of these structures in the vicinity of their own dwellings. These initiatives are a good example of low-tech sustainability: finding a new application for the production of normally unused waste following the ideal that nothing is left behind, but instead everything can find a new, previously not envisaged, use and purpose.



Design Vision & Strategies

“Every slum is unique and regeneration would be successful only if it responds to the genius loci by collaborating with the community that builds for themselves.”

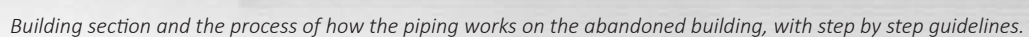
The main idea of our proposal epitomizes the quote. Tackling slum regeneration or upgrading in the context of Mansheyat Nasser includes taking actions in both the interior living quality and the exterior public spaces of the site. The general strategy is to come up with minor interventions with respect to the physical structure using local upcycling resources. These local upcycling resources mainly involve urban transformation, using raw materials such as wood from the garbage collected and also good pieces from the local factory nearby.

Our proposal is based on the assumption that the government would do its part on ensuring the clean-up work on the streets and on the rooftops would be carried out. With that at hand, the first phase of the proposal is that a new system made from scraps, unwanted rubbish and perhaps some raw materials would then be implemented in the designated garbage sorting buildings. These mechanisms will have piping that will sort the rubbish into different bins based on the different kinds of waste such as plastics, aluminum, paper, metal and glass. The sorters will dispose of the garbage into different gravity pipes that would connect to different bins, and based on the net weight, tokens that could be changed to cash would be then given. After a day's of hard work, a designated lorry will drive to the bins on the ground level and collect the rubbish every evening. This system ensures recyclable rubbish are sent out to their factories every evening. The categorization of building typologies would also be an encouragement for the people to bring their garbage into the designated buildings, instead of into their homes where they live.

Besides that, we would also focus on improving the conditions of the streets, by doing proper cleaning up and inserting small initiatives with simple mechanisms. These mechanism are not complicated machineries but buildable structure with guidelines to the community. Small projects such as a bio-waste trash bin that generates electricity, a balcony windmill that harness energy and even a plastic shredding machine as a children's playground would further enhance the idea of the reuse of waste to create something useful for the community. For example, our proposal of bio-waste converter bins would allow the people to dispose their bio-waste into the bins in order to generate electricity to power up more parts of their homes. The windmill attached on the balconies and rooftops that are made from scratch also allows for the storage of energy from the windy and sandy climate. These harnessed energies can be transformed into useful energy of electricity to generate heat during the colder climatic seasons or whenever necessary. Lastly, a plastic shredding machine in the form of a children's playground/play kit could not only encourage children to be a part of the recycling process but also aid the NGO that are producing local crafts from plastics shreds by the women in the city. By inserting new activities and services, and concentrating them along the road in designated focal points we aimed to disperse the development throughout the settlement. The dense structure of the neighborhood requires specific interventions that create a network of infrastructure and facilities based on the logic of micro-intervention. From the central element of a new system to recycle rubbish to the other punctual components of our proposal, we aimed to work on a small scale but with an eventual much larger vision of intervention.

In the third phase of the proposal, the lessons learnt by the local population through their involvement and participation in the construction of the buildings could, and hopefully would, then move into the cleaning and construction of the under-used rooftop elements to be public shared spaces within the close knitted society. The lacking gathering spaces now can then be replaced by the rooftop spaces. The proposal was born from the desire to create spaces for the people who live in the neighborhood and for the activities they perform every day. Imagine if housewives could use the rooftop to dry their laundry, bird towers could be incorporated with planting boxes and children could use the bird towers as their playground and kite-flying grounds. The task we tried to follow was to preserve and enhance some aspects of their daily life, especially those common characters able to further strengthen the existing social network – such as the bird towers. Rooftops are also interlinked with each other through bridges or connecting platforms.

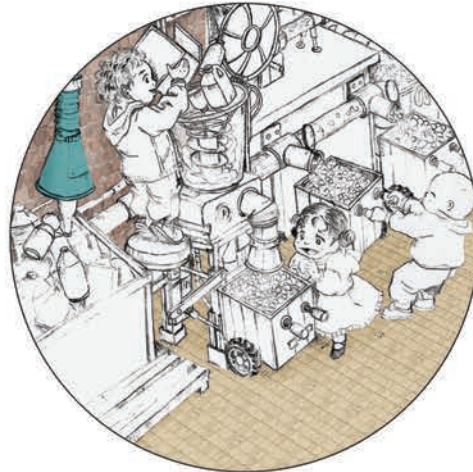
While we understand the lure of a universal solution for slum upgrading, but we are convinced every slum is unique and would be successful only if it responds to the genius loci. The reuse and simple regeneration project would use local materials, local technologies and local construction systems providing not only physical development but also an opportunity for that to act as a stimulus for the future sustainable growth of the neighborhood.





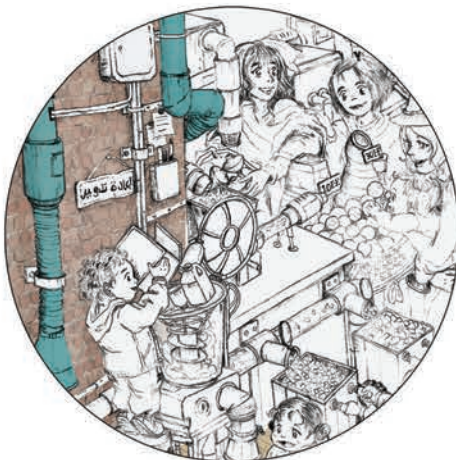
01. BioWaste Trash-Bin

would allow the people to dispose their bio-waste in order to generate electricity to power up more parts of their homes.



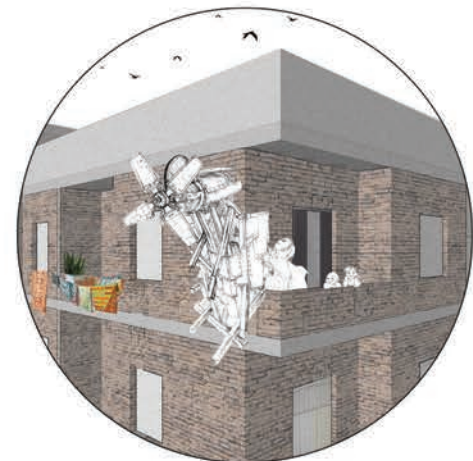
02. Recycling & Collecting

a plastic shredding machine in the form of a children's playground/play kit could not only encourage children to be a part of the recycling process.



03. Recycled Product Selling

local crafts from plastics sherds by the woman in the slum.



04. Wind-Mill Intervention

windmill attached on the balconies and rooftops that are made from onsite scraps also allows for the storage of energy from the windy climate.

Small scale interventions to be proposed along the stretch of the road, enabling and improving the quality of the community.

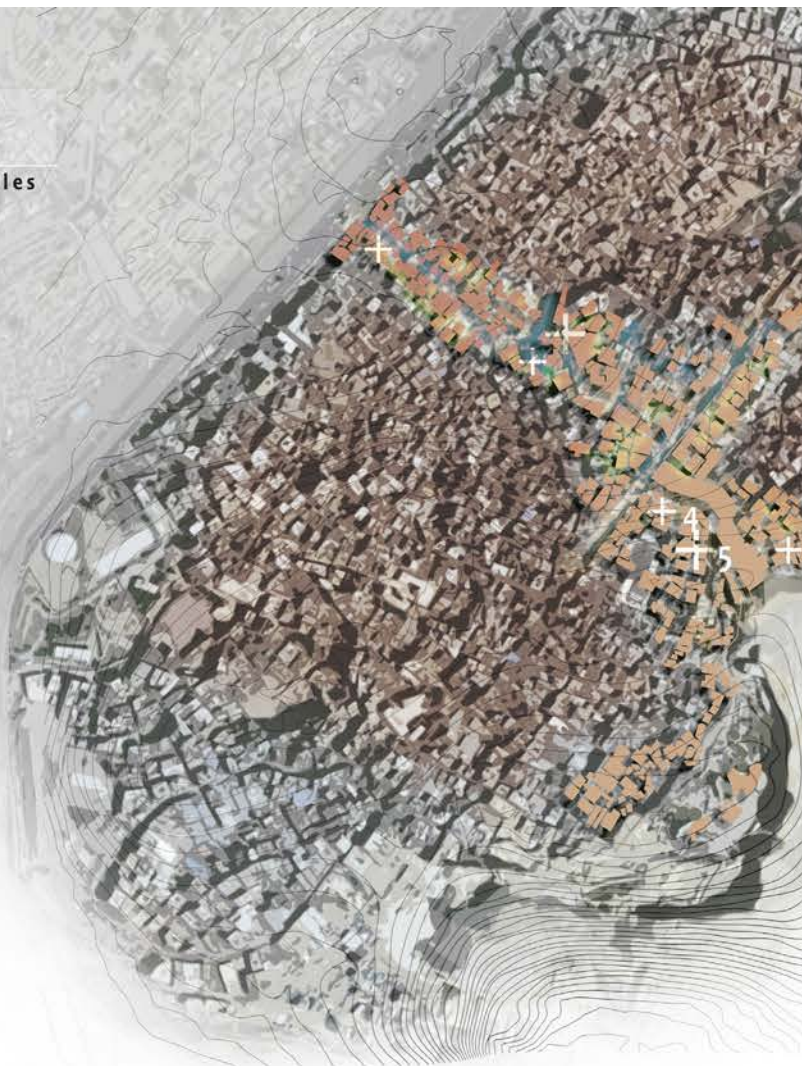
MANSHYET NASER

The Garbage City – Egypt's Untouchables



site plan
1:1500

The relentless growth of cities urges for solutions that relate to the improvement of levels of comfort in confined spaces for the well-being of the living quality of a citizen. This is especially necessary for a change in the forgotten community at the base of Mokattan hill on the outskirts of Cairo, Egypt - the world's largest garbage village: the garbage city. The first impression that strikes when one steps into this slum is the piles of garbage in nylon bags stacked, filling the streets, home to 60,000 people.



marketplace

trading within the local vicinity happens, usually there are no outsiders visiting the market



conditions of the streets

garbage filled the streets, poor sanitation and a lack of hygiene



rooftops left abandoned

rooftops are underused and mis-used to for rubbish to be thrown



paper

types of r

rubish w



Confronting Informalities - AA22

ReFORMING WASTE- PIPING MANSHYET NASER

New System for
Sorting Garbage

STRATEGY

Small Facade
InterventionsRooftops reused
for shared space

Ideas are hands-on, in the form of small-scale initiatives that uses the scraps and waste they have to convert them into reusable energy. A new garbage sorting system would be proposed, small scale facade interventions would be applied and the reuse of rooftops are to be for shared spaces.

Inefficient
Recycling System

PROBLEM

Poor Quality
of LivingLack of Shared
Public Spaces

With the lack of access to proper sanitation across the slum, it makes diseases easier to spread within the city. At present there is little provision of public spaces within the slum area and the infrastructures provided are fragmented, abandoned and therefore impractical to improve the living quality of the people. Heavily affected by the negative perception of the citizens in the city of Cairo towards the slum, Garbage city is one place not every local Egyptians would step in.



4

collection of rubbish

could be collected on trucks and
sold to third parties



rooftops as trash spaces

poor condition of the rooftop decreases the chances of it being utilised



6

streets piled with garbage

the children of this slum have gotten used to the fact that rubbish is a part of their lives

rubbish sorted



plastic



aluminium



site section

1

(PRE) Occupying Anchieta

Building Urban Inclusion in Peripheral São Paulo

SÃO PAULO, BRAZIL

LUCAS LERCHS
KU LEUVEN

KAROLINE ANDRADE BARROS
USP - UNIVERSITY OF SÃO PAULO

INTRODUCTION

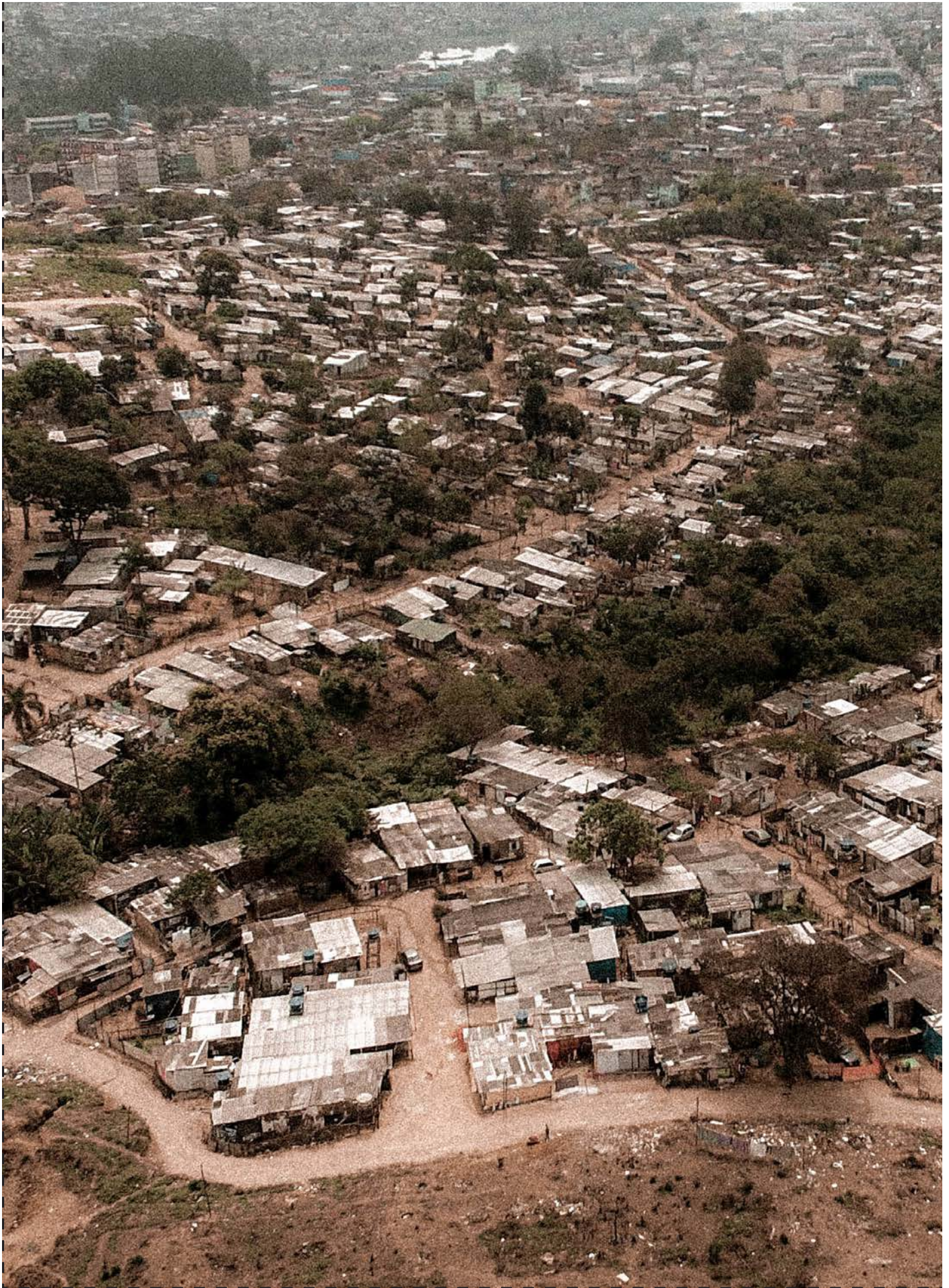
As many metropolis in the global south, peripheral neighbourhoods proliferate around São Paulo. These communities often suffer from marginalization in physical, as much as in social terms. Grajaú, in the South of São Paulo, is such a peripheral self-build districts, developed over time by claims for rights to the city. In this context, the community of Anchieta emerged in 2013 from the occupation of a private and environmental protected land. The owner of the land, a social institution that fights for the improvement of the peripheral communities' education is daily preoccupied with improving everyday living conditions of the community. The large NGO aims to build towards a peripheral living environment that respects the natural landscape, improves socio-economic conditions and offers opportunities for developing professional skills and education.

This project tries to learn from the Anchieta occupation its particular context how stigmatized peripheral dwelling environments can be improved towards more inclusive urban settings. The project is organized in three distinct lenses of the (pre)occupied site, analysing the environmental context, the built fabric and the social environment. This way, the research and design project seeks to illustrate the complex problematic of coexistence and interdependence in the peripheral city in the making, and allows for more inclusive future design scenarios to be imagined.

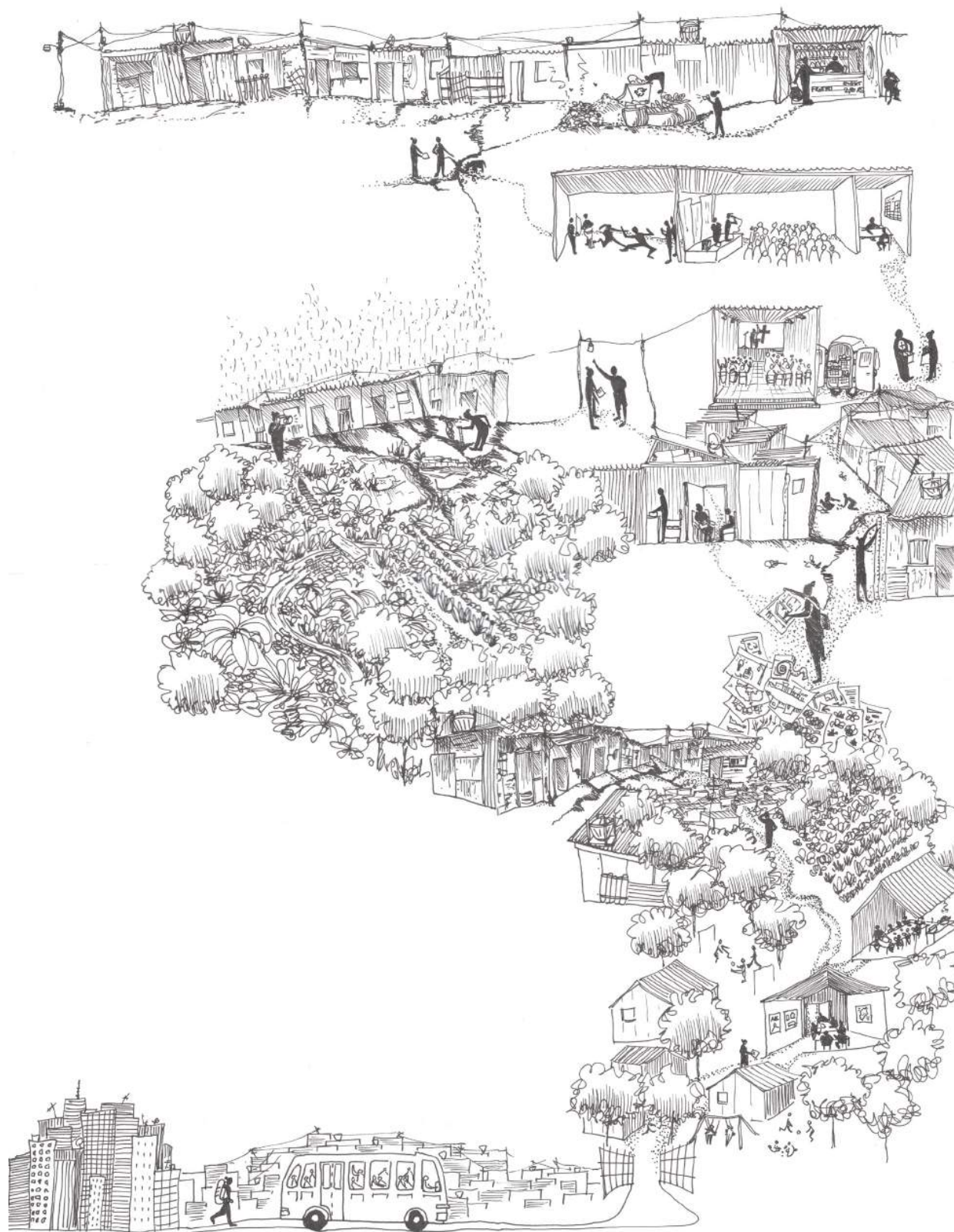
These three lenses are tested out in three particular readings of the site, iterating between analysis and project. The first understanding of the Anchieta occupation is realized 'from above', in a cartographic analysis. The second unfolds a look 'from below', developing an interpretative mapping that stems from specific trajectories on and through the site. Lastly, the third revisited the site through a design exploration.

The project offers an alternative to a global problematic and yet constantly neglected: the coexistence between a precarious marginalized population and disappearing valuable natural resources. In Anchieta, the land and its resources have been devastated with the same brutality that are neglected the vital needs of vulnerable populations.

In parallel to that, the strange and fragile collaboration between the land's owners and the occupant population turns Anchieta an exceptional opportunity for experimentation. These two groups are working together to develop an adequate and sustainable solution able to face the struggles and expectations of the various actors. This negotiation process for coexistence offers the opportunity to generate a pilot project tackling crucial challenges shared by contemporary informal development. Ultimately, this exemplar collaboration has the potential to generate a shift in the local mind-sets and hopefully influence legislative decisions in terms of socio-urban inclusions.



Aerial view of Anchieta's Community, IAG.





Children of the Anchieta's community, Lucas Lerchs.

CONTEXT AND PROCESS

Anchieta's occupation is a community that started from the invasion of the IAG's terrain - Instituto Anchieta Grajaú - in 2013. The occupants have devastated the hilly natural reserve by burning down the vegetation in the time of a weekend. Straight on the ashes, they constructed fragile wooden structures as their shelter's base to survive.

The owners of the land, unprepared to face such a violent and total loss of control over their property, directly initiate legal proceedings in order to evict the occupants. Waiting for the trial, the tensions became high between the Instituto Anchieta Grajaú, which is responsible for providing education to the region's children - and the occupants, who have become more numerous and organized themselves as the Anchieta Grajaú movement.

After changes of coordination on both sides, a dialogue is finally established between the two groups. Hence, from negotiations and collaboration an agreement was reached: the Institute allowed the population present on site to live on their while the community respect the rules set by the Institute in terms of environmental protection and necessary spatial changes.

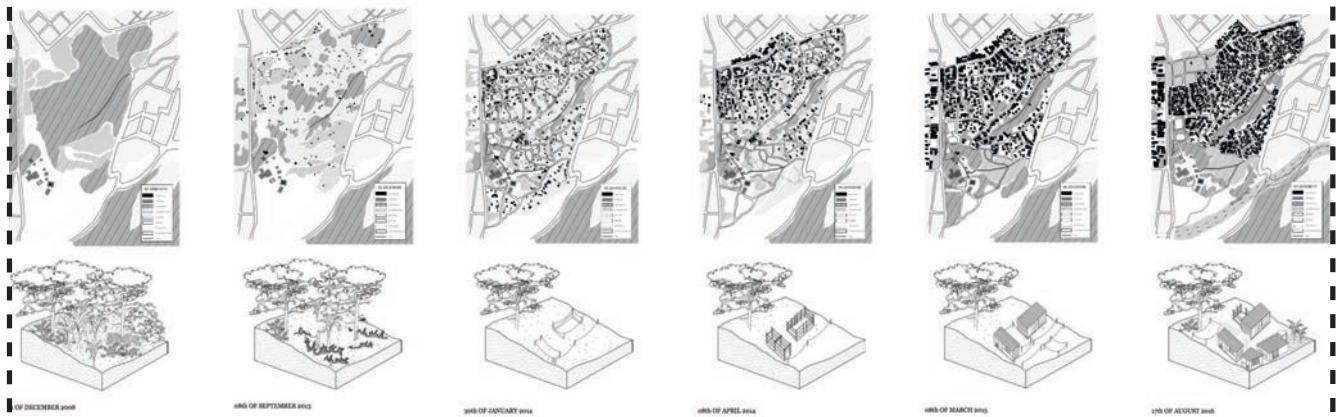
Since this agreement, both side have already proved their implication in the respect of their engagements. At the beginning of 2017, the Institute formed a research group composed of various professionals in order to develop an in-depth analysis and a project proposal in collaboration with the community. On the other hand, the community has already moved dozens of houses to release the margins and protect the water source passing in the centre of the land.

Nowadays, the community that lived since the invasion into a conflicting relationship with its natural environment is initiating a phase of gradual transformation in order to reconsider its natural context as valuable resources for development. Realizing a considerable shift, from their main threat to a catalysator for their survival.

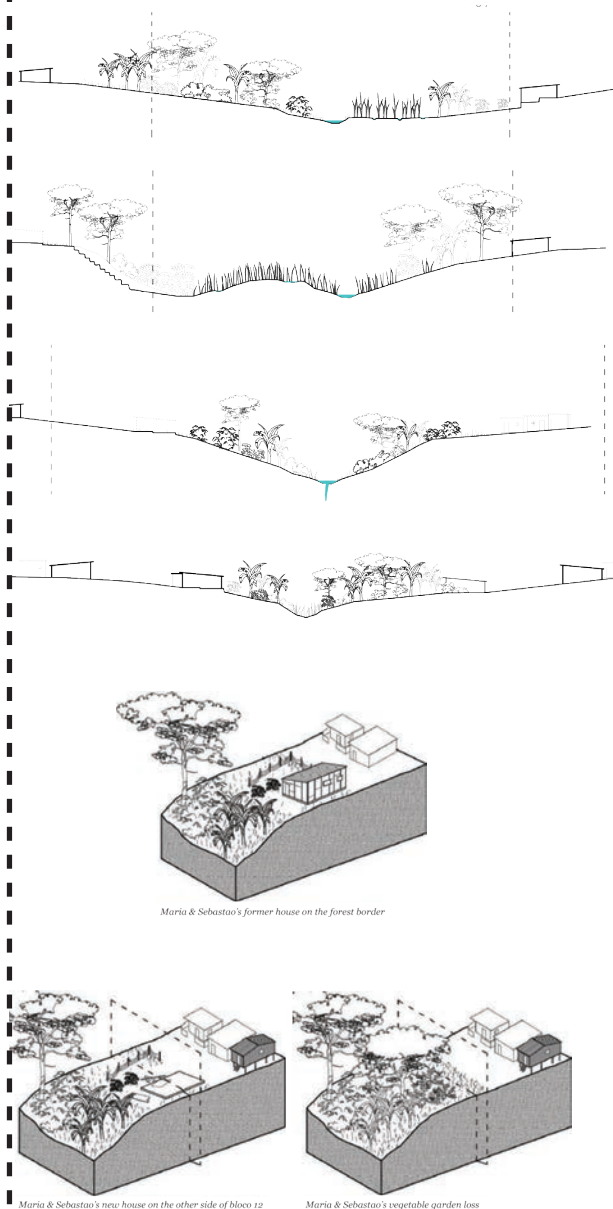
Based on the present strength, the project research method is based on "learning" processes that intervene in all levels of the realized work. From the study method in the on-site observing process – learning from and with them – it quickly became evident that our shared local & external knowledge would become the solid base to develop the strategies and the goal of the proposed interventions. This "learning" goal aims to support the complete community to be empowered by giving them access to proper spaces and external networks to develop their skills & knowledge capital. The local know-how is their greatest instrument for social mobility. Unfortunately nowadays it is hard for them to develop it, as they first have to deal everyday with their socio-economical struggles.

At this stage, the proposal remains an open window on the possibilities that the place has to offer and to give a chance to the most concerned actors to set the improvement mechanism off. Aware of the big probability of spontaneous and uncontrollable evolution, the project voluntary keeps a certain degree of un-definition, to give the necessary liberty for both people and nature living on site to appropriate it and make advantages out of it.

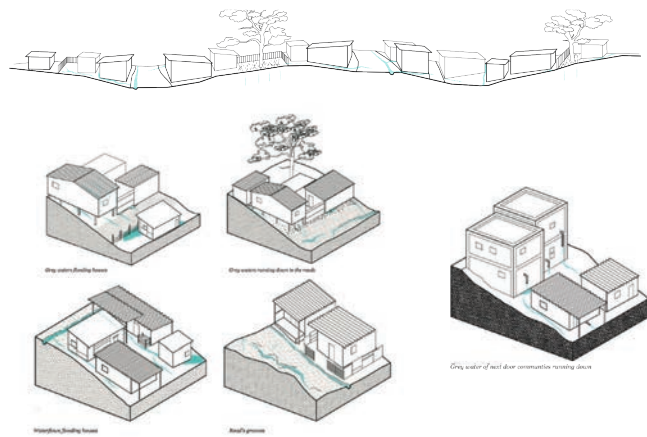
■ incremental occupation



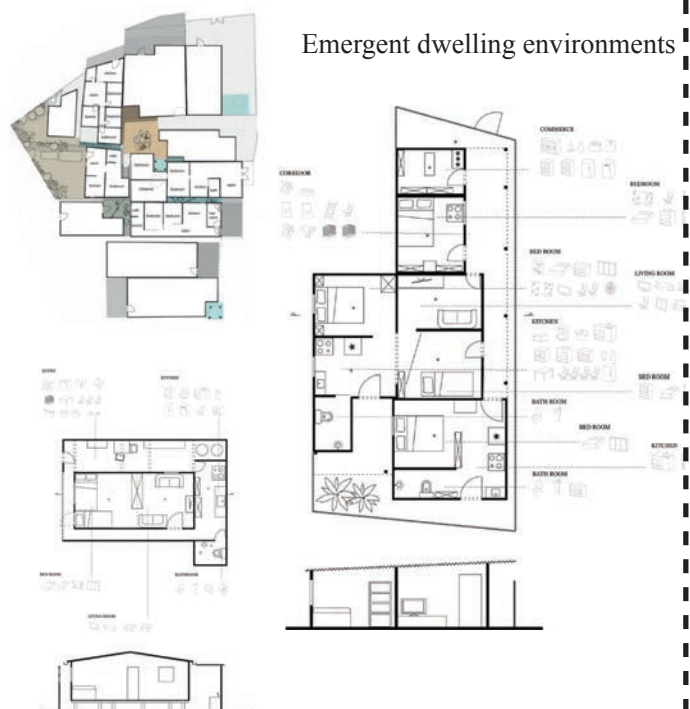
fire) occupying the forest



Settling with water



Emergent dwelling environments



DESIGN VISION AND STRATEGIES

The Grajaú district is truly marked by uneven topography, patterned by a dense network of micro valleys and streams. The no-man's lands where the precarious favelas settlements have to face a double geomorphological aspect: they are the in-betweenness of the city, where the residual territory comes from undefined spaces to incremental consolidation development, and they are the steady terrains, where extreme slopes and water flows have made the lands undesirable for constructors.

In Anchieta, the poor soil structure is even more weakened by the lack of proper drainage network: the actual informal streets of the community became open-air canals. Grooves appear all along the roads, carrying the water from top to down to the mine dug deeper when carrying water, waste and exposing the population to health issues.

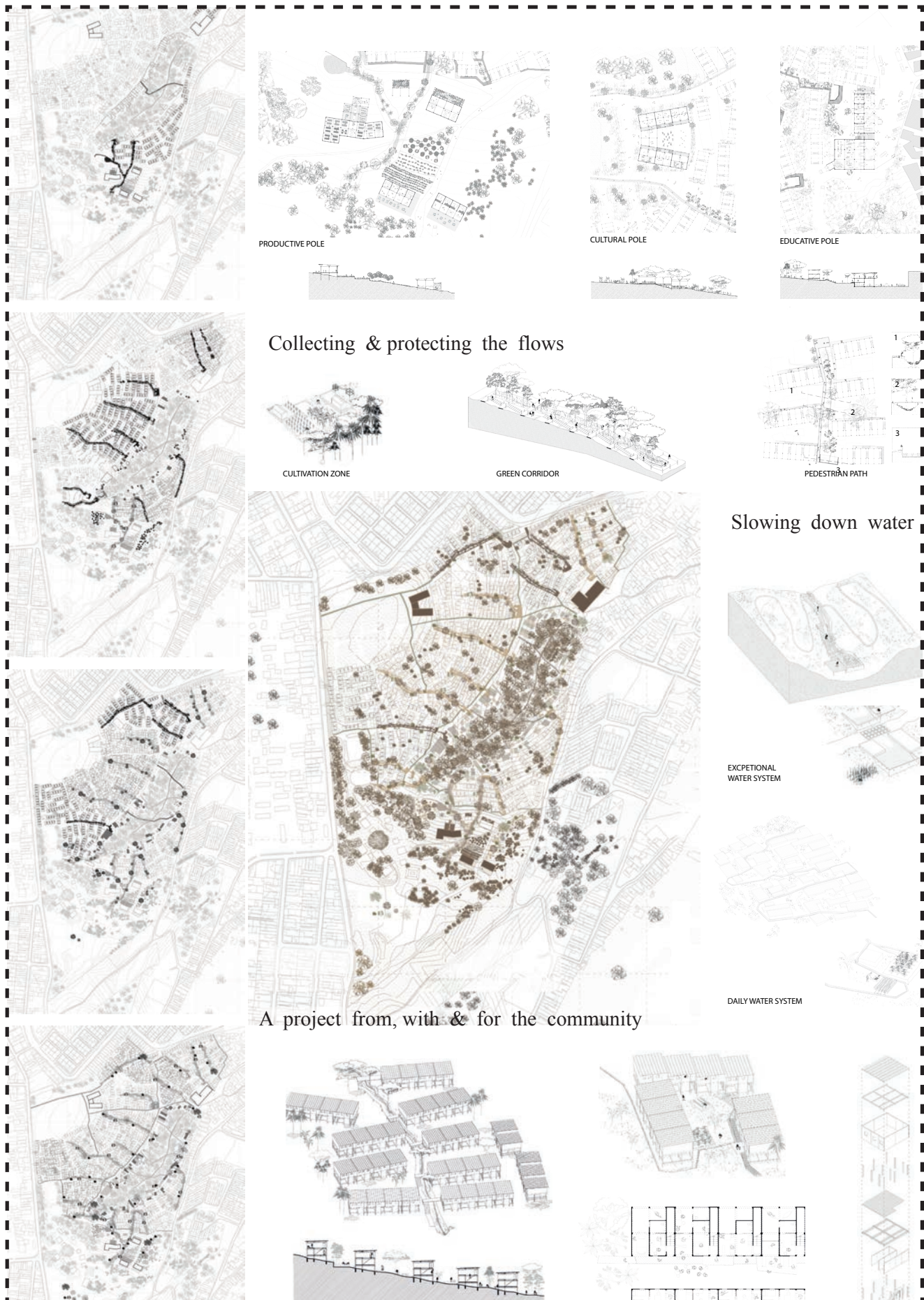
In the region, water is an uncertain resource. During wet seasons, it can turn into danger when it generates impressive floods, which sludge flows can be deadly. During dry seasons, it can become a commodity so rare that communities like Anchieta are sometimes deprived of it for several days making extreme heat unbearable.

DAILY WATER SYSTEM | First of all, long trenches will be dug following the topography, forming long trenches running along the hillsides. These coils will be used to collect rainwater every day. Collecting these waters and slowing down their flow by making them follow the topography, avoids soil erosion and allows the inhabitants to make use of these waters by deviating the common channel to water their crops or to use the water to other household needs. The inhabitants who built terraces there to install dwellings have transformed the land's morphology. Once former houses would be demolished, these man made terraces could be used as a support for the water harvesting system or to help its canalization.

EXCEPTIONAL WATER SYSTEM | At the end of its run, this daily water management network would pour into a second type of intervention, designed to receive more water: the exceptional water system. This exceptional water system consists in an important digging and reinforcement of the ground where the waters naturally meet. The purpose of this intervention is to be able to create a corridor to direct the important waterfalls, more rare but more devastating. These exceptional water corridors make it possible to protect the area of greater risk of erosion as well as to collect these waters in basins situated at their end. These basins, which are also useful for filtering the water from the waste it could have carried on, allow the inhabitants to temporarily use this water stock as a precious resource. A surplus allows the water to over flow and finishes its course in the bottom of the valley, in the creek that crosses the community.

VEGETATION | This diversity of environment makes it possible to generate various vegetal systems whose interaction improves simultaneously the quality of life of the inhabitants and contribute to the rebirth of this precious flora. The first intervention is to implement an "exceptional water system" with native vegetation whose rooting would help to solidify these soils. This intervention would also help regenerate corridors of the Mata Atlantica – national protected vegetation – and locally regenerate this resource that needs to be re-established in the all region. In addition, these vegetation corridors would allow the regeneration of an absorbent and adapted green mass in order to take advantage of these large quantities of water that will be redirected in this corridor. These important interventions also make possible to take advantage of these facilities to add pedestrian traffic to these steepest areas of the community and that would create natural sub-divisions between future housing groups.

The central zone of the community contains the native vegetation to conserve and to replant throughout the territory of this nature reserve. In order to protect this vegetal resource, a transition zone will be established on one the edges of the natural area. This entire surface, composed of many terraces formerly inhabited, will accommodate food production areas as well as areas of reforestation of native vegetation. This production surface also allows maintaining a distance between the implementation of human activities and construction, and the native vegetation reserve.



In the case of Grajaú, we are dealing with an area disputed by complex forces. The more visible are essentially socio-spatial features but there is also a layer of influence embedded in politics, policies and actor's governance. Situated at the periphery of the periphery – in local perspective, where the city begins - this population is exposed to all lack of basic needs and infrastructures. Nevertheless, their adaptations to survive in these unclaimed territories made visible the consequences of unplanned urbanization. This key aspect of the situation can raise potential governmental funds and supports but it can also trigger conflict of interests. The daily struggles from local population are in need of actors' collaboration to answer urban contemporary challenges and should alarm planning authorities. For instance, through the lack of formal systems of garbage collection and sewage network, the settlement simply can't evacuate its daily waste. Black and grey waters, organic waste, non-biodegradable and, residual materials from building activities all end down in the creek. This generates health issues, pollution, insecurity, stigmatization and isolation population.

In order to meet this essential demand, the project develops three poles whose objective is to simultaneously physically and socially reconnect Anchieta with its close context while providing places of learning where the exchange of knowledge can take place. The development of its poles will serve as a motor for meeting actors, for transmitting knowledge & skills and - finally for generating income for the community's inhabitants. These poles have the ambition to answer the urgent need of gathering places has consequences on the whole community and sub-community life in Anchieta. Lastly, the poles can become the initiation of diverse complementary productive activities, micro-economies that emerged from the new skills or knowledge acquired.

First a 'productive pole' redevelops plant resources in this natural reserve. This place is designed as a production center mainly of seeds and young shoots, which can then be, planted in the vegetal production & regeneration green areas of the whole community.

Secondly, a 'cultural pole' meets a critical need for activities for young people. The culture, used as a form of creative resistance in the whole region, is strongly absent in the community. The ingenuities to develop it are however already present but are lacking of basic financial support and adapted infrastructure. The objective of this pole is to also be an open place to the public outside the community to establish a two-ways inclusion: the people from the community are more in contact with their surroundings but also to welcome the people of the surroundings to come and participate in the development of the project.

Finally the 'educational pole' is located at another boundary of the community. This location is strategically located at most socially precarious part of the community. This pole consists of two buildings: the first one being a workshop and classroom building, and the second one consisting in a waste recycling station and sales premises for the recycled materials. Inspired by small-scale local initiatives, these functions could become part of wider network already gradually regenerating socio-economic conditions in the region.

HOUSING | Sao Paulo has become a city of two faces. Separated between the city center, where most advantaged populations live and the surroundings of it, where vulnerable populations keep on establishing themselves. The last challenge of the project is providing an appropriate housing that could contribute towards social inclusion. Considering the city in its current state, in its larger scale and with all the potential it has to offer, this inclusion will not occur only by integrating the peripheries into the formal system but by considering these surrounding communities as part of a whole. Anchieta then cannot be just seen as another peripheral community that needs to be regularized and consolidated in order to become one day likewise the centre, but as another part of the city to take into account while imagining the evolution of Sao Paulo.

The project proposes to only provide the essential solid wood structure being thought as a basis for a development and a more personalized subdivision for each family. Dwellings with a built area of 54.5m² can be enlarged and developed up to 84m². The inhabitants are themselves responsible for the maintenance and development of their own housing. They own the elements they add but the ownership of the soil as well as the construction remains to the Instituto Anchieta Grajaú, the legal owners of the land. The implementation of housing clusters make possible to generate collective micro-spaces that existing sub-communities can easily take over while providing more resilience to the entire community.

Nowadays the official status of the area still under "ecological protected area". The government while negating the human occupation generates a fragile protection concerning eviction but also doesn't enable the population to benefit from all social support. Nevertheless, by using creatively this hybrid status, the project has the potential to negotiate alternative structures towards social inclusion.

City in the Making

Platforms to an enduring Resilient Development

LEUVEN, BELGIUM & SÃO PAULO, BRAZIL

MATTHIAS LAMBERTS, KEN VERVAET, LUÍZA CIRILLO, JEROEN STEVENS (MENTOR)

KU LEUVEN

SUSTAINABLE RESILIENCE

São Paulo is subject and the endlessly provisional product of a plethora of occupations carried out by a multitude of miscellaneous movements. By squatting open interstitial and residual spaces in the rapidly dispersing metropolitan area, these movements provide shelter for those excluded from formal housing. By mobilizing, organizing and supporting settlements on the one hand and by initiating waves of occupations on the other, these movements enforce peculiar urbanization processes. One neglected terrain after another is seized and remodelled for accommodating sem-tetos.

In its first stages, the young occupation remains prudent towards its surroundings, fearing eviction and rival groups competing over the land. The provisional campsite, generally walled off from its surroundings, is strategically located at the edges of the city, often residing in between high-rise condominiums, non-residential buildings and alongside infrastructures or waterbodies. Only slowly, the occupation opens up towards the urban tissue, feeding on its commerce, services and jobs and looking to lure in commercial potential.

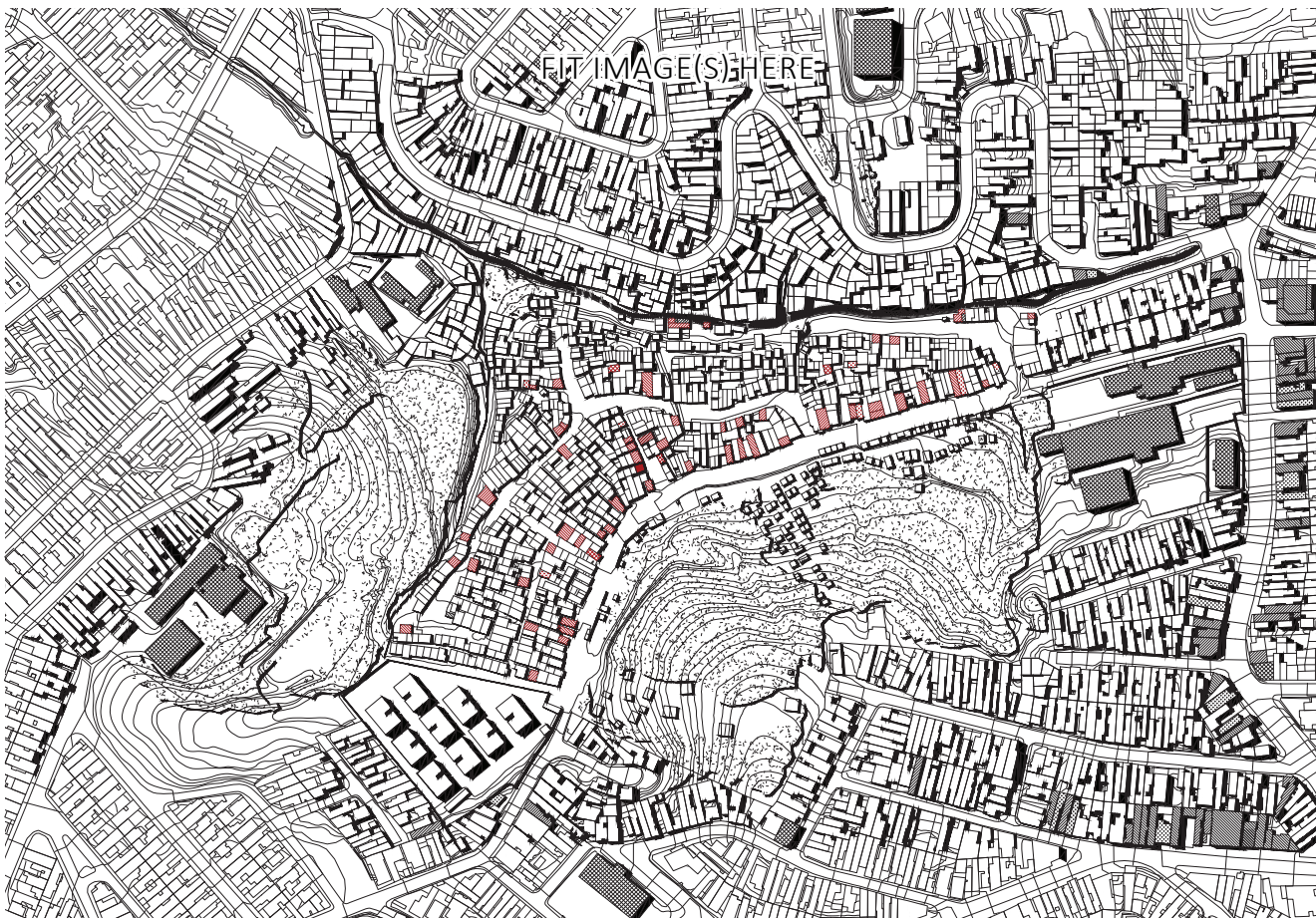
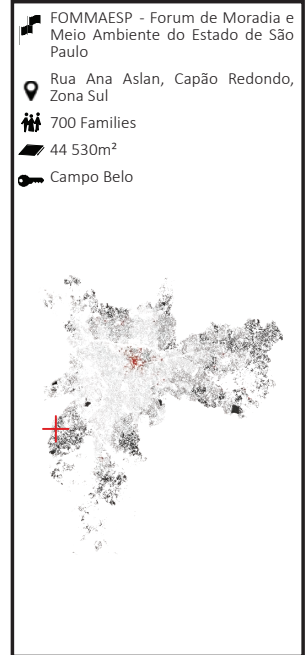
Meanwhile, the movements proudly display their banners, openly criticizing and reversing the lamentable quantity and quality of social housing. The occupations are made visible, as strongholds to fight against housing inequality, marginalization and eviction, at the vanguard combating for a sustainable development, such as amongst others stated by the UN's sustainable development agenda.

Marked by insecurity of staying and uncertainty of long-lasting legal frameworks, the dwelling environment takes the form of an ever changing, perpetually reconstructed building site. The nomadic-like lifestyle of the squatters propagates an architecture of constellations that is perpetually under (re)construction. The nomadic architecture is a bricolage of easily demountable materials like timbre and wooden or corrugated fibre plates, piecemeal consolidating in more durable materials. Almost simultaneous to the sprawl of units, access to services and public goods is laid out. While individuals and families come and go, the volatile settlement consolidates into an urbanity-in-the-making.

In short...

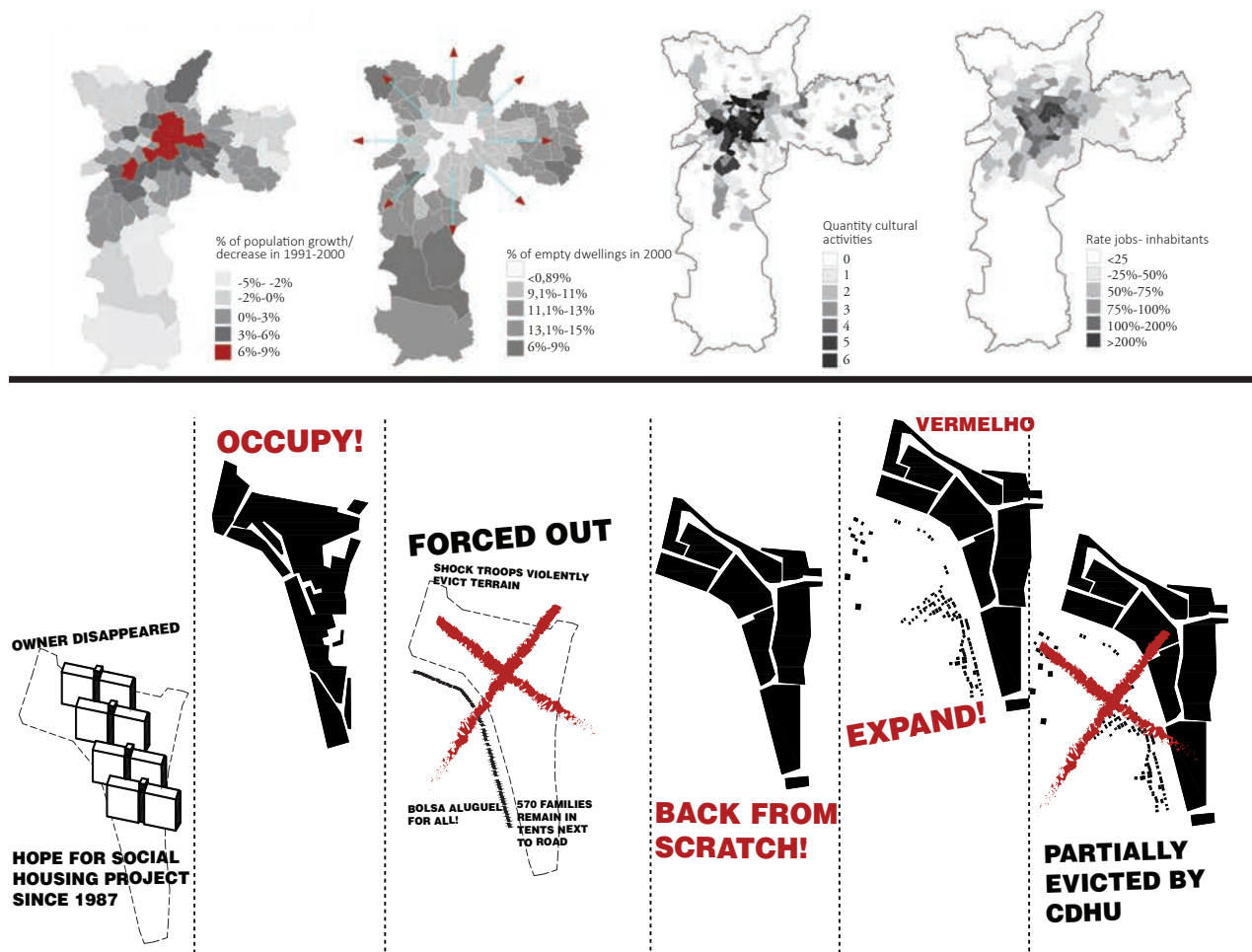
Like a living organism, the occupations react to their surroundings and inner-fluxes in the most flexible way, balancing temporality and permanence, inclusiveness and exclusiveness, forecasting and staging, invisibility and exposure, marginality and centrality. Their resilience is their main strength. If one gets evicted, ten others will appear. However, despite an evident social agenda and autonomous self-organisation, these occupied spaces remain subject to precarious and often hazardous living circumstances, social and economic segregation, limited spatial planning and destruction of green space.

This proposal will illustrate how urban design can offer the framework to offer a more sustainable development, while safeguarding its indispensable resilient character. The landscape will act as a platform conciliating urbanity-in-the-making with nature and different stakeholders involved. Doing so, this proposal offers an alternative and critique to the common approaches of expulsion, common tabula rasa, or laissez-faire politics.



	PUBLIC SHELTER				
	COMMERCE	BA	BAR	GR	GROCERY STORE
	BARS AND RESTAURANTS	HS	SELLING FROM HOME	BS	BODY SHOP
	PRIVATE SERVICES	BZ	BAZAR	HD	HAIR DRESSER
	PUBLIC SERVICES	FU	SECOND HAND FURNITURE	SCH	SCHOOL
		PL	PLANTS	CH	CHURCH
		OI	OLD IRON	UBS	BASIC HEALTH UNIT
		SM	SUPERMARKET		
				RES	RESTAURANT
				SB	LANCHONETE OR SNACKBAR
				CL	CLOTHING STORE
				CM	CONSTRUCTION MATERIALS
				FF	PHOTOGRAPHY AND FILM
				GS	GAS STORE

Fiche Olga Bernário: a dense occupation on the verge to become part of the city.



Suburbanization of São Paulo; Occupation Olga Bernário, a long struggle; Map: Cluster of the dense tissue of dwellings.



Picture: the dwellings excavate themselves in the steep hillside along the Engenho creek

OLGA BERNÁRIO - AN OCCUPATION ENTERING THE CITY

The occupation Olga Bernário, sitting on a hillside along the Engenho creek, stretches over a vast site of 45.000 sq. meters in the Southern district of São Paulo. The terrain got occupied by a handful of families in April 2014, under the banner of FLM, Frontline in the Fight for Housing. The terrain got drastically repurposed once again after serving at best as a large dump for outlived automobiles, a bus stand, even hosting an occupation settlement five years before- from the same movement admittedly. The occupation evolved rapidly to a dense settlement, housing more than 700 families only three years later.

The provisional campsite is at its turning point to become a more permanent built environment. However, fear from eviction still prevails and the nomadic architecture lasts, thus suffering putrefaction, mould and stink due to moist, water infiltration and little ventilation, lack of direct sunlight or artificial lighting, and as good as no acoustic or thermal insulation. The inadequate living circumstances attract vermin like mice, rats and cockroaches and are cause to little hygienic comfort and numerous diseases.

Meanwhile, even though the occupation remains distant from the formal market, it has become a breeding ground for small initiatives, indispensable for many households to gain a small income. Initiatives sprout vastly but volatile. Moreover, the occupation is increasingly dependent on the surroundings for its job market, social infrastructures, commerce et cetera, despite poor accessibility to formal services and jobs. Likewise, the accumulated budget and workforce generate opportunities for the surroundings as well.

The temporal character at the initial phases of the occupation has resulted in little spatial structure such as open space, let alone qualitative public spaces. Newly built dwellings continuously plug in on the existing tissue, further narrowing alleys and open spaces. Remaining green spaces are further deforested and surfaces are increasingly hardened, resulting in accumulated water speed and erosion, critical overloads of the creek, and flooding and -in exceptional cases- washing away of dwellings.

In short...

The movement, although committed to ecology and social engagement, has difficulties in combining the residential with the non-residential and in safeguarding nature. Instead of providing open spaces and facilities, ecological and social well being are ignored and even opposed. This was illustrated during a biannual occupation wave in 2016, where the occupation expanded towards the neighbouring terrains. The expanded occupation was evicted again only few months later, but the green hillsides suffered huge damage from cutted trees and dug platforms for dwellings.

At its turning point to consolidate, it is clear the occupation offers refuge to the poor, who have no other option than to claim their own piece of land. Meanwhile, it also necessitates a strong framework to guide its further development. Design, we believe, can offer such a framework, working together with the movement's agenda for sustainable development and facilitating security of tenure.

A MOSAIC OF MICRO-CRACKS

As the dwellings excavate themselves into the sloping landscape, a mosaic of micro-cracks and related hardened platforms disturb the natural water flow.



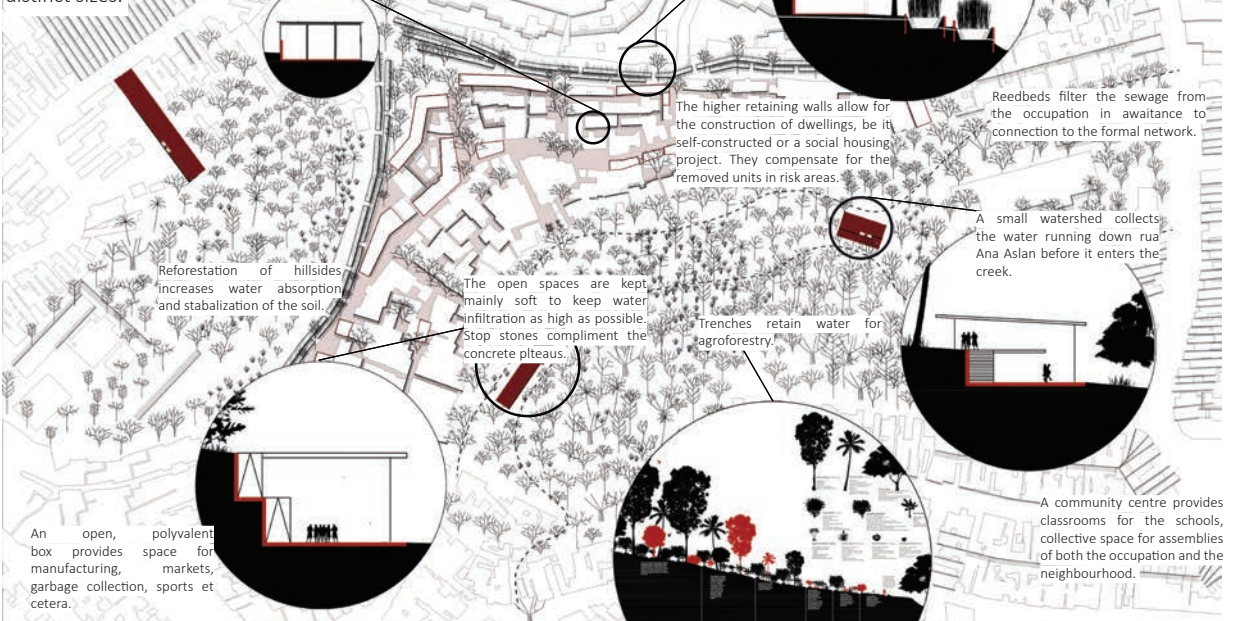
GUIDING THE WATER

Stabilizing the cracks by retention walls to drain the dwellings form the pretext to temper the waterflows. Where considered necessary, dwellings are relocated to underscore a continuous retention wall.



A SUBSTRATE FOR INITIATIVES

Retaining walls stabilizing the microcracks both consolidate the existing dwellings as offer the substrate to implement new housing or social facilities. At the same time, they shape the composition of squares of distinct sizes.



Multipurposed platforms: 3 steps towards improving housing conditions while safeguarding the occupation's resilient character.

PATCHWORK OF PLATFORMS ALTERING THE LANDSCAPE

As the squatters construct their living environment, each dwelling excavates itself in the gently sloping landscape. As such a patchwork of micro-retaining walls and hardened horizontal platforms comes about along with the occupation's gradual densification. Altering this topographical patchwork can steer further urbanization processes and provide an underlayer for a more sustainable development. The landscape serves as a common ground on which both the environmental as the urban get conciliated.

Firstly, stabilizing and consolidating the retaining walls and horizontal platforms redeem the dwellings from rot and flooding, thus restraining vermin and disease. The platforms literally form the footprint for dwellings to be constructed or to be consolidated. Strategically (re)positioning the retaining walls forms the pretext to structure the consolidating tissue; relocating dwellings from risk areas along the stream, densifying where deemed favourable and vacating to create more open space and wider alleys. They both pin down the existing dwellings and offer the substrate to implement new housing, be it self-constructed or a social housing project. As such, by removing on the one hand and densifying on the other, houses in unfavourable locations can find new ground somewhere else within the occupation.

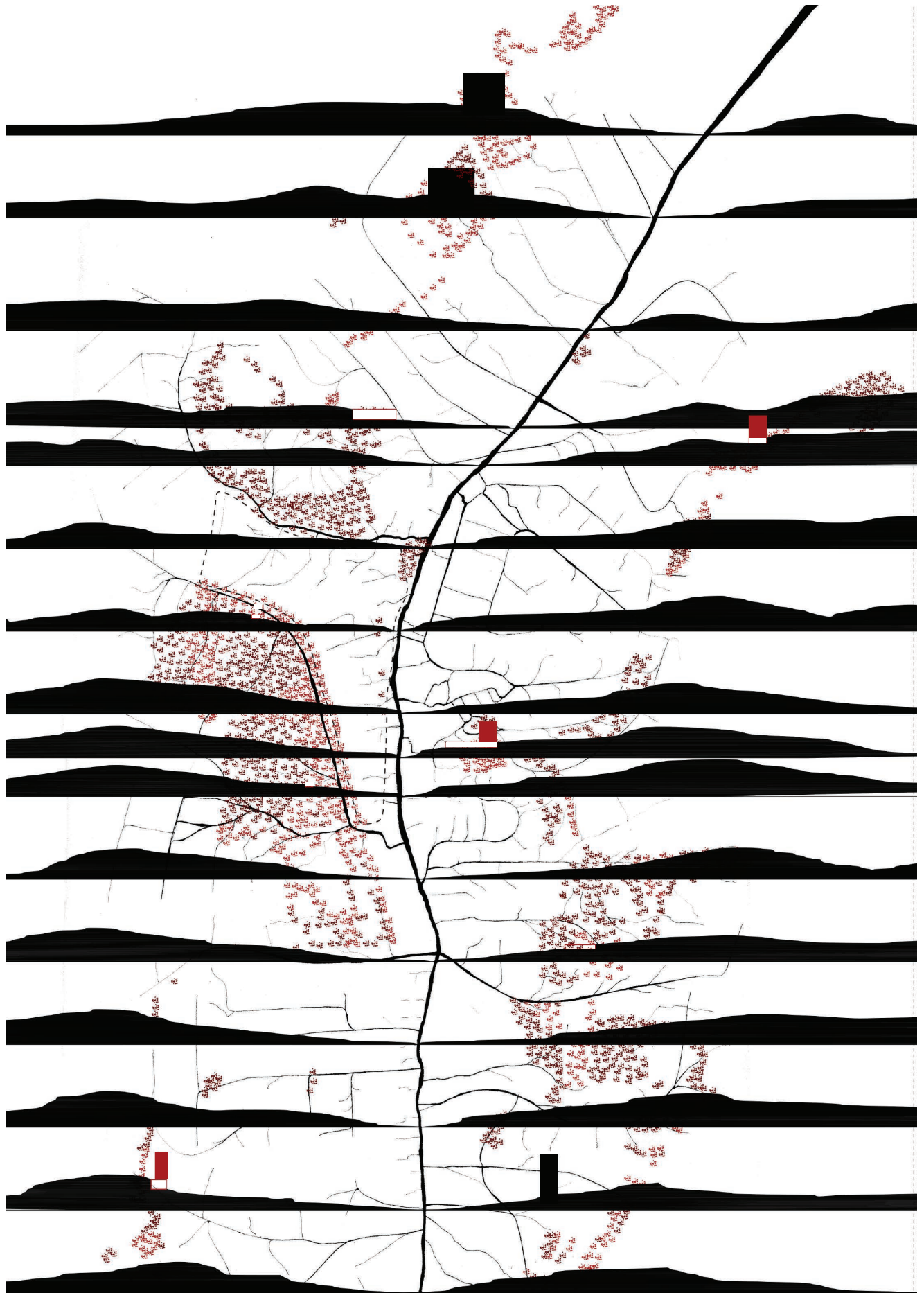
Secondly, altering topography and waterflow can serve as the main design instruments for a conciliation between the ecological and the urban. These alterations are combined with reforestation of the ambient hillsides, creating new grounds for opportunity of use and worthy open space. A maze of the retaining walls bends the water flows and slows it down on its way to the creek. They offer the composition of pathways and squares of distinct sizes, serving from small communities to the entire occupation. The open spaces in the occupation are mainly of soft infill to allow for water infiltration, embedded with step stones to complement the concrete platforms of the housing units. Reforested and soft surfaces mitigate erosion and enhance infiltration. The trees are strategically chosen according to the soil type, their ability to provide shadow to open squares, and other attributes. Mosquito ousting trees are applied to counteract diseases like malaria, Zika and dengue.

Finally, the platforms and retaining walls of distinct sizes could serve multifunctional purposes depending on the current needs, but crucial to combat poverty and marginalisation. The terraces could be used for commercial activities, greening or leisure – why not a basketball area or a podium for dance and theatre? Along the creek, terraces mitigate the steepness and give place to reedbeds filtering the occupation's grey water - a provisional solution until it can be locked to the formal sewerage system.

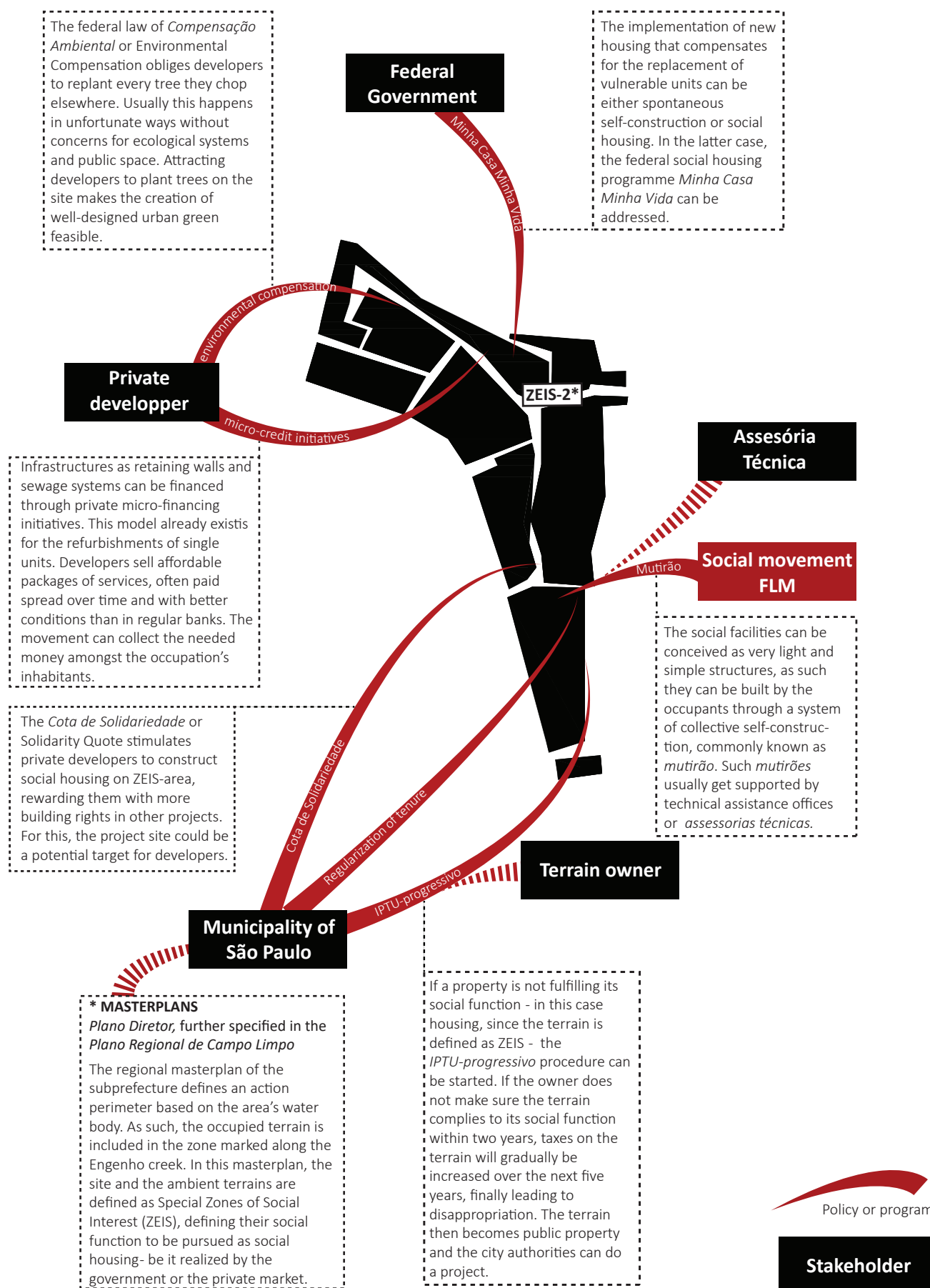
In the forests surrounding the occupation, macro-platforms and -retaining walls embed social facilities. The urban facilities with a broader scope than the occupation safeguard the green by providing a continuous use to the forest. Where natural topographical cracks used to be areas of impeded accessibility, the new social facilities become places of interchange between the settlement and the forests and with the entire neighbourhood. Again, similar to the approach within the settlement, the platforms allow for low-cost light structures to host programs that can easily adapt to the current need. Programs can include a community centre, a market connected to the productive hillside, garbage collection and car- manufacturing workshops. All can be partially used by the adjacent school, by the movement, by neighbouring committees or individuals. The transformation from vacated terrains to a park structure hosting social facilities contributes easily to the government's masterplan of greening and socializing the Engenho creek. The design scenario gives an answer to the main ambitions of this masterplan: demanding for public equipment and qualitative open public space, improving water management and addressing the poor housing conditions.

To ensure the project's feasibility, actors from as well the public, private and popular domain will have to be addressed. Rather than one all-comprising undertaking, a variety of complementary policies, programs and funding will support a phased urban transformation process.

By applying likewise strategies over the Engenho valley, the occupation gets inscribed within a bigger, longitudinal entity along the valley. By creating a landscape that gathers different stakeholders and that combines urban renewal with ecological restoration, the design proposal integrates the occupation in the city and gradually prepares it for regularisation of tenure.



By applying likewise strategies over the Engenho valley, the occupation gets inscribed within a bigger, longitudinal entity along the valley.



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CITY IN THE MAKING

AA24



OLGA BERNARIO

FOMMAESP - Forum de Moradia e Meio Ambiente do Estado de São Paulo

Rua Ana Aslan, Capão Redondo, Zona Sul

700 famílias

44 530 m²

Campo Belo

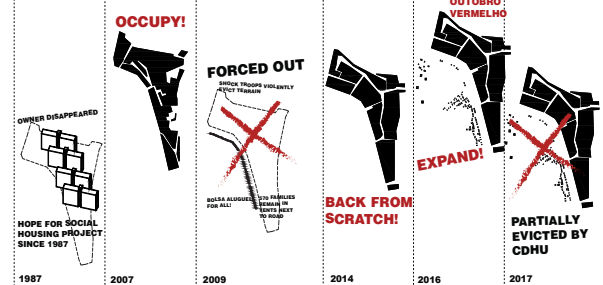


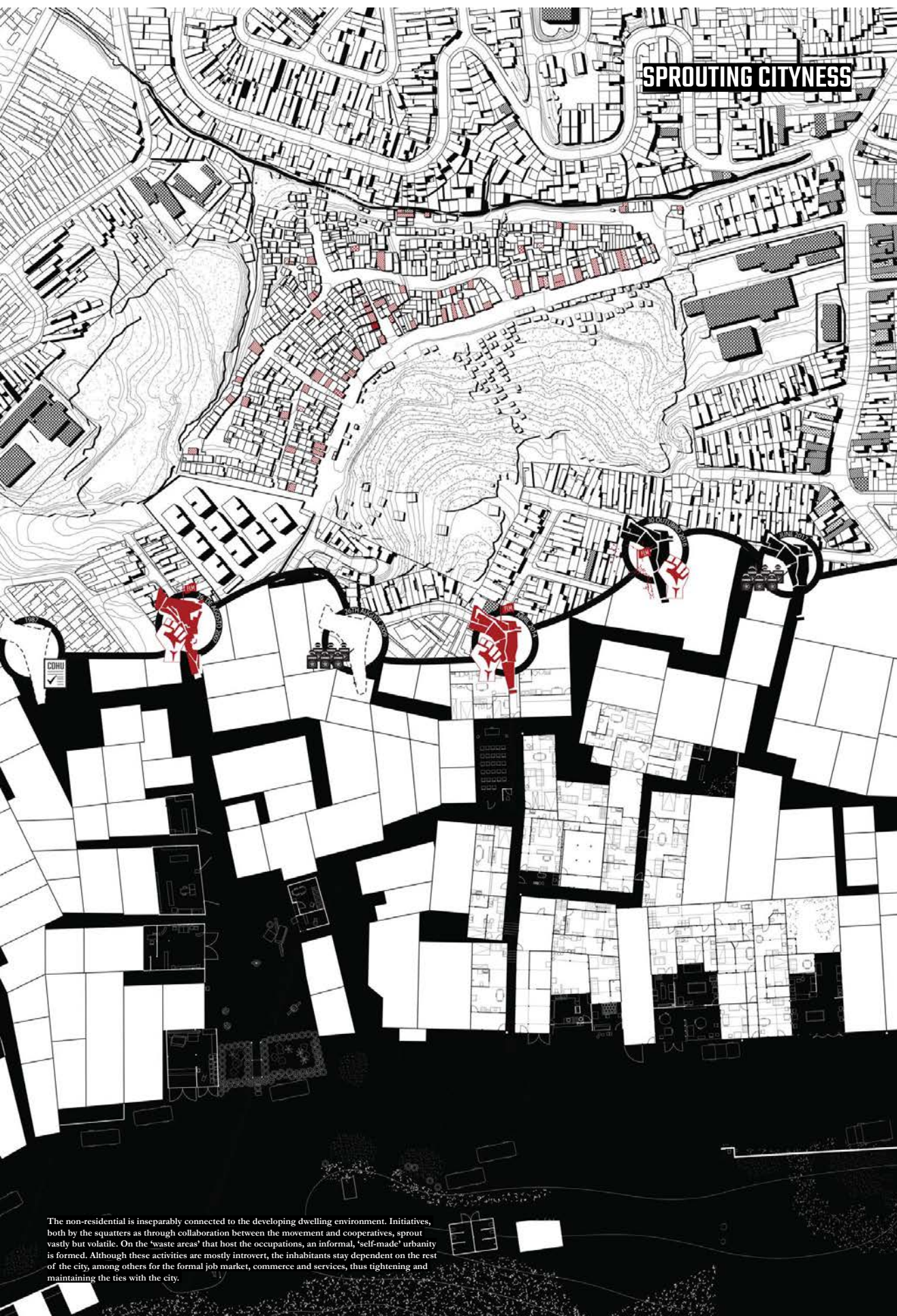
Olga Bernario, aka 'Ocupação Engenho', is located in São Paulo's Southern district of Capão Redondo, along the Rua Ana Aslan. The vast site of 45,000 square meters underwent a remarkably turbulent history. The large terrain, sitting on a hillside along the Engenho creek, is destined for receiving a social housing project already in 1987, approved and all by the Federal Economic Bank in Brasília. The transport company Campo Belo that owns the terrain however retains from selling the site, despite vast debts with the World Bank. The terrain remains abandoned, serving at best as a large dump for outlived automobiles. But on the 26th of August, 2007, some 30 families of FOMMAESP (Forum de Moradia e Meio Ambiente do Estado de São Paulo), one of the founding members of the Frente de Luta por Moradia, occupy the terrain. A communal barrack is constructed out of wooden beams and plastic sheets, and the large junkyard is cleaned out. In October 2008, Campo Belo demands an eviction. At that time, already 400 households have established themselves a living on Olga Bernario. The movement manages to withhold the clearance, but governmental officials do erect a wall along the Rua Ana Aslan for shielding off the occupation. Still, on the 26th of August, 2009, at 4:30 am, the street is barricaded by military shock troops. The occupants throw up their own barricades for self-

defence, but the military's tear gas bombs and batons find their way through. Meanwhile, one of the wooden barracks takes fire, destroying numerous dwellings. After the violent standoff, 570 families are brought back to square one, homeless, and as a last resort they squat the street in front with impromptu plastic coverings for the following weeks. The complete occupation is meanwhile eradicated, and soon turns again in a dumpsite.

In April 2014, FOMMAESP reoccupies the terrain, partly with families that were expelled from the place 5 years before. Two years later, the terrain is completely occupied again, with more than 700 families inhabiting the site. The dense dwelling environment becomes a breeding ground for small initiatives, and local businesses allow more and more households to gain a small income, while tenure remains highly insecure. During Outubro Vermelho in 2016, the occupation expands towards the neighbouring terrain, where the state's social housing company has been promising a housing project. Movement members start to clear the ground, cutting trees and erecting the first barracks. But in June 2017, the housing company evicts the families. The major occupation aside remains untouched, and inhabitants await cautiously for negotiations to bring hope for more permanent housing options.

A LONG STRUGGLE





The non-residential is inseparably connected to the developing dwelling environment. Initiatives, both by the squatters as through collaboration between the movement and cooperatives, sprout vastly but volatile. On the 'waste areas' that host the occupations, an informal, 'self-made' urbanity is formed. Although these activities are mostly introvert, the inhabitants stay dependent on the rest of the city, among others for the formal job market, commerce and services, thus tightening and maintaining the ties with the city.

Reflecting Informality on Renewal Strategy

Using and developing existing knowledge

ADDIS ABABA, ETHIOPIA

LELISSA ERKISSA KASIM, BOJA MULUNEH MERDASA

EIABC

REFLECTING INFORMALITY

The issue of informal settlements involves a wide range of subjects including social, economic, spatial, legal and political aspects. These aspects in relation to a given context create phenomena that are very complex. The unique social context also provides a wide range of possibilities in the definition of urban life, making it a real challenge for architects to take positions. Setting the boundary of a research project of a complex subject with little locally based background material is challenging. It is, however, necessary to define a boundary in order to cope with the limited time available.

The overall objectives of our project are to assess the opportunities and challenges of informal settlements and identifying a new approach to tackle the challenges.

The majority of the inner-city dwellers are tenants. Further in the inner-city due to the attractiveness and importance of space there is relatively greater “friction of space”. Based on this contextual rationale the main question is raised:

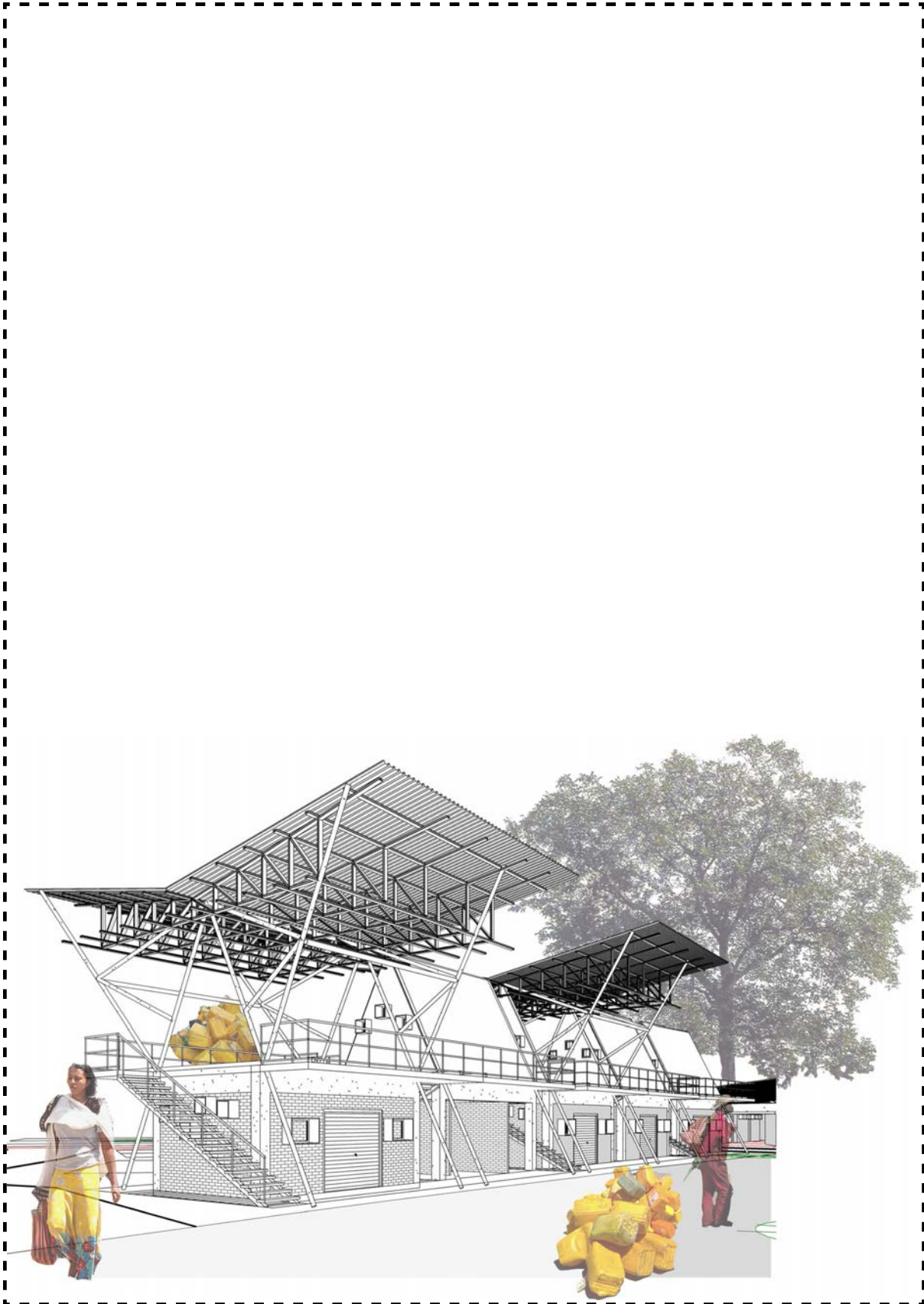
How to improve the living condition of slum dwellers in a way that respecting the tradition and identity of slum dwellers’ normal day, working and social life and enhance the essential parts of the existing slum housing?

Shouldn’t we be trying to accept slums as permanent (not the quality of their physical states, but their location and their strong socio-economic pattern)? Don’t the slums need more fixed solutions that can help them improve their chances of permanence rather than accommodating the transitory nature of slum clearance policies?

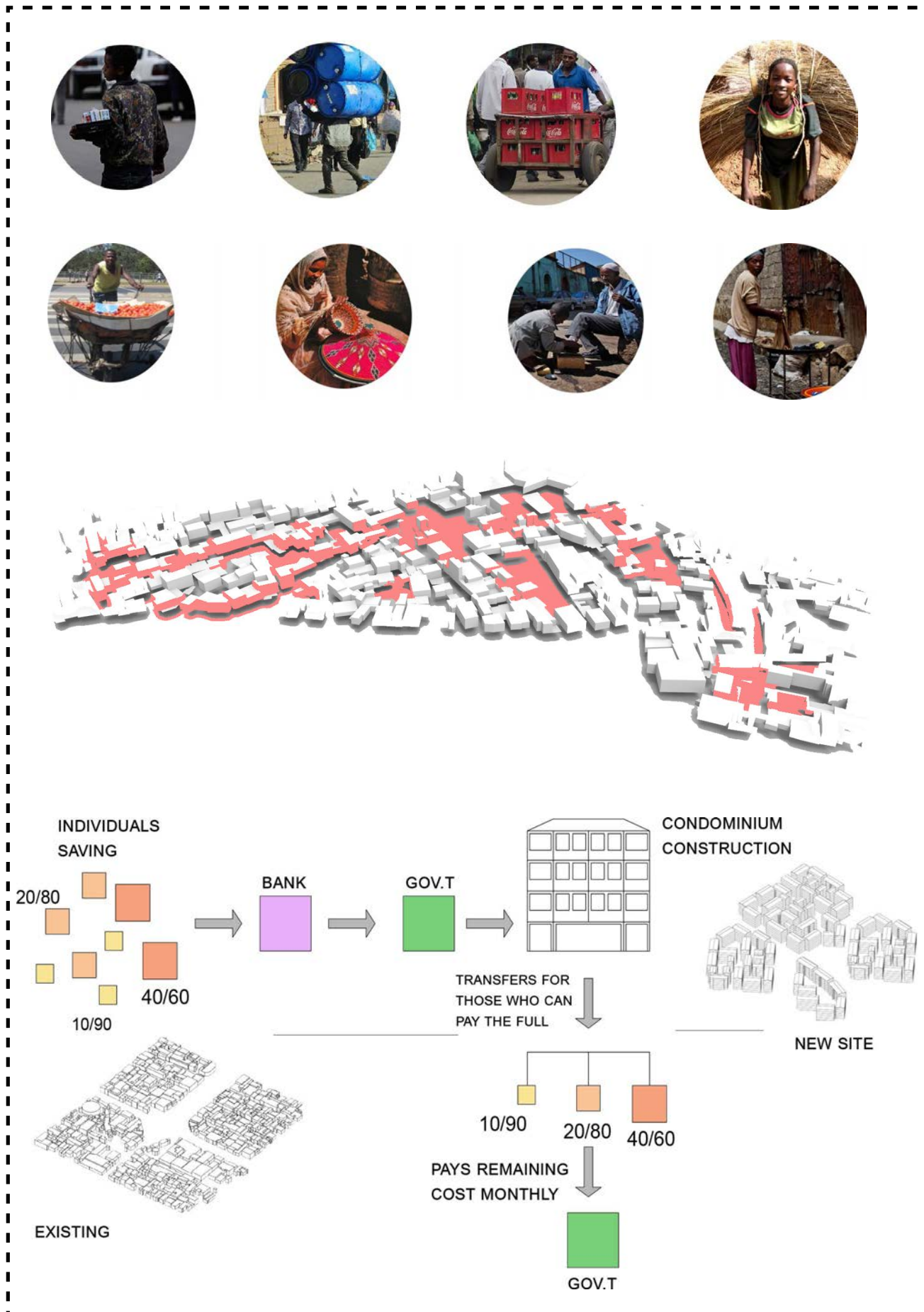
The purpose of this project is to give a proposal of how an informal settlement can be improved with respect for local traditions and culture that will strengthen the community. But this proposal has to be adaptable in order to fit to the new redevelopment program. This project is a rethinking of the current approach and aims at bringing people’s attention to the importance of respecting existing settlement and on-going activities of local residents and offers an alternative approach that improving living condition of urban poor without disrupting their daily rhythms.

Facing the growing problem of slum formation and deterioration, many developing countries choose to take strong top down strategy which usually involves clearance of informal settlement and relocation of slum dwellers.

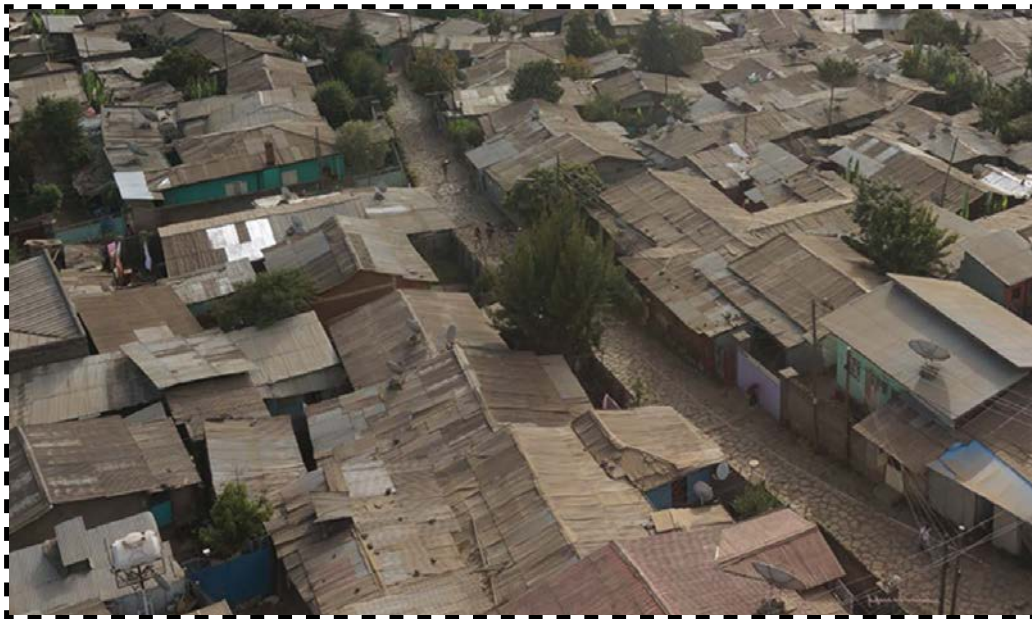
The objective for our project being identifying the essential parts of existing slum housing that are inseparable from life of the urban poor, spotting multi-disciplinary approaches in slum improvement process and giving a proposal of how to improve the slums with respect for local traditions and culture.



New Housing : The newly designed housing using the new Iddir system that integrates extension and integration demand.



Mola Maru Context : Top- activities on site, Middle- open space on the site that handles the all activities and Bottom- condominium system



RENEWAL IN MOLA MARU, ADDIS ABABA

Ethiopia is now suffering from pressing housing issues resulted from the urban sprawl and rural-urban migration trend, which offers a great example to study the balance between density and quality in social dwelling. Currently, it is estimated that 80% of the population of Addis Ababa is living in “slums”.

One of the most crucial problems in Addis is the unmet demands for affordable housing. An up-to-95% humanity increase led to the rapid urbanization or even over-urbanization, which bring the city to poverty and unemployment. Meanwhile, due to the rare supply of housing by the government, the housing shortage directly resulted in the self-built informal settlements – slums.

In Mola Maru area, which is located at Merkato, the total number of houses (along households that live in the houses) discovered is 726. The majority of these households are headed by male (357 or 65 %), which followed by Female (192 or 35 %). The houses are owned by private (148 or 20.4 %), kebele (507 or 70 %), governmental or municipal (11 or 1.5 %) and 60 houses (8.3 %) have unknown housing ownership status. After analyzing this case area the following ideas were concluded.

Courtyard is an essential space which derives from the local way of living. But in many cases, the space of the courtyard is not enough to carry the activities it supposed to.

The streets carry almost all the public activities and even some private activities, causing a great deal of stress to the space and sanitation of street.

Instead of relocation and site-clearing, there should be an alternative approach that allows people remain in place and upgrading the slum area incrementally.

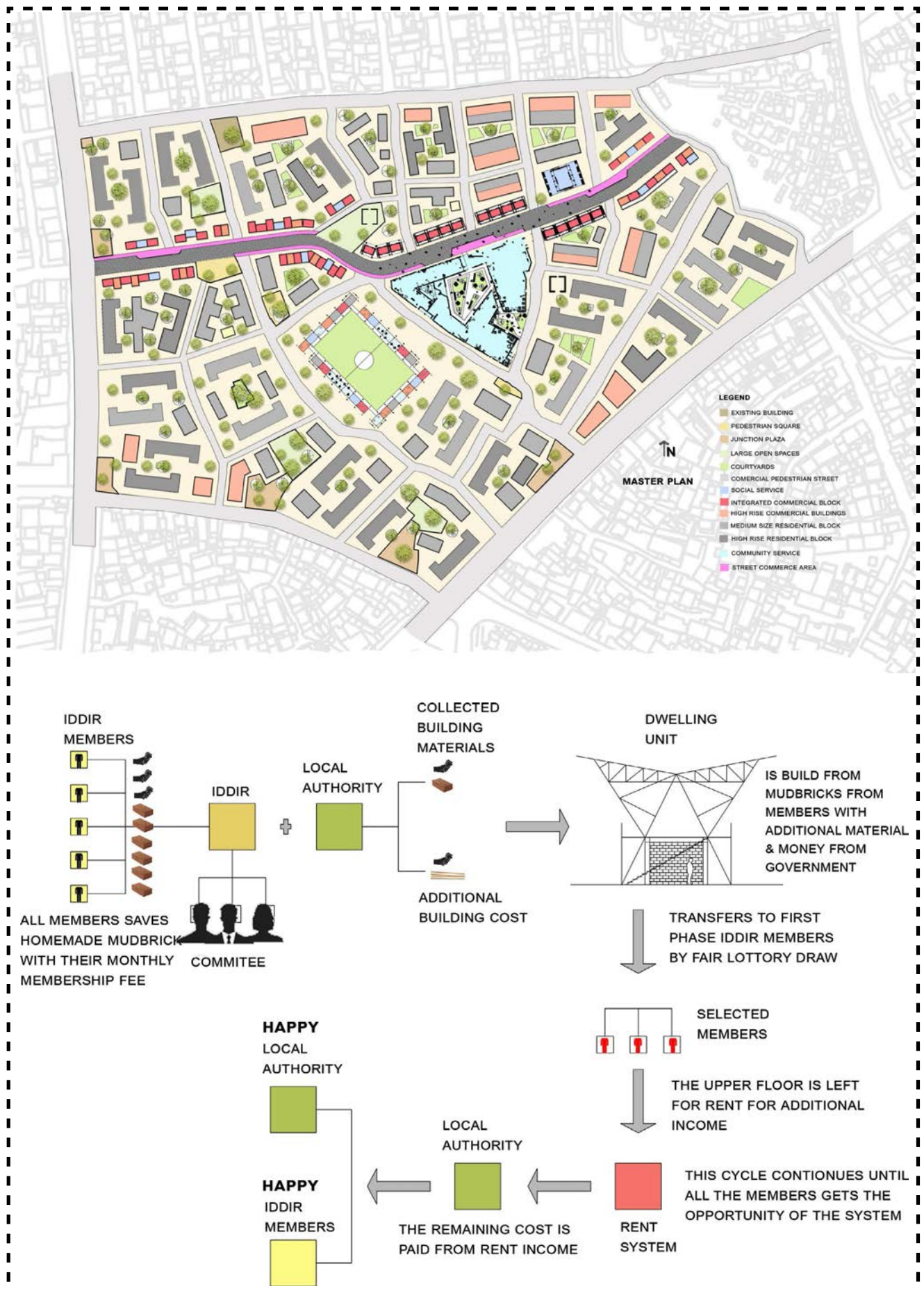
The prominent current approach adopted by Ethiopian government to deal with the sub-standard slum housing is the Integrated Housing Development Program (IHDP). Within the IHDP, slum areas are cleared and residents are relocated and then new multi-story and high-rise condominiums are built.

The current governments’ solution has good approach on building a standard housing for less cost when compared to other similar building costs. But the system does not consider the affordability of the saving system. The system accepts a 10% or 20% or 40% (according to their ability) typology cost as advanced first payment in order to be a part of the lottery system for the houses. Most people start the system but then, they withdraw from the system due to unable to pay the money.

This large-scale top down approach indeed has had some success, however, there were also problems created.

Firstly, in many cases, relocating to other area made people detached from their lives, no matter daily life, working life or social life.

Secondly, people have to adapt to new high-rise lifestyle. They lost their close connection with ground, so many domestic and productive activities such as income generation means are difficult to continue.



The New System : Top- Master Plan for gradual renewal of Mola Maru, Bottom- The new system of Iddir for affordable housing

USING AND DEVELOPING EXISTING KNOWLEDGE

The objective for our project being identifying the essential parts of existing slum housing that are inseparable from life of the urban poor, spotting multi-disciplinary approaches in slum improvement process and giving a proposal of how to improve the slums with respect for local traditions and culture.

So, the strategy is Focusing on the existing: using and developing existing knowledge. For sustainable development, informal institutions, especially at local level, are important for mobilizing resources and regulating their use with a view in maintaining a long-term base for productive activity.

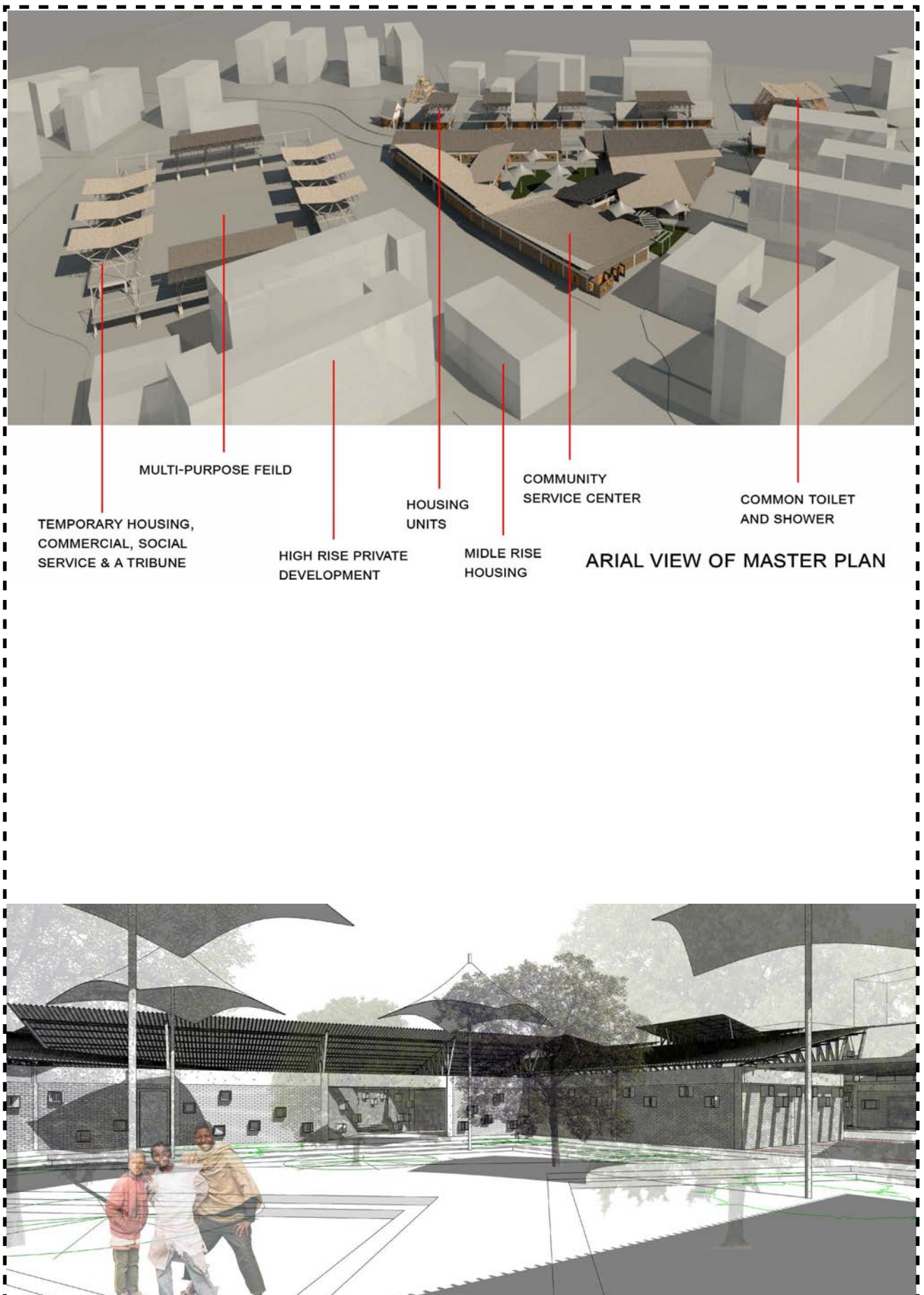
Emphasizing traditions and culture strengthens the identity and gives courage to value the qualities in the community. For example, the tradition of cooperatives, women groups and entrepreneurship, gives development projects local management and finance possibility. So that the already existing networks in Mola Maru of different organizations and groups could manage the process of projects and programs.

The other idea is to facilitate opportunities for informal activities. Informal businesses are where most people in informal settlements work, and where they get their service and commodities. The informal economy is adapted to the living patterns in informal settlements.

As deeply analyzing and studying the situation, we fetched one of Ethiopia's famous informal financial institution "Iddir" as an answer for those problems, a traditional saving and credit institution with a rotating fund. System of saving where by people form groups and pay periodically a fixed amount of money, which will be collected in a common pool, so that, in rotation, each member of the group can receive one large sum, the sum of money paid by all in one period. In practice "Iddir" is sort of insurance program run by a community or a group to meet emergencies.

This way of business oriented strategy can achieve affordable housing and economic development. Making some adjustments to the system like instead of saving only money we included building material and their skill into the saving system, so that they can gradually save little amount of building material and get one large sum enough for building a house, also exchange their skill with employment money. This system also works for public buildings like school and clinics by just adding the members and instead of one person as a member; it will be group of peoples as a one member.

The new system integrates the current governments' condominium system (10/90 %, 20/80% or 40/60%). But instead of paying the first advanced payment (10% or 20% or 40% of the total typology cost), which is very unaffordable to many of the peoples, the new system offers a monthly homemade mudbrick saving (which covers more than half of the entire building cost) along with their monthly Iddir fee under the management of community Iddir with the local authorities. The local authority (wereda) adds the remaining building cost and constructs the houses on the existing site phase by phase. After being a home owner the inhabitants starts to pay the remaining cost to the local authority from the upper floor rent income.



Community service center : Top- Aerial view of proposed master plan, Bottom- View of the courtyard from the community service center

IMPLEMENTATION OF THE MASTER PLAN

The master plan is designed by preserving the most important spaces of the existing fabric such as the streets, paths, courtyards, open spaces, junction plazas and social services. These spaces are where the strong social ties and activities are happened and the new master plan acknowledges this. The design includes a middle-rise and high-rise housing with the low rise housing units. The community service center, that has “Iddir” service program in it, is located at the heart of the site along with central pedestrian Commercial Street.

The design proposes a central pedestrian street (by upgrading the existing road) that creates an opportunity for commercial and production activities like street vending, shoe shining and production of artifacts. The proposed housings that will be implemented through the new “Iddir” housing system will be constructed along on the edge of this proposed pedestrian street. On the periphery of the site, which is adjacent to the main streets are high-rise buildings for private commercial development. The master plan is going to be implemented phase by phase.

The first phase will be: Upgrading the central pedestrian streets and strengthens the social services by integrating with local authorities (wereda) and initiates the new “Iddir” housing system. The next phase is to: construct the temporary houses at the tribune field to settle the first displaced on the site. On the new space, the houses are constructed and resettle with additional occupants from nearby areas. After this, the third phase: on the spaces gained, construction of houses continues until all the houses are done for the members and others. The final phase: finally the private development buildings will be constructed.

The housing block is specially designed for Mola-Marú residents in which it can handle and adapt their unique integrated (production + living) kind of living condition. By creating a flexible and most stable modular unit that can achieve the high demand for extension and integration kind of spatial arrangement, their way of living can be improved. This integrated housing block can be constructed by the community itself with local construction skill and materials. The ground floor is framed with precast concrete column and beam, which is supplied by local authority (wereda) which is going to be manufactured by the community’s women and youths manufacturing company. The upper floor for extension is constructed with simple A-frame eucalyptus or bamboo trusses and the owner can finish it by his choice of available and appropriate material. This precast system of the design makes the house construction time and money consuming.

The new housing design considers all the income generation means by providing a flexible and expandable structural system that allows additional space for street vending. It is a flexible plan that allows for dwelling production and business with a commercial window and a storage at the roof structure.

This “Iddir system is not only limited for affordable housing system. It has a strong potential for connecting communities which has a major significant role on social inclusion. Since “Iddir” is practiced by all kind of people and communities in Addis Ababa (regardless of income, gender, religion...), it will create a good opportunity for connecting people and communities under one system with a mutual benefit. For example, this “Iddir” system could be used for connecting low income informal communities with their high income formal neighbor communities by simply exchanging social services from low income communities with service payment from high income communities through this system.

A framework for empowerment

Empowering the community to self-build affordable housing and cultural urban landscapes in the shanty town of 'Villa 31'

BUENOS AIRES, ARGENTINA

PRAVEEN RAJ

UC BERKELEY, COLLEGE OF ENVIRONMENTAL DESIGN

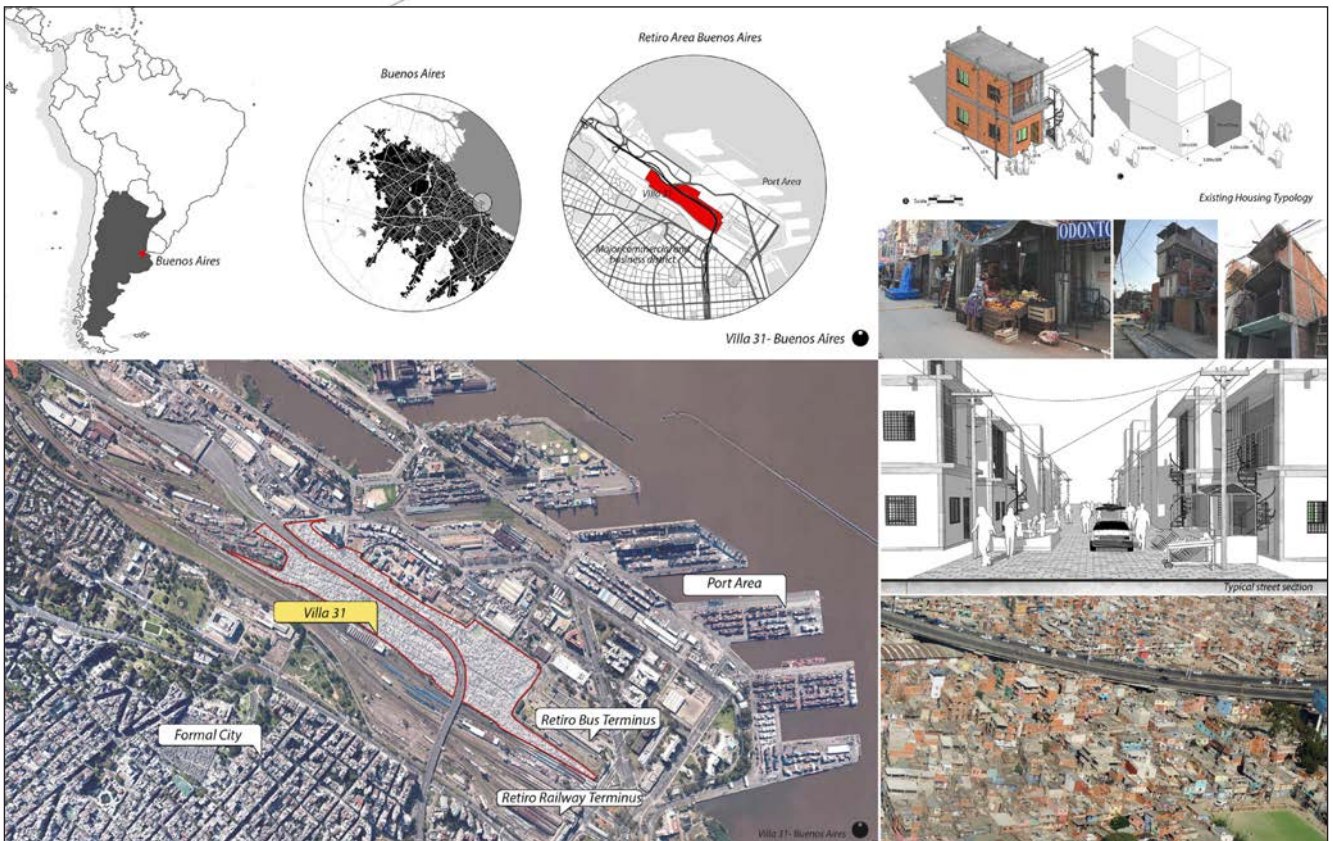
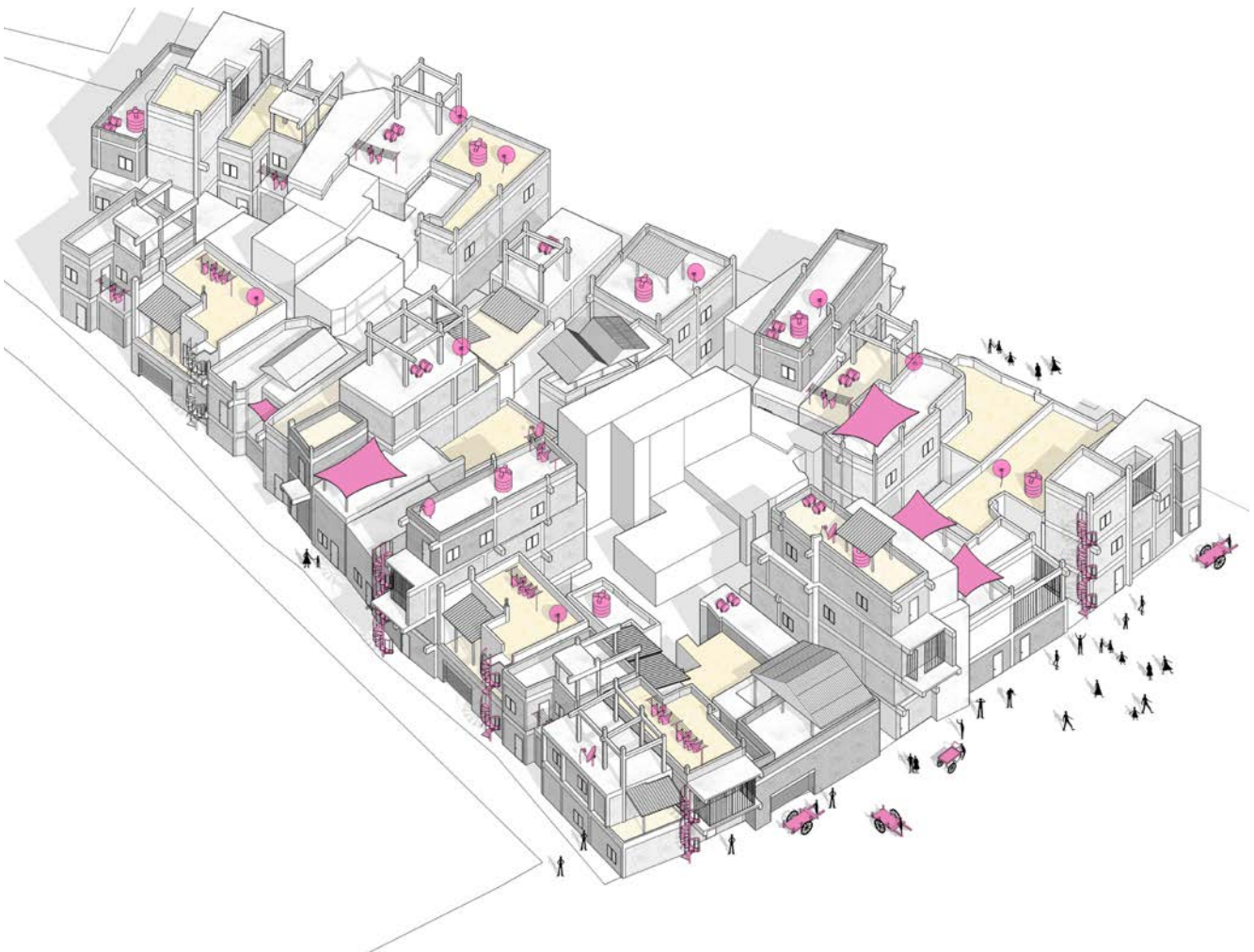
The Site Context

La Villa 31 is a shanty town located in the City of Buenos Aires, more precisely in the neighborhood of Retiro. The settlement emerged in 1932 with the name "Villa Idleness" and generally grew to a significant size of 40,000 inhabitants. Today, Villa 31 is a bustling immigrant settlement with an undocumented immigrant population of 51%, hailing from the neighboring countries of Paraguay, Bolivia, Uruguay and Peru. While it is not the largest informal settlement of Buenos Aires, it is emblematic because of its strategic location in the heart of the city. The Villa 31 is the only type of settlement affordable and accessible to the poor in the urban core of Buenos Aires, where competition for land and profits is intense. The settlement consist of small houses or shacks made of tin, wood and other scrap material and they lack basic service infrastructure. The immigrant settlement has resisted several 'eradication drives' for over seven decades and the public administrations have negotiated to augment and urbanize the settlement from 2009. The initiative is called "Treinta y Todos" and makes reference to the administration's intention to provide the villa's residents with access to the same public services as the rest of the city's population. On the other hand, the Villas of Buenos Aires are particularly known for their considerable population of the "Cartoneros" (urban scavengers), who comb through city's 4500 tons of garbage every night. The Cartoneros living in the villas recycle plastic, glass, wood, cardboard, metal, debris etc. and help in reducing the city's energy expenditure on waste management considerably.

The Project Statement

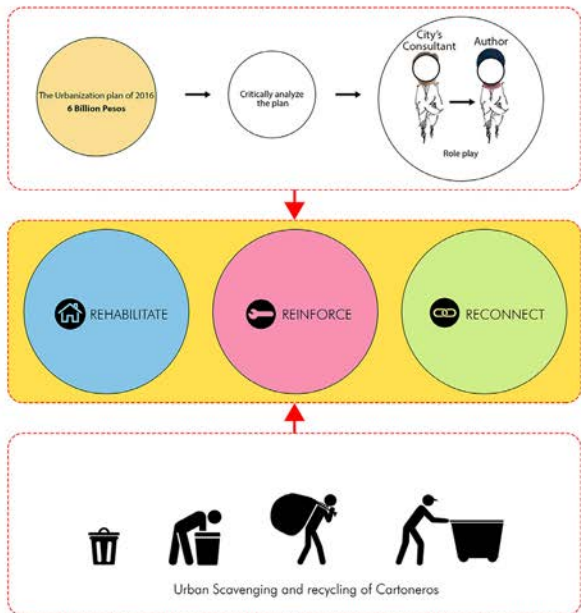
The project, "A Framework for Empowerment" not only works in parallel with public administration's urbanization vision but also strives to augment the vision to create self-sustaining communities. Further, the design project critically investigates the 'Top Down' urban design schemes generated through the urbanization plan and tangentially proposes an 'Urban Repair' framework that is poised between the city driven 'Top-Down' and community driven 'Bottom-Up' design approaches. Consequently, the framework empowers the inhabitants to self-build their housing; their cultural urban landscapes; their workspaces and markets.

The proposed design framework also aims at capitalizing the 'Urban scavenging' and recycling practice of the 'Cartoneros' as an impetus to drive the revitalization of the settlement. This would include the production of building materials from wastes for construction of housing, urban landscapes and community infrastructures. The proposal will formalize and upscale the waste recycling industry as an economic generator to aid in the social development of the people in the settlement.

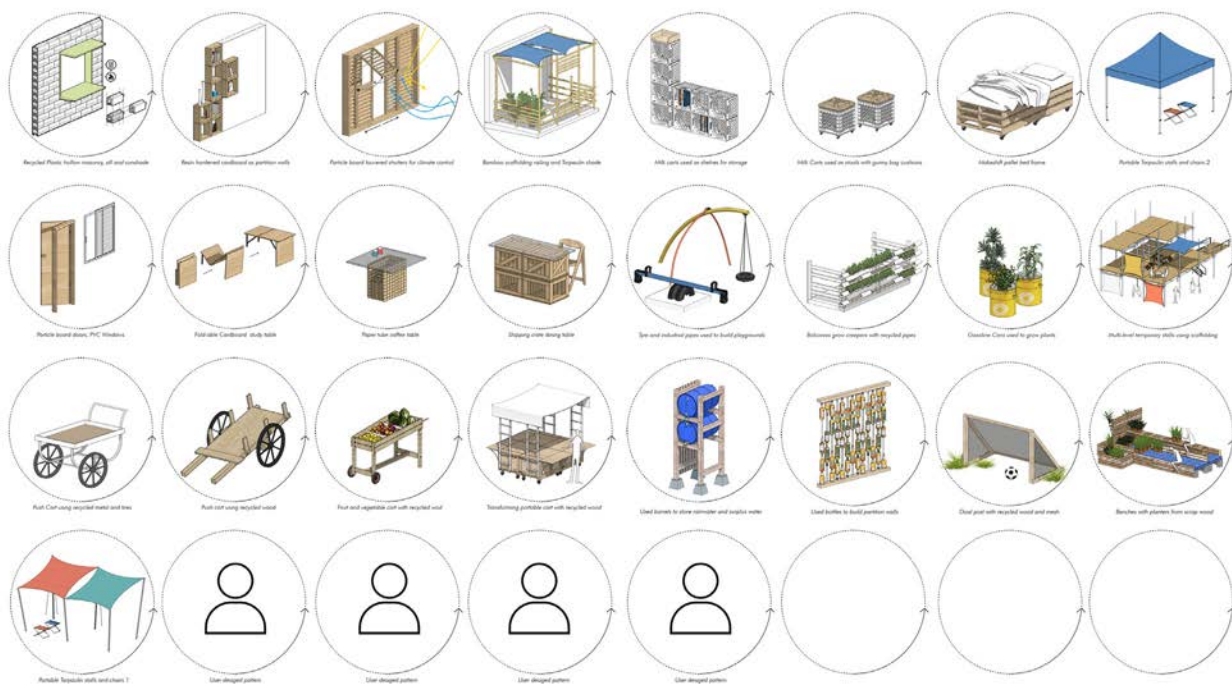


Top: Illustration of a typical Manzana (Urban Block) in Villa 31; Bottom: Site Location and Physicality

A FRAMEWORK FOR EMPOWERMENT

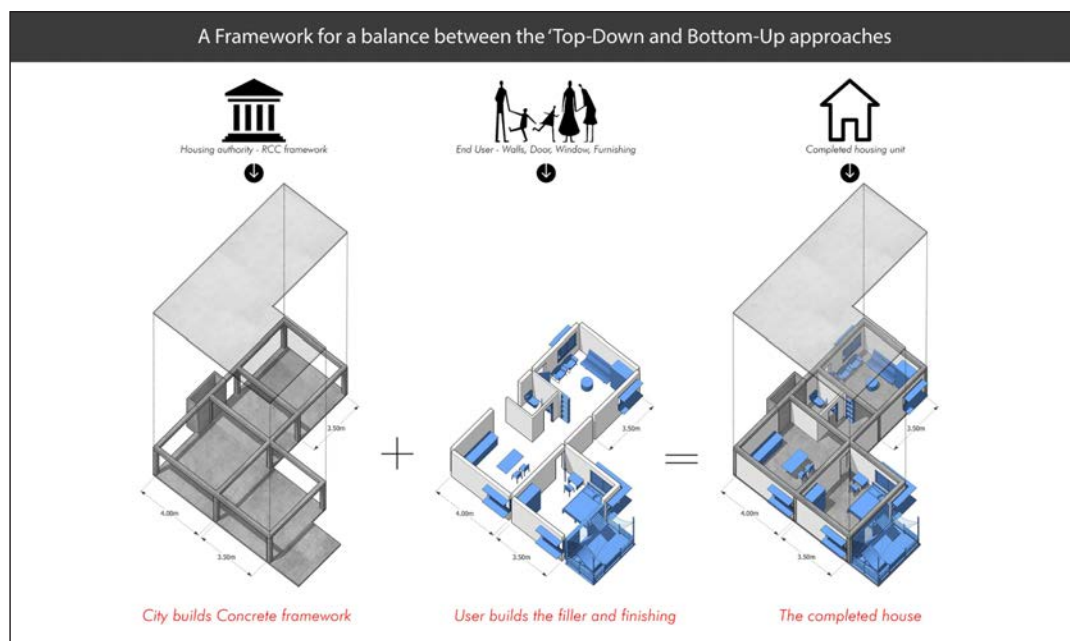


THE CARTONERO PATTERNS Recycled products, construction materials, techniques and design solutions



A Pattern book of recycled products/materials and construction techniques is created to build the settlement from wastes. The pattern generation is an infinite process & more pattens will be added by the users

Top: Flow chart of the proposed Framework; Bottom: The proposed Cartonero Pattern book of recycled products and solutions



THE URBAN DESIGN FRAMEWORK

Critical Evaluation of the 'Top-Down' urbanization plan "Barrio 31" Draft

The 'Barrio 31' draft is a conscious urban design proposal that responds to the imperative demands for revitalization of Villa 31. The urbanization initiative 'Treinta y Todos 2009' to be carried out by the 'Secretaría de Integración Social y Urbana' has imbibed most part of the 'Barrio 31' draft. Although, the draft has been formulated with scrupulous attention to issues at micro and macro levels, the draft is still a top down notion of how people should live. It is also legitimate that the 'Barrio 31' draft has overlooked the latest initiation by the government to re-route the Illia highway.

The Improvised/Proposed Framework - 'Top-Down'+ 'Bottom-Up'

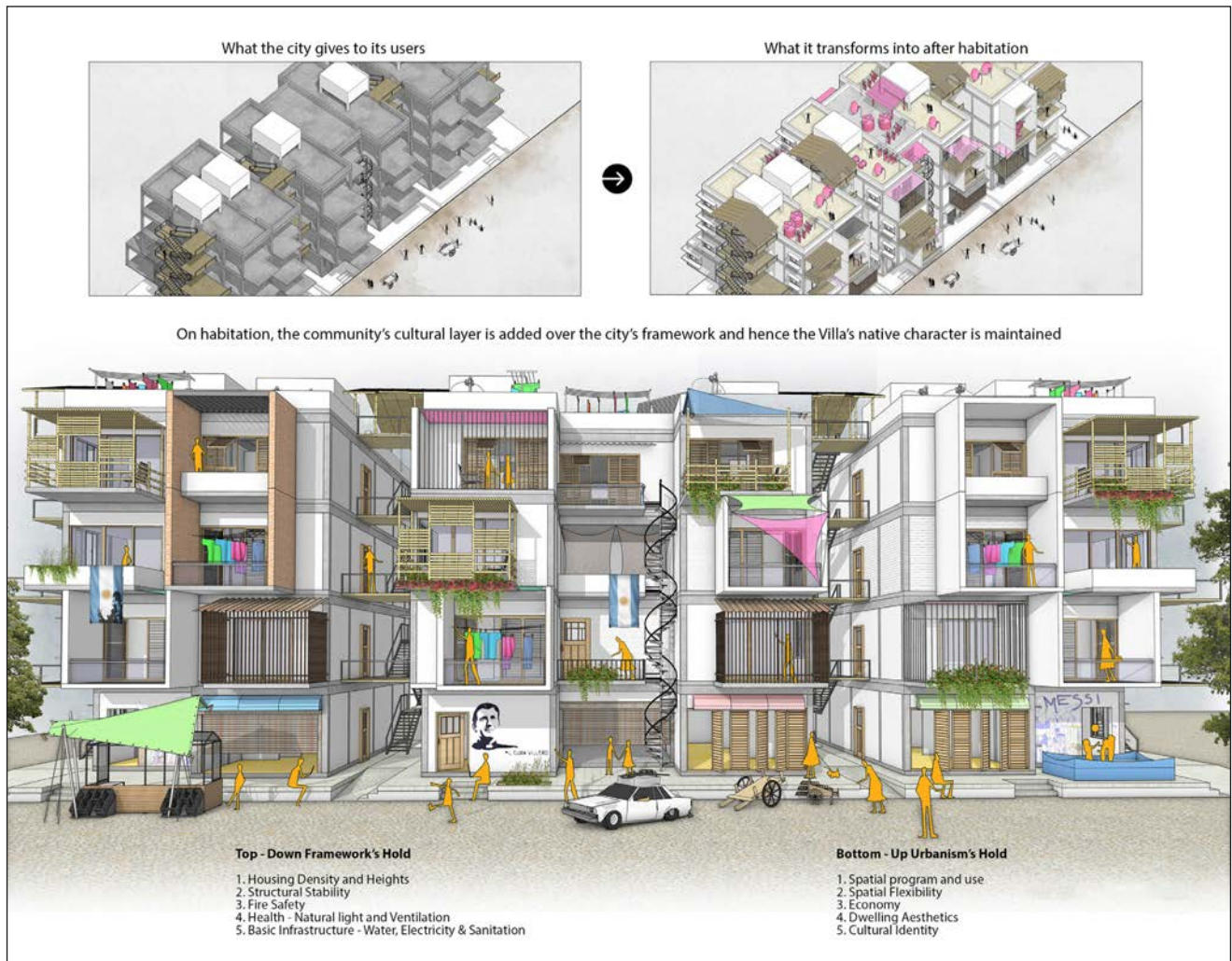
Taking into consideration, the shortcomings of the "Barrio 31" draft and all the preliminary research data, the urban design project undertaken proposes the framework, "A Framework for Empowerment". The proposed urban design framework will not only work in parallel with the urbanization initiative's vision but also strives to augment the vision to create self-sustaining communities. The framework's primary objective is to engender a collaborative platform which is a partnership between the city driven 'Top-Down' and the community driven 'Bottom-Up' approaches, in building up Villa 31 and thus empowering the community. Empowering the community gets them more involved and motivated towards the building-up process by implanting a sense of oneness.

Upscaling of the Recycling Practice of Cartoneros

The informal practice of urban scavenging by Cartoneros save up-to 25% of city's energy expenditure on waste management. The demographic data identifies 11% of the people in Villa 31 as Cartoneros along with 43% unemployed in Villa 31. There lies a compelling opportunity to upscale the urban scavenging practice of Cartoneros in Villa 31 into a formal recycling industry that would directly benefit the inhabitants of the settlement.

The Cartonero Pattern Book

The proposed recycling industry will aid in community development and serve as an 'economic engine' by creating job opportunities. The framework through the industry will develop the 'Cartonero Pattern Book'. The patterns in the book are a set of recycled products, recycled building materials, design solutions and construction techniques. The patterns will not only assist the inhabitants in self-building of their settlement but also will gain a demand outside the villa by the setting up of markets. The patterns generated out of the wastes are climate responsive, energy efficient, fire/water resistant, user-friendly and easy to install. The pattern generation is an infinite process and the framework anticipates that more user-defined patterns would evolve over the years.



Top: The proposed Row-house typology after habitation; Bottom: A scenario of a cultural space in the middle of the proposed blocks

THE MAJOR DESIGN STRATEGIES

A. Rehabilitate: (self-building of affordable housing)

The principal objective of this section is to provide the inhabitants of the villa with access to standard housing; basic infrastructures like water, sanitation, electricity, health and the fundamentals for community living. A participatory framework is engendered to build the housing that is transient, modular, incremental and flexible.

1. Removal of sub-standard housing and rehabilitating those inhabitants in standard low-cost housing proposed in the adjacent site.
2. Design solutions that aid the inhabitants to augment the quality of existing housing.
3. Develop an Incremental housing strategy through self-build techniques.
4. Harvest construction techniques from recycled materials that are economically viable and user friendly.
5. Enhance the micro-climate by designing environmental friendly solutions using waste.

‘Top-Down’ + ‘Bottom-Up’ House Building

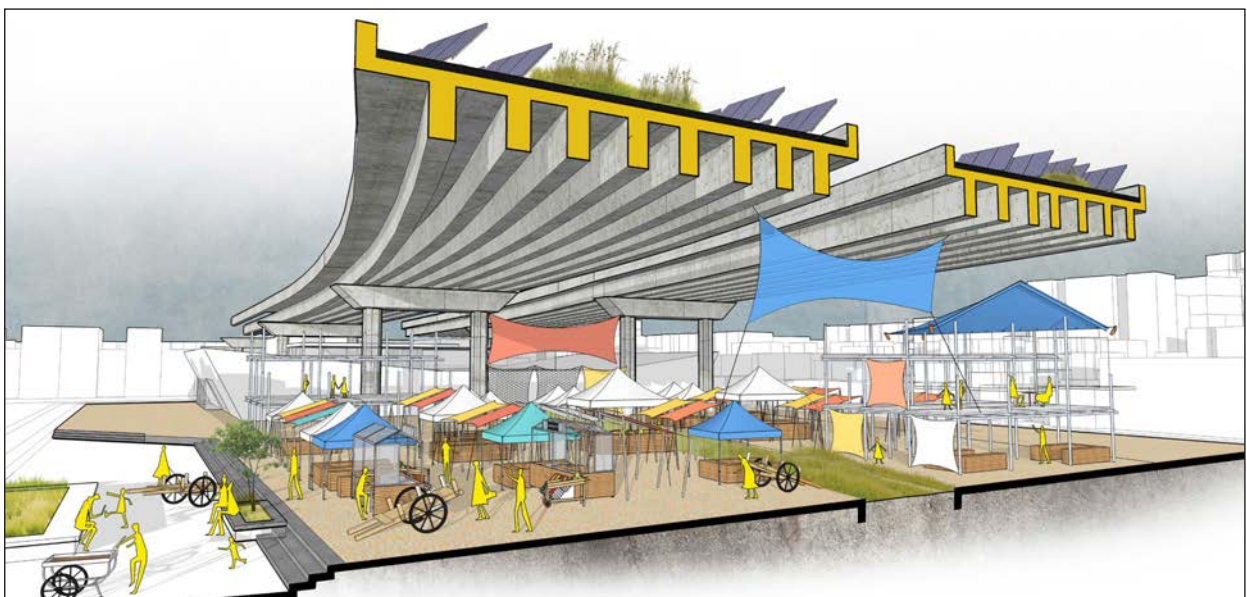
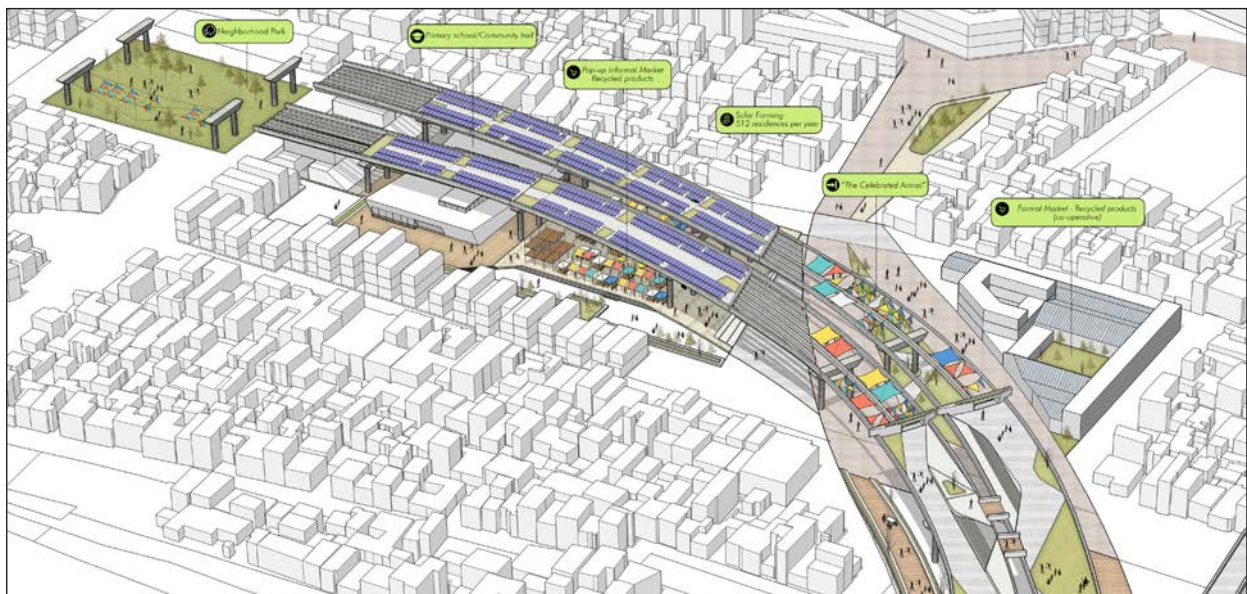
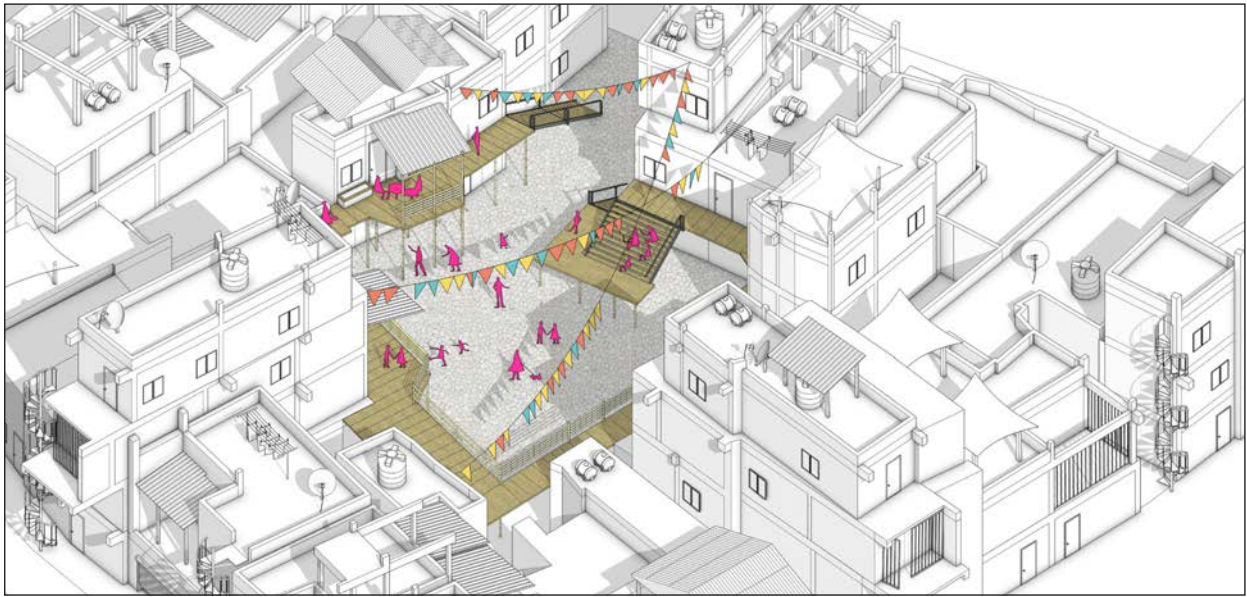
A design paradigm which is a partnership between the city driven ‘Top-Down’ and the community driven ‘Bottom-Up’ approaches is proposed for the development in Villa 31. Following the negotiations, the Housing Authority builds the Structural (RCC) framework, service shafts, common staircases and delivers it to the families that have qualified for the allocation. The families on habitation would complete the remaining house by building the walls, doors, windows, shadings devices, cabinets, wall partitions, balconies and furnitures. This process of co-operative building established by the partnership between the Authority and the User enables for flexibility in design and usage. This process allows the owners to control their own social, family and cultural needs making them more involved and motivated towards the project. As explained in the design framework, the recycled building materials and products from the proposed recycling industry would be made available to the users at subsidized costs. To add to that, the design and construction techniques from the ‘Cartonero Pattern Book’ would aid the users for easy and climate-responsive construction.

B. Reinforce: (self-building of cultural urban landscapes)

The principal objective of this section is to rejuvenate the public realm of the settlement and thus engender robust spaces for community interaction, congregation, celebration and leisure.

1. Enhance the social and community life.
2. Designing and re-imaging the public infrastructures.
3. Refurbishing the community spaces for integration, awareness, education and celebrations.
4. Exploring interventions of tactical urbanism to deal with transiency of spaces.

Villa 31 is multi-ethnic in nature and most communities within the villa do not intermingle with the other communities or nationalities. These closed communities embrace their own cultural, social and religious congregations. The urban design framework introduces semipublic spaces (open spaces in the center of the proposed blocks) that are conducive for cultural and social activities; spaces that are physically and visually safe for the children and senior citizens of the blocks. The design and the types of activity to go into the space is collectively decided by the residents of the block through community unions. Thus, the framework empowers the community to design their own space and the design solutions, techniques and recycled building materials are made available to the users through the proposed ‘Cartonero Pattern Book’. The program of the semipublic space could be temporary and the space can be transformed again in a few years or months, depending on the aspirations and the needs of the residents.



Top: User-defined scenario of cultural space; Middle: Recycling the freeway structure for community amenities; Bottom: Pop-up scrap markets

THE MAJOR DESIGN STRATEGIES

C. Reconnect: (self-building of markets)

The principal objective of this section is to integrate Villa 31 back to the formal city of Buenos Aires. The existing physical disconnect is caused by the infrastructural barriers that include railway lines and the Illia highway. There also exists a social disconnect induced by vast economic disparity. The framework not only strives to establish physical connections but also aims to nurture social and economic connections with the formal city.

1. Removal of infrastructural barriers.
2. Spatial connections through the proposed transformation of the freeway bridge into a linear pedestrian park.
3. Social connection to the formal economy of the city through the proposed recycling industry.
4. Economic connections through proposed self-build 'pop-up' markets for recycled products.

4.0 Conclusion

The proposed approach not only bolsters the 'Top-Down' framework's foothold over the slum's revitalization, but also empowers its inhabitants by inducing user participation. The rehabilitated inhabitants would add their cultural layer to the proposed built environment. The street scape will continue to be a reflection of the community itself, its aspirations and cultural exuberance. Empowering the community gets them more involved and motivated towards the building-up process by implanting a sense of ownership. Thus, the framework illustrates how involving the community in the revitalization process can pave way for a holistic, indigenous development. The proposed recycling industry in the villa would amplify the urban scavenging practice of the Cartoneros. Villa 31 will become an 'Urban Sink', where the trash generated by the formal city would be converted into treasure. The large scale recycling of Villa 31 would drastically help the city cut down its expenditure on waste management. Hence, there is more so a pressing need for them to exist in the urban core of the city .



Hawking and other economic opportunities along the proposed tourism spine through the settlement

Form (U/A)lizing the Informality

Straggle to Stack

NAVI MUMBAI, INDIA

ALAN ALEXANDER, VINITA ANIL MHATRE

ROTTERDAM SCHOOL OF MANAGEMENT, ERASMUS UNIVERSITY & KAMLA RAHEJA VIDYANIDHI INSTITUTE FOR ARCHITECTURE & ENVIRONMENTAL STUDIES, MUMBAI UNIVERSITY

THE APPROACH

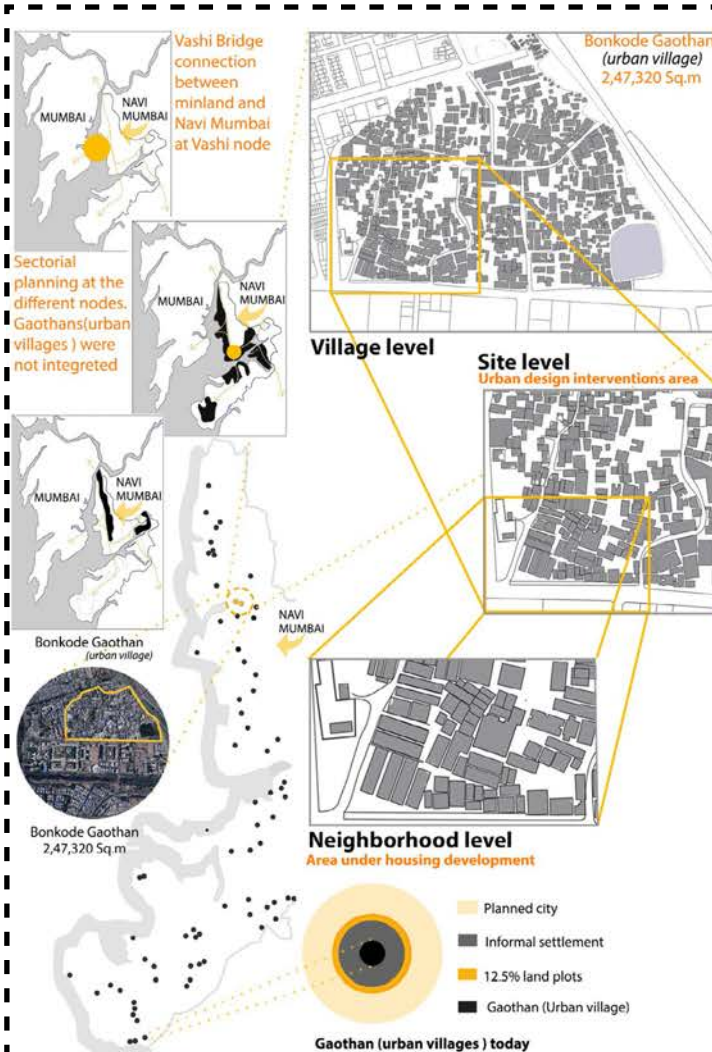
Informal settlements are an adaptive response to the constraints and opportunities in the city with minimal resources being deployed incrementally by their residents. Often such settlements are native villages turning into urban villages or settlements are located in unoccupied interstices and marginal lands of the city seeking a proximity to the place of employment and urban infrastructure to support their livelihoods. In the absence of collective institutions to manage their growth, the constraints of available land, the uncertainty of ownership, combined with poor access to the city utilities and infrastructure their living conditions. Hence, community-level organisations, ownership and affordability are main factors that govern their prospects for improvement of living conditions of informal settlements.

In the Indian context, development of villages in Navi Mumbai started with a transformation in the land-use of villages from agriculture which was the primary source of livelihood for natives to several other urban land uses. The agricultural land was either sold or acquired by the government for urban expansion. Extensive informal developments mushroomed in the peripheral areas of villages due to housing needs of the native and migrant population. The informal growth of villages evolved spatially to provide more dwellings and vary functionally to make available space for changing demand. This reflects the multiple needs and demands of folks that live and work there, and this created the formal urban context around villages. As a result, villages evolved predominantly due to their disparate urban contexts, and this formed a heterogeneous expansion. The shift of urban fabric by the formal and informal peripheral growth also changed agricultural production to room renting and other socio-economic activities. The Bottom line, these villages not only get severed from their basic source of sustenance but also get surrounded with and engulfed by complex urban forces and influences which resulted into informality and them into urban villages.

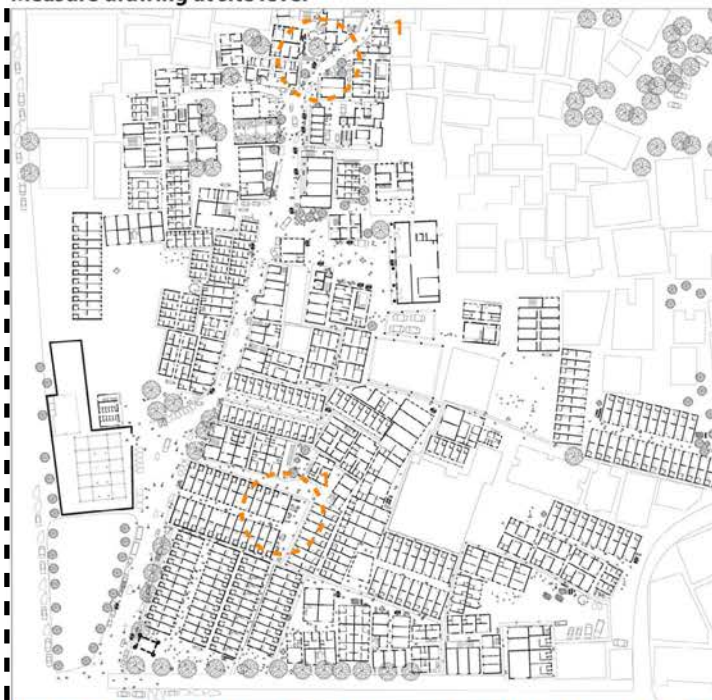
“Home” is just not simply a dwelling unit. The idea of home is much larger than four walls, a roof, a bath, a kitchen, a television which public housing tries to address. It is an institution full of aspirations providing an opportunity to work, liberty to shape surrounding, possibility to increment and improvement. The housing policies that are implemented by the government simply cluster settlements from horizontal confusion into linear symmetry by removing dynamic nature of the space into stacked cramped units.

The study shows one approach of planning for already existing high density low income settlements with range of options quite different from existing models of redevelopment schemes by state authority on one side and on other side the conservative surgery method to carry out bottom to up development by introducing small interventions of providing basic amenities with range of approaches of up-gradation, stage-wise improvement and readjustments.

The approach is inspired by principles of development of Patrick Geddes (Scottish biologist, sociologist, geographer, philanthropist and pioneering town planner) works as well as urban patterns defined by of Christopher Alexander. Geddes worked in India in a period when urban improvement trusts were staffed by military engineers, who were obsessed with slum clearances, sanitation, and racial segregation. Battling the engineers and their ideas, he developed the concept of “conservative surgery,” the approach that begins with the understanding of things as they exist on the ground, recognising the potentials, the working order and life in the existing spaces.

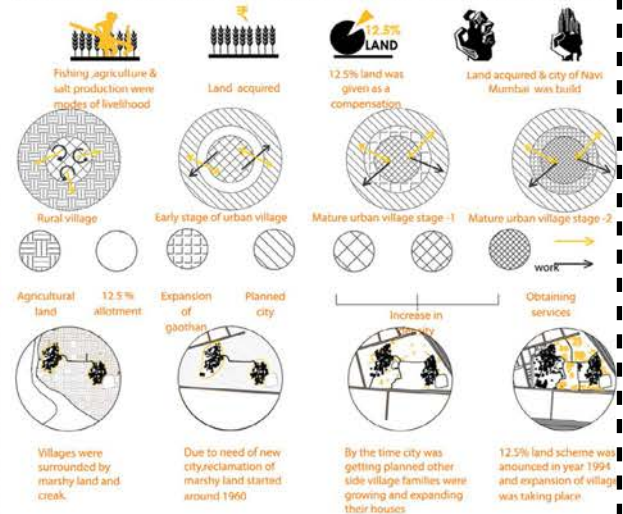


Measure drawing at site level

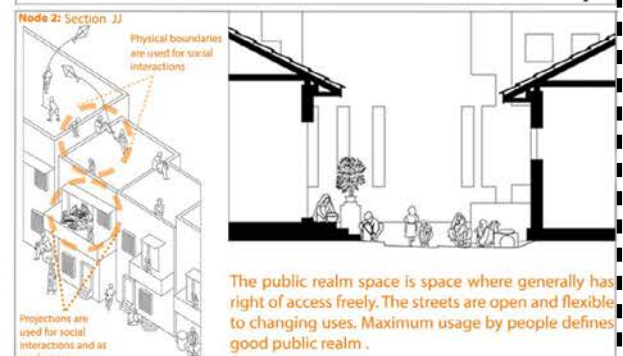
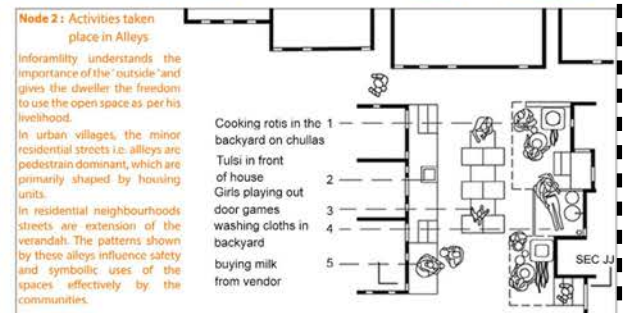
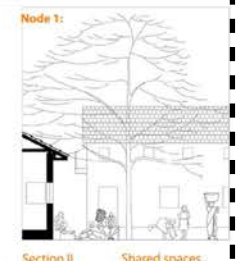
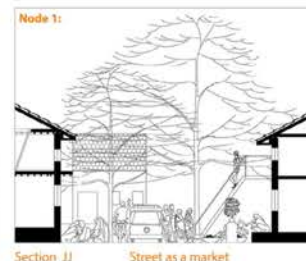


Houses, then neighbourhood, changes shape in responses their inhabitants' struggle. Grills get extended, mezzanine grow like mushrooms, technology is domesticated. The edit software on personal computer is a thin wall away from the household mixer grinder. A small space under the clothes line is cordoned off for writing.

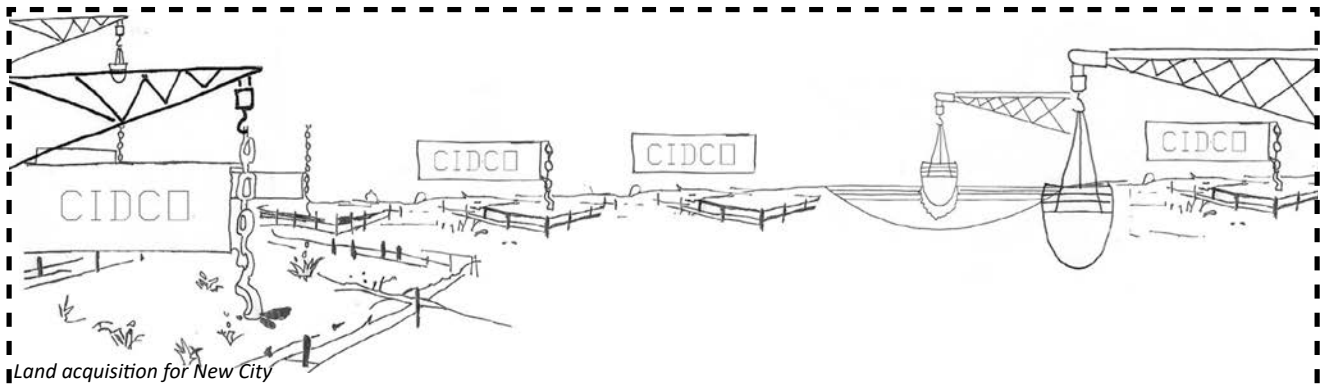
Land is the crucial component for any kind of development. Over the decade battle were fought to acquire land parcels. Land is acquired for the development by the government in the name of "Public Purpose" under the power of land Acquisition.



Pattern language of Gaothans (urban village)



The great streets support the content around them. In the settlement like urban villages, streets are where people congregate, celebrate & interact.



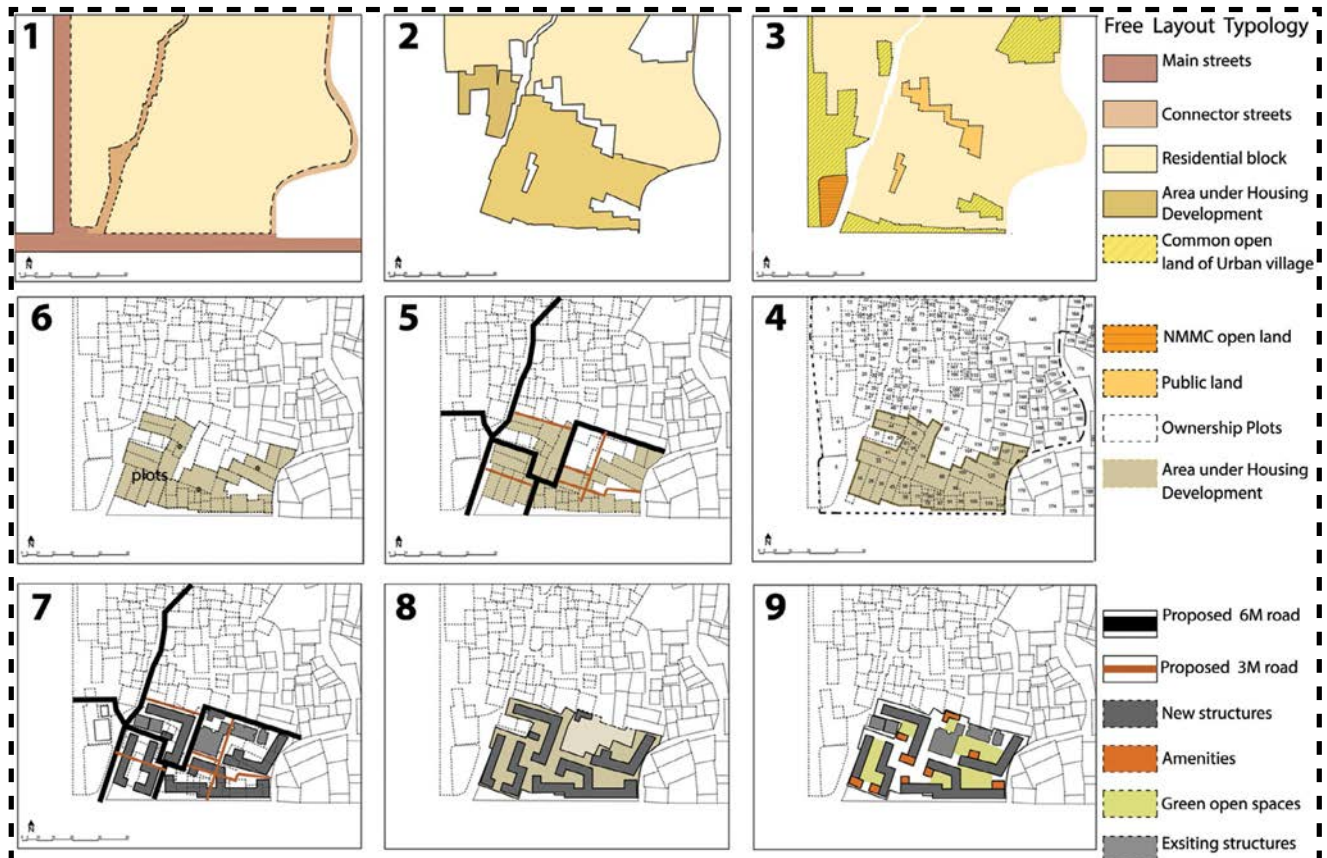
Land acquisition for New City

Site Section

Section through housing in gaothan shows different activities, narrow streets, housing typologies and also rapid construction shows growth of families



Site Section and context



Free Layout typology process



CONTEXT AND PROCESS



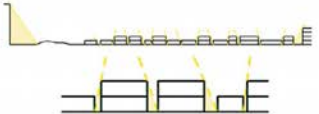

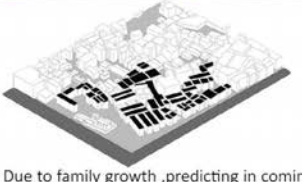

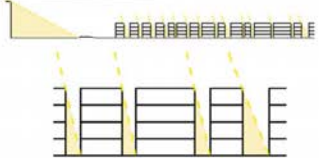

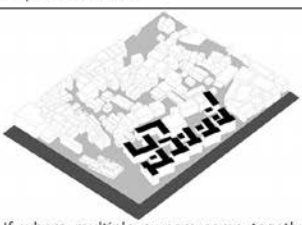

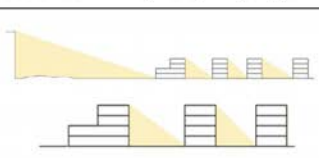

Context :

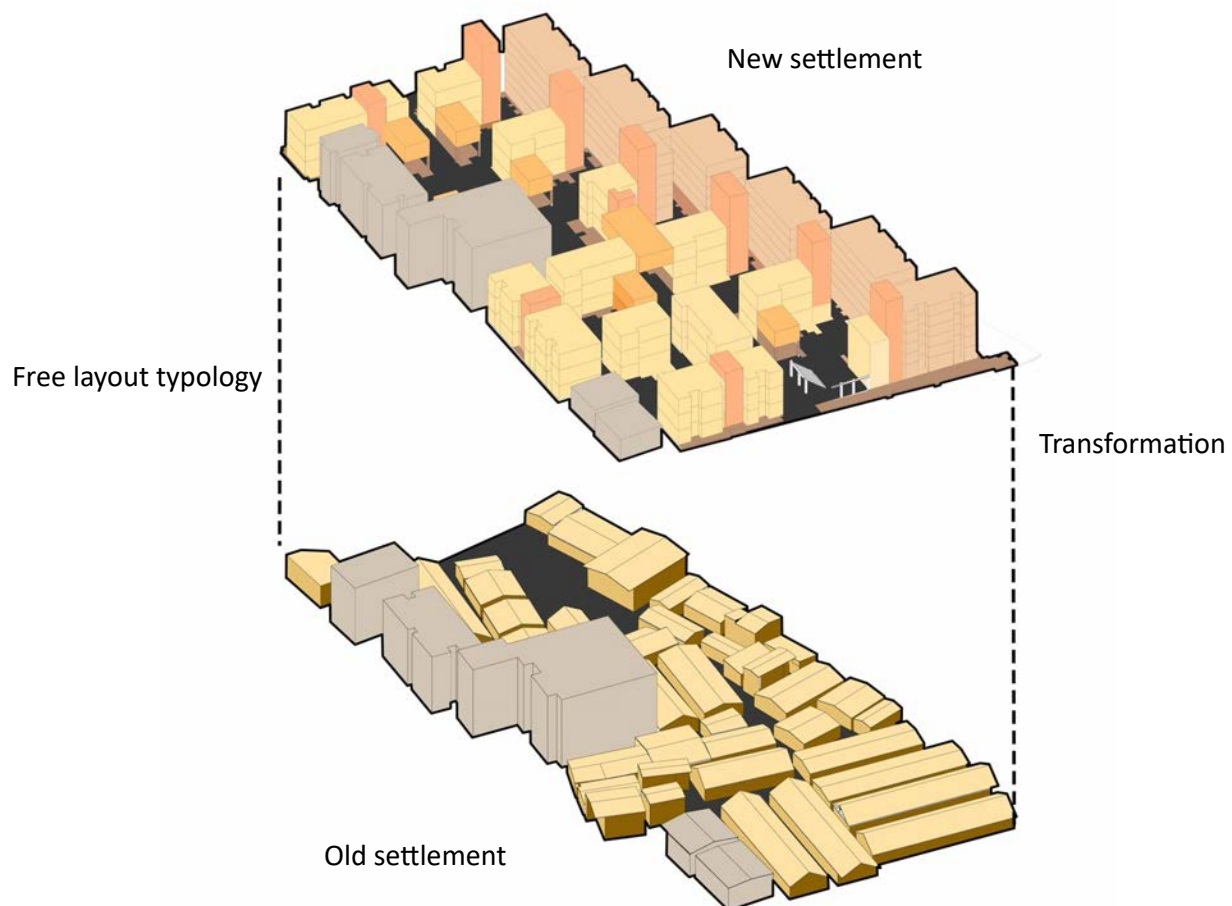
Urban villages are the historic settlements and living heritage within the city, have been seen as a blob in the process of development plans on other hands they are they are the large chunk of indigenous communities within the city. This study majorly focuses on the situation of the urban villages of Navi Mumbai. Urban villages have evolved and transformed over the period of time and still has intact culture and tradition in the race of urbanization. The housing in these urban villages of Navi Mumbai is attracting majority classes of people to find an accommodation in the city. They are hubs newly migrated, working and labour class. Urban villages play the very important role in the functioning of the city by providing the accommodation to the people of Navi Mumbai. The density of urban villages is much higher than in other colonies and gradually increasing. The study is strides the attempt to reclaim and plan the existing inequality and informality in cities and claim centrality of people's participation in the making of such plans. To demonstrate the possible options the study focuses on only one urban village which is located in near Kopar Khairane node called Bonkode and geographical co ordinates are 19° 5'49.52"N 73° 0'42.31"E.

Process :

The "Free Layout" Typology: To achieve higher settlement densities for a low rise fabric, it is ensured by keeping building plots free of enclosures, one of the methods to carry out. Private developments often result in gated communities that require areas for circulation, parking, amenities and other service areas for individual apartments or structures, and these turn out to be negative spaces and quite wasteful when replicated for every building society, apart from this it creates drawback of by forming insular and often exclusive habitat.

The image 3 ,the way this layout is constructed, and its features are explained. Major streets (open to buses and four wheelers) and minor vehicular streets (two, three and four wheelers) form residential "blocks" in existing settlements, the main streets are retained to make such blocks as shown in (1). The next step is to identify intervention area within the blocks (2). Further is to identify type of spaces (Public ,Private ,etc) within the blocks also kind of characteristic shown by such spaces. Example: community spaces within the blocks, these are consolidated and better defined, also opened out onto the edges of the block as shown in (3). Primary roads ,secondary roads and alleys , lanes that exist within the settlement can now be identified to dived the blocks up into "lots." These alleys remain open only to pedestrians and two wheelers, often they end up as cul-de-sacs, though they may also pass through the block(4,5,6). Some areas are identified for amenities such asdispensaries and community halls. The lots are now ready for "projects" or individual buildings, and these buildings may be constructed either as a whole by a large cooperative, or in parts by smaller willing groups. Only 50% of the lot area can be occupied by the building, and the rest must remain open- there are also no setbacks permitted, to ensure that the buildings about the streets. This will result in open spaces within the lots, that could be connected with the community level open space (7,8,9). The end result will be a fairly open layout that can house densities up to 500 DU per hectare, in buildings with walk-up accommodation.

	Three dimensional	Ownership pattern & Builtform	Light and ventilation	Mass and void
Scenario 1 (existing)	 <p>The existing condition of village shows variable heights of housing typologies, ground to maximum height G+4.</p>		 <p>Height to width ratio for adequate light and ventilation should 60 degrees from ground, where existing urban fabric is very dense and shows negative quality of light.</p>	 <p>Ground coverage is 62% and open to the sky is 38%</p>
Scenario 2	 <p>Due to family growth, predicting in coming years the area under development have achieved maximum structure height upto G+3 by individual plot development by respective owners.</p>		 <p>Height to width ratio for adequate light and ventilation should 60 degrees from ground, where existing urban fabric is very dense and shows negative quality of light.</p>	 <p>Ground coverage is 62% and open to the sky is 38%</p>
Scenario 3	 <p>If where multiple owners come together and amalgamate their plots and share construction cost and incentives according to plot sizes.</p>	 <p>Doted lines are the plot boundaries (ownership pattern) hatched are structures in all diagrams.</p>	 <p>Height to width ratio for adequate light and ventilation should 60 degrees from ground, where existing urban fabric is very dense and shows negative quality of light and ventilation. In this scenario adequate light and ventilation seen to be achieved.</p>	 <p>Ground coverage is 40% and open to the sky is 60%</p>



DESIGN VISION AND STRATEGIES

From the above context it is clear that any development process will have to be based on the following principles:

- A) Incremental
- B) Equity
- C) Mixed use (retaining and enhancing livelihood opportunities)
- D) Cooperatively self-developed and self-managed
- E) Low rise- high density

The way an incremental, co-operative self-development could be undertaken is illustrated with the help of free layout diagrams and scenarios .

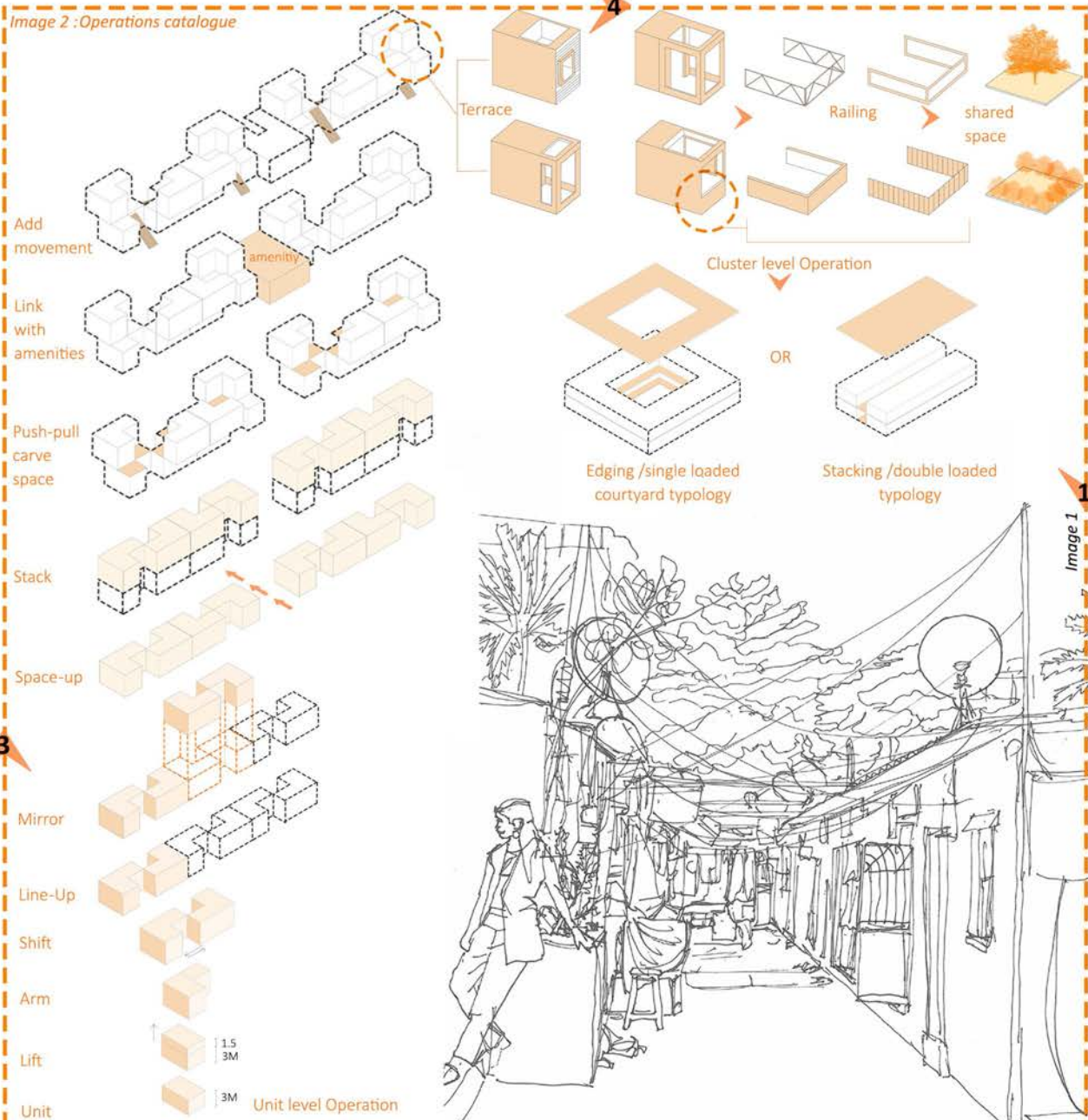
- 1) Basic Services: Basic services involves providing the absolute bare minimum of services needed for a community to survive in a city. This includes the provision of water, public toilets and waste disposal. Very little or no intervention is made in the built fabric.
- 2) Improvement: In addition to the provision of basic services, two or three storey structures are regularised, some houses are cut and permitted to go higher to widen lanes for improving light and ventilation, and to improve access for pedestrians and two wheelers. Basic infrastructure like paved streets, street lighting, sewer lines, etc. are provided.
- 3) Re-adjustment and re-organisation: Some houses are removed and stacked above or relocated nearby to provide amenities (dispensaries, pre-primary schools, etc), improve and enlarge community spaces and access for pedestrians and two wheelers. The difference between adjustment and re-organisation is a matter of degree.
- 4) Upgradation: Upgradation involves the amalgamation of 3-5, 10-15, or 15-30 households on a street, to come together and form a cooperative for reconstructing their houses. The guidelines for reconstruction are provided, and this transformation happens in a piecemeal and incremental manner. Gradually, as more families acquire the means and the willingness for development, they join in as well.
- 5) Restructuring: is what is commonly referred to as “re-development” through a private developer. Here, the entire settlement area is cleared up and rehabilitated in-situ, usually in high-rise blocks. The cost of doing this is recovered by building middle income or luxury apartments on the same site for sale. Non-fiscal incentives such as higher FSI or TDR are provided to make such developments profitable to the developer. No trace of the old settlement is retained.
- 6) Renewal: is where a large area is comprehensively re-developed as a mini-township or a “planned” district. All the existing dwellers are rehabilitated in-situ, however, like re-structuring, a part of the development is put out for sale to make the scheme profitable.

Criteria for evaluating development proposals:

Any proposal for physical development must be evaluated based on at least the following four criteria:

- 1) Dweller Control : which is the amount of control (not simply participation) a resident has in the shaping of her / his environment- a factor that is almost always missing in both developer driven development schemes and government plans and programs. Areas such as urban villages are places that have been shaped over the decades by people themselves, and despite the extreme constraints they have built mixed use, low-cost environments that work better than redevelopment schemes proposed for them (However, this is a result of the kind of schemes proposed for them and not due to the fact of redevelopment itself). Urban environments change according to the needs of dwellers, rather than forcing residents to live according to dictates of the physical environment.
- 2) Access and equity : The creation of a universally accessible and cosmopolitan public sphere that ensures safety, health, literacy and cultural diversity is central to any transformation of the built environment.
- 3) Economy, affordability, incrementality: Transformation of a neighbourhood must be within the economic means of its residents- although with some assistance- this will ensure a gradual, need based evolution of the area as opposed to sudden disruptive change.

Image 2 : Operations catalogue

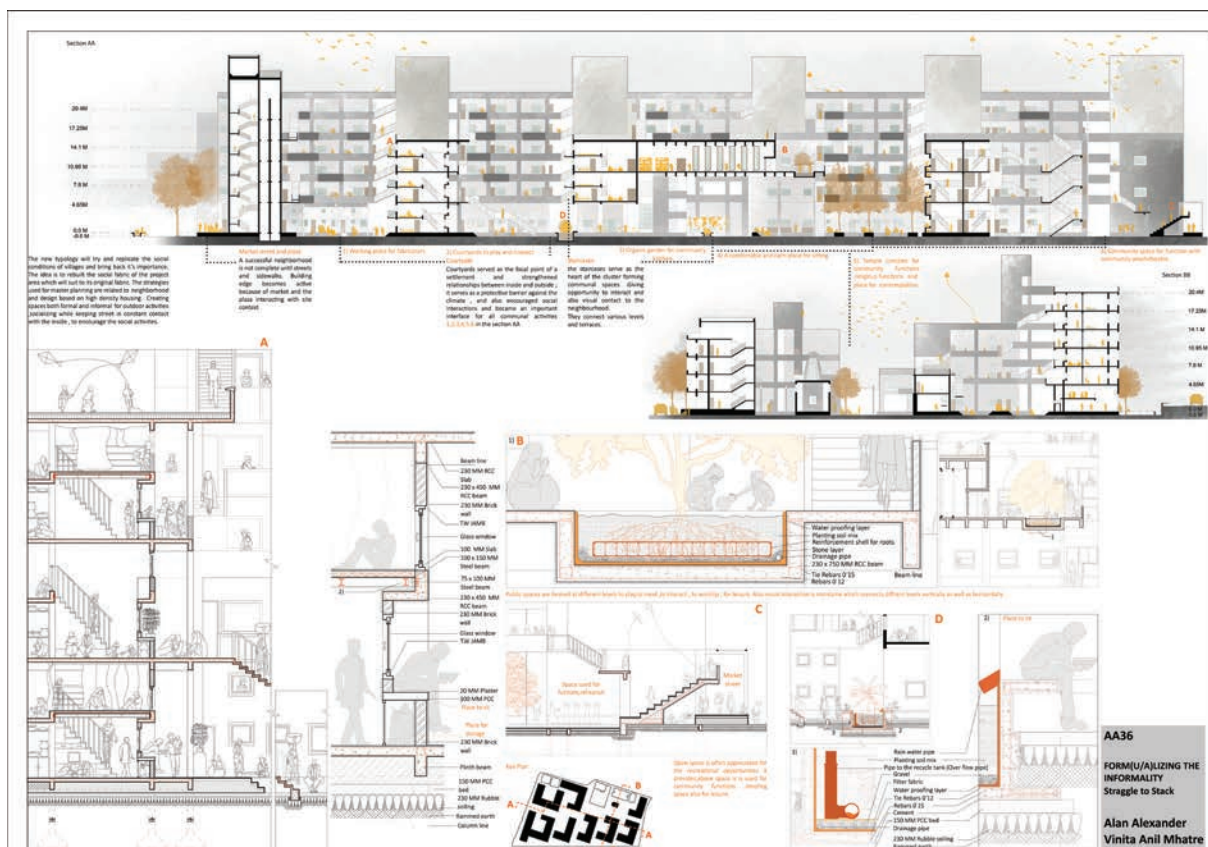
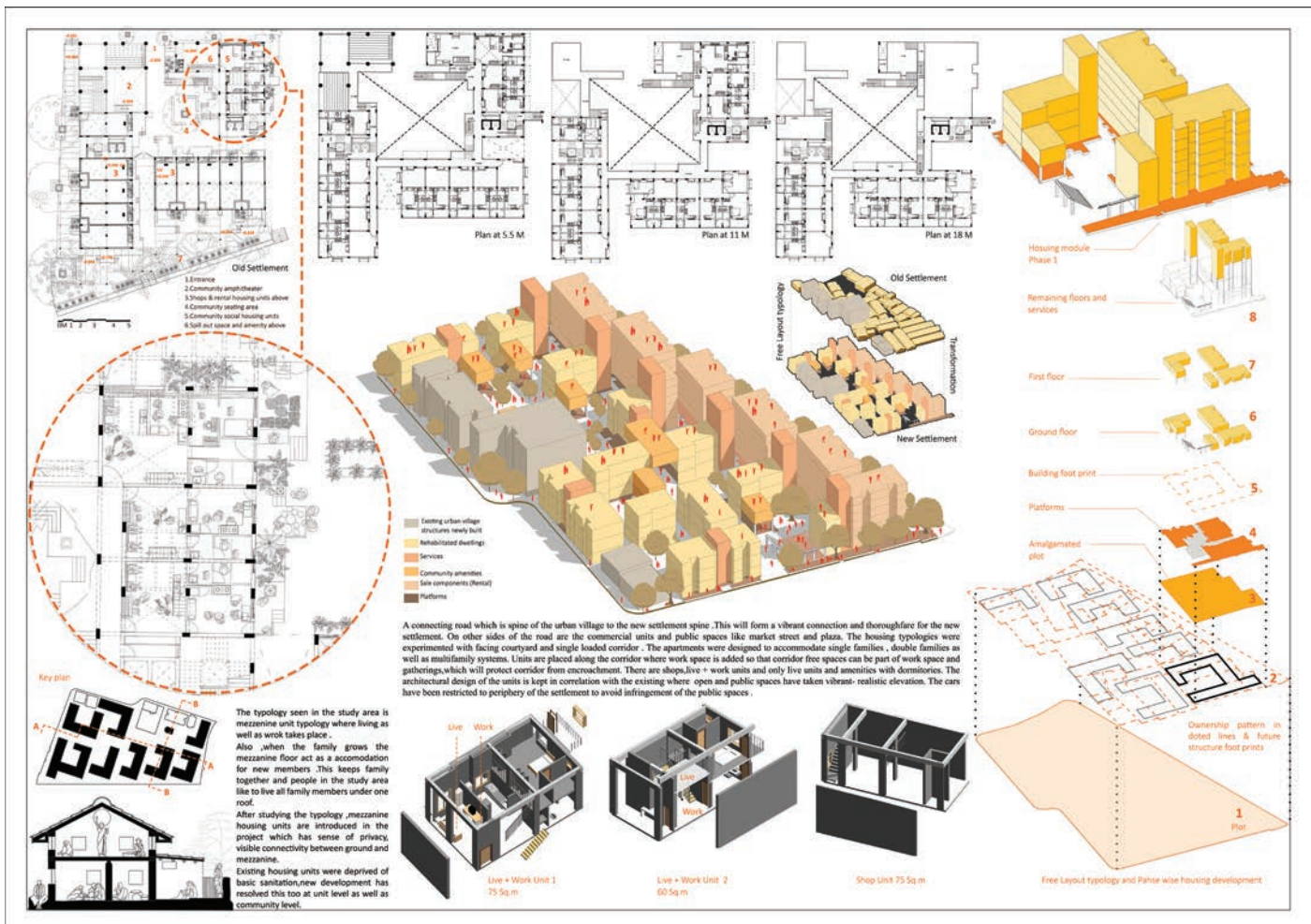


THE PRODUCTION OF HOMES

Following is the catalogue for the production of housing . The design of the housing module is done at dwelling unit level and cluster level . The production home is like a game where there are simple operations like rotate , push - pull , shift , mirror , stack and repeat.

While doing this some key aspects should taken care of such as community lifestyle, the relationship with outside -inside ,ownership patterns ,activity patterns and site context . The computer operated commands and equations using strategically can solve housing problem then they are successful. In the making of the equation it must take in account that informality knows the significance of the exterior and gives inhabitant the liberty to utilise the open space as per their living.

Image 1: Learning from informality



Convergent Surfaces

Construction of The Public City

CARACAS, VENEZUELA

FRANCIS FERNANDEZ, ADRIANA RAMIREZ

FACULTY OF ARCHITECTURE AND URBANISM CARLOS RAUL, VILLANUEVA, CENTRAL UNIVERSITY OF VENEZUELA

IDEA

The public city, complex and heterogeneous, is based on its urban life. This is built from the interactions of society, manifested in different encounter spaces, whether these are public or collective. The morphology of the city is diverse and dynamic, consisting of the "formal city", which by not anticipating its evolution, generates other forms of unregulated development, called "informal city". Where both formal and informal meet, they tend to refuse each other.

Moving us to Caracas city, this negation becomes a necessity to isolate through the cloister due to the current levels of insecurity, generating "fear architectures" as a common problematic in all the city. This fear limits the possibilities of living the city, segmentating it with barriers i.e. : fencing, walls and road closures, leading to unused parks, city squares and commerce.

Architectural interventions to improve public services do not directly determine a change in the condition of fear in the city, but they let the surface be conditioned as physical support so that public policies and social or economic activities take place.

The way of creating the city must be understood differently, where the actions of the "top-down" - those who plan - must understand the conditions and potentialities of the "bottom" - the society -. The idea proposes to take the negation as an opportunity, intervening on the encounter points, and that way permitting the integration of those different types of cities.

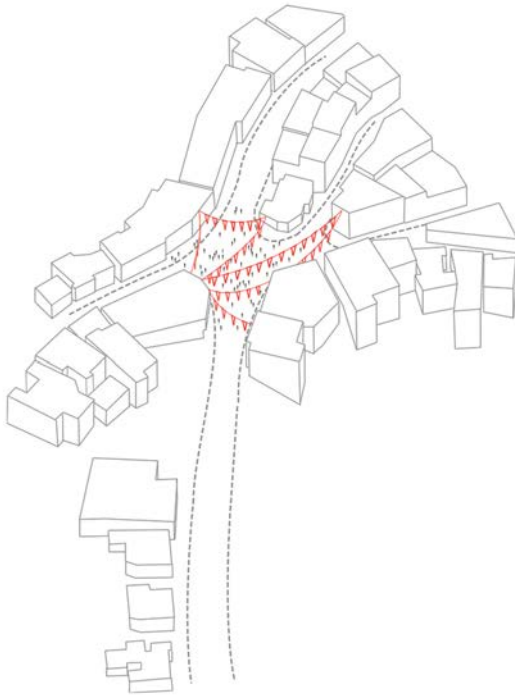
Based on this idea, it is proposed to develop strategies in three temporal phases:

- The **appropriation** of the street surface as a potential hybrid space for temporary activities, is the first encounter between the top and the bottom, it works as a civic expression to understand the problems and potentials of the place. Those actions will enhance the participation of the inhabitants in the physical and social transformation of the neighborhood.

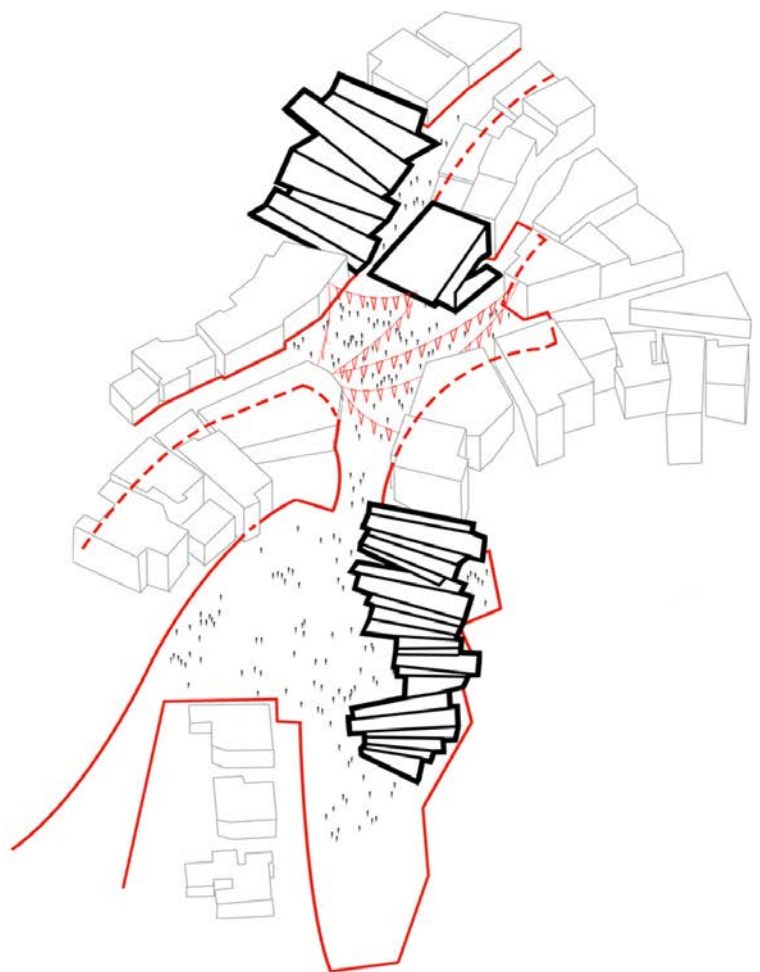
- **Liberation and development of a public surface** capable of linking up these temporary activities. Generating new connections to improve accessibility not only in the informal areas, but also from and to the formal zones. It will also be equipped with basic services of water, electricity, public lighting, essential for the slums and for the public space.

- **Build** on the surface institutional buildings of a collective character, that support the temporal activities of the community and that will generate new social, cultural and economic relations.

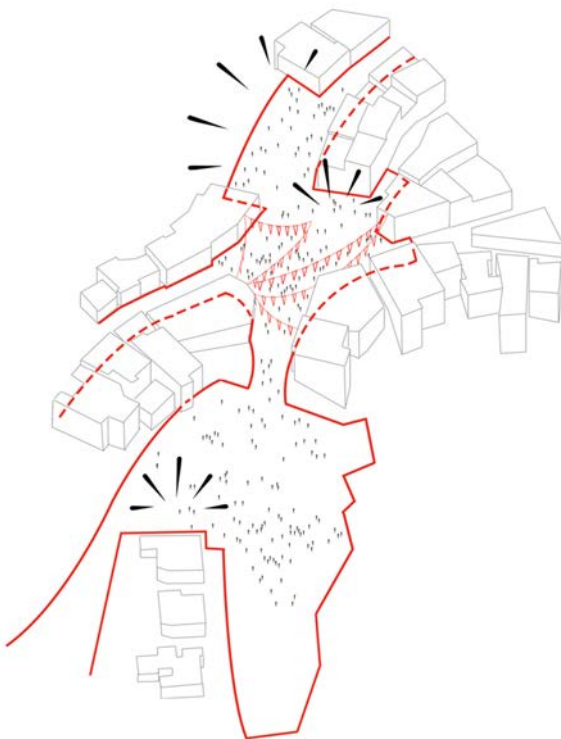
● APROPIATION

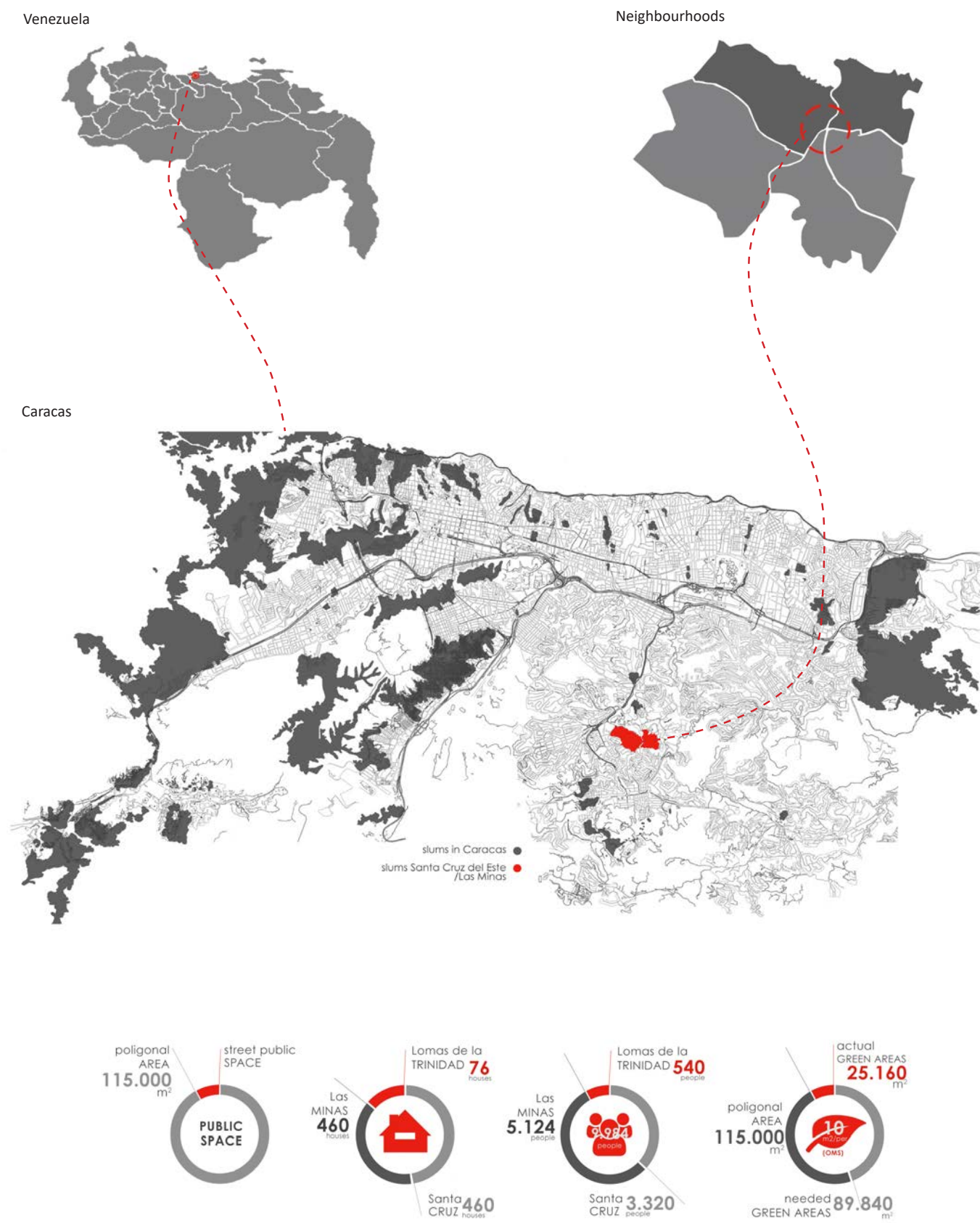


● BUILD



● LIBERTATION





Analysis of context: Localization, relations with neighborhoods and data of intervention area



CONTEXT AND PROCESS

Venezuela, despite being an oil country with a privileged geographical location it is currently a country with a growing poverty. It has an inflation rate of 100-120%, added to this the social anomie¹ the country suffers aggravates the situation of its formal and informal urban centers.

The capital of the country, Caracas city is the main administrative, financial, political, commercial and cultural center of the Venezuelan's nation. 47% of the urban population lives in slums and has a accidented geography, for instance, a confined valley.

Of the 18 agglomerations of slums and 50 of the isolated slums that the city has, Santa Cruz del Este is the densest of all, settled and limited by the geography of the mountain; where, for a surface of 405,2km², It has a density of 708 pop./km² (2009), being 7 times greater than ideal. Santa Cruz borders with another slum, Las Minas de Baruta where its growth has been characterized by its vertical development.

These neighborhoods are two "informal" structures, of high density and residential use, with a pronounced commercial and social hub on the Caracas-Baruta street. Both are located in terrains with steep slopes, where the plains are highly valued. On the other hand, these structures also adjoin the Urbanizations of Coracevi, Lomas de la Trinidad and Terrazas de Club Hípico; all "formal" structures of residential use. However, neither account with sufficient public space, limiting public space only to the road and the sidewalk.

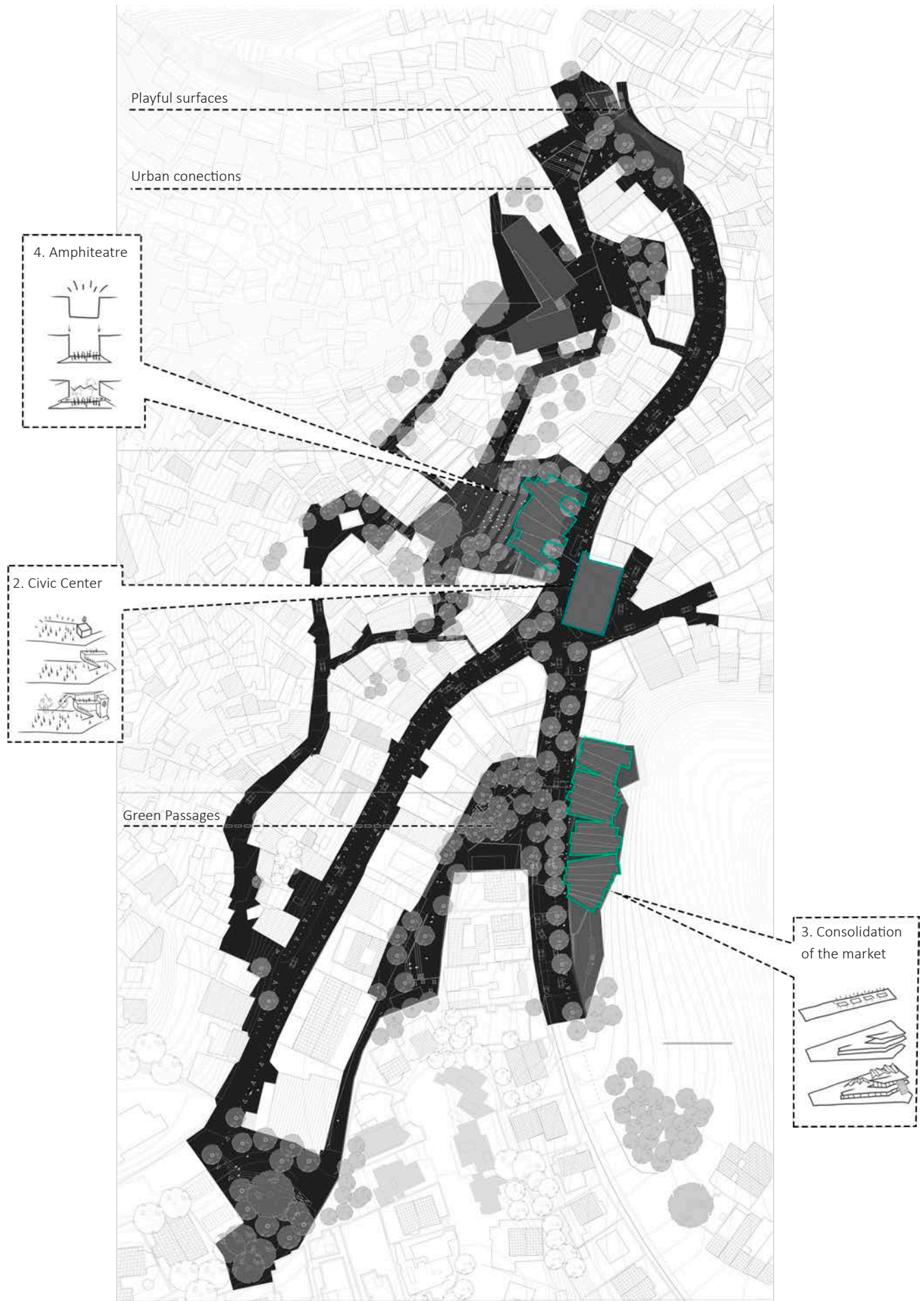
Both have punctual interventions, such as the health center of Las Minas in Caracas-Baruta Street (2008), the vertical gym at the border of Santa Cruz (2013), and a physical habilitation plan for slums in Caracas, carried out by their mayors, architects and urbanists together with each community.

The boundaries of the proposal take as parameter a radius of 400mts and 3 floors of height. This being the ideal walking route to reach public transport, services, commerce, etc. The idea is that the scale of intervention is in between local and urban, and the strategies can be replicated and/or connected with similar ones in various encounters points [formal-informal] in the city. Based on this premise, the urban vehicular node is taken as a center.

On this context, our proposal is generated from the three temporal strategies:

The **appropriation** of the street, since they do not have public spaces; **the creation of the public surface**, being this evolutive and equipped with services (water, light, electricity) to articulate the existing and future interventions; and the construction of **collective buildings** that enhances the relationships, activities and services of the community.

1. Anomie: Its a social disorder, a condition in which society provides little moral guidance to individuals. Under unruly scenarios resulting in fragmentation of social identity and rejection of self-regulatory values.



Convergent Surfaces: The construction of public city

DESIGN VISION_STRATEGIES

This proposal brings temporary and evolutionary strategies in order to understand the real problems and potentialities of the community. A research was carried out jointly with the leader's city town halls to analyse the situations that exist in the node, slums and urbanizations.

Besides the lack of basic services, public lighting, transportation, clean and sewage water, expressed by the community. It is evident that the public space is conditioned to the sidewalk, the causeway and the stairways of the slums. While fully active, children play, people meet to talk and even to play sports, that is a precious value, because it does not happen in any way in the streets of "formally" urbanized neighbourhoods.

In the node on weekends there are temporary street markets. Organized by the slums community and equipped by the town halls, where people of all places congregate to buy vegetables, seeds, handicrafts and more. On the other hand, the community of Santa Cruz and Las Minas appropriates temporarily of the Caracas-Baruta street that joins them, closing entry to vehicles, they do folkloric activities, sports and celebrate diverse festivities. Even to protest, where people from the "formal" and "informal" that share a common motive congregate. This is a clear civic expression of lack of public space and potentiality that the node has as a convergent point.

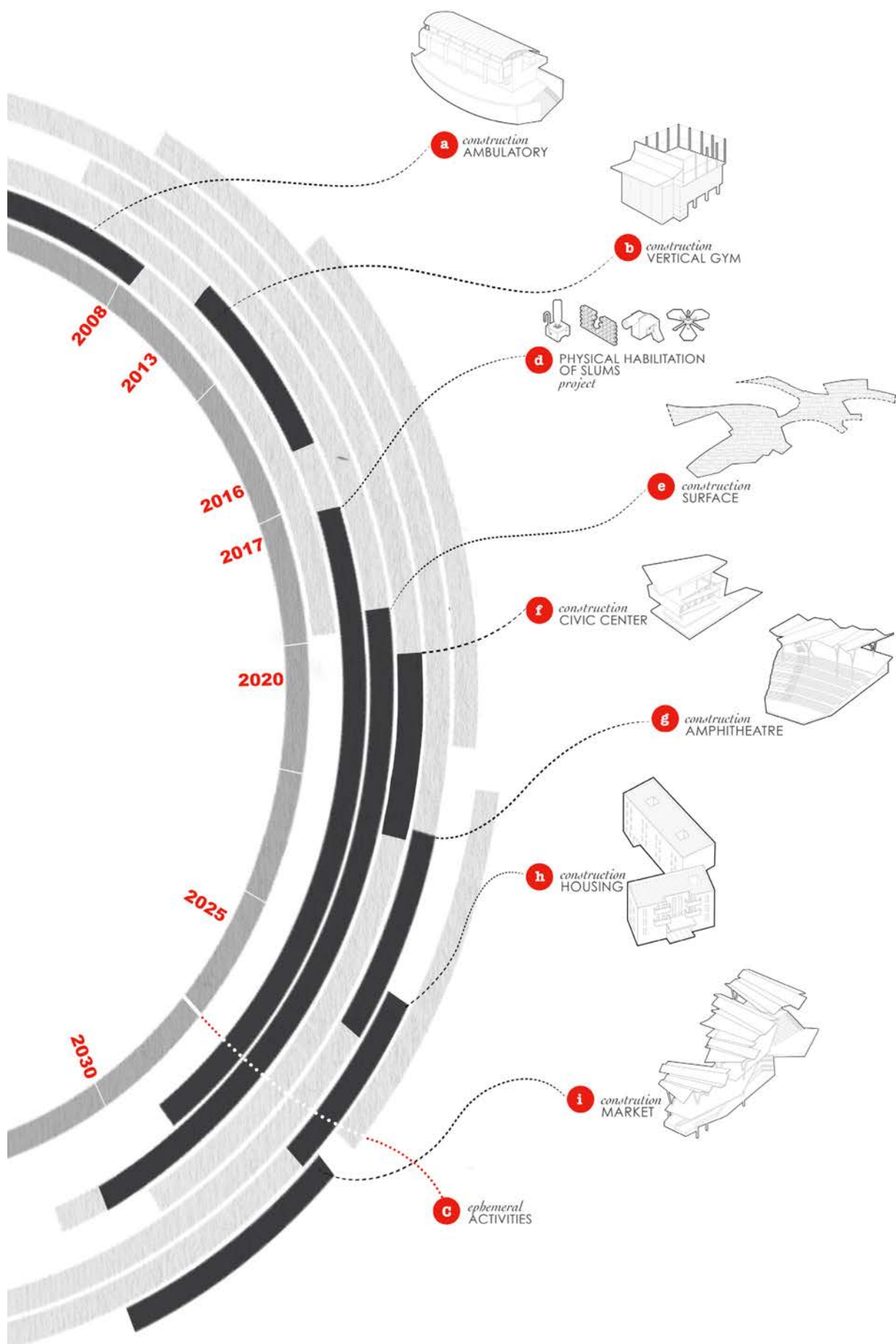
This project also seeks to encourage the participation of public and private entities in the execution of the work proposed in the plan. Having the possibility of a constructive inclusion of society to generate a sense of common belonging that permits integration. Based on these factor, the following strategy is based on an understanding between: the town hall, the public and private entities of the "top-down" and generate an integration between the formal and informal.

1.- Enhance the ephemeral: Street, space and the urban node (road and sidewalk). Currently scene of disorder between cars and pedestrians. Also of temporary events with the appropriation of the street. It is proposed to enhance the temporary activities of the community with subtle interventions supported by the mayor, where it include elements of shadow in the node, to generate a temporary square atmosphere. This is the key element for "deregulation" of the street surface.

2- Civic Center: In the node there is a building owned by the city hall. It is proposed that this building is reformulated as a civic center. Modifying its physical relation with the public, the concept is the continuity of the street surface for its open appropriation. This will serves as a platform to supply the needs of space for meetings and discussions, with key participation between the organisms and the community.

3.- Consolidation of the market: In the Eastern area of the intervention is currently a wasteland hillside, where the temporary market takes place. The proposal generates a widening of the surface, which extends through planes that join uneven cliffs of the land and generate a journey, a fresh public area. Consolidating economic activities (banks, shops, restaurants, etc.) and enhance the ephemeral economic activities.

4.- Connecting buildings: In the eastern area, there are two geological risk zones. Occupied by informal settlements where regulation with containment walls is necessary. At the same time it is proposed as an opportunity to build two buildings, one of an amphitheatre for the community, interpreted as a new width of the life their current stairways have and another building as replacement housing for these risk areas. These two buildings are raise in conjunction with the active surface and are connected generating a new horizontal connection.



Timeline: consolidation and strategic integration of the proposals

DESIGN VISION _ THE SURFACE

Construction of the surface

In parallel to these proposed temporary strategies, the creation of the urban surface will be built gradually from the consolidation of the civic center. This will serve as a base for citizen participation and discussion on the planning and development of it.

The surface raises the renovation of the street with a continuous texture that extends into the proposed buildings, designed to reduce to the minimum necessary space for the car, and this enhance the pedestrian space.

Texture: The sidewalk and the roadway will be at the same level, leaving only small concrete pillars to delimit the space for cars. The material is designed as a texture of concrete slabs, to reduce costs compared to asphalt, and to be easy to replace for maintenance.

Services: Below the surface, there will be a system of electric services and clean and residual water, both to supply the neighbourhood and the public space. The design of the surface will be in accordance with the sewerage network as well as basic equipment such as garbage dumps, benches, and shading elements.

Lighting: It will be focused on the pedestrian, with poles of smaller scale with indirect lighting, which relates to the indirect lighting of the roofs of the proposed buildings. Being homogeneous and emphasizing these buildings as landmarks at night. The surface and the proposals will only be successful in conjunction with the organization of the society and the planners. To understand and be able to generate an integration for both of these neighbouring areas, as well as the consolidating and improving the slums in the city.

The result of the idea is only one of the diverse possibilities that could exist. Being this flexible, able to replicate in other points of disagreements [formal-informal] and taking into account the importance of this scale radius. Understanding between the top and the bottom can work!

Room(s) for Manufacture

Co-owning the formality

VALPARAISO, CHILE

LIVIA DEL CONTE, IRENE CONVERSANO

TU DELFT

The ultimate goal of “Room(s) for manufacture” is to generate a new type of formality co-created and co-owned by government and citizens.

The area addressed by the project, El Barrio Puerto, is a former flourishing port area currently characterized by an informal architecture, made of cheap and weather-vulnerable materials. The chosen sites are recognized as the main physical elements responsible for the unsafely feeling that the area generates both in tourist and locals.

They are potentially valuable flat lands currently inhabited by ruins of buildings that collapsed because of the vulnerability of their construction materials: according to this they are readable as scars of informality.

Informality is recognized, in the context, as the physical representation of a social tension.

In fact, despite government and citizens strive for the same goal of upgrading the neighborhood, their interests seem to be conflicting.

From the inhabitants perspective, formality is generated through top-down processes, regulated by the government, that are a threat to their local identity.

The government, on the other hand, focuses on formality as a way to foster economic growth thus researching partnership mostly with private investors.

It follows a lack of trust from the citizens to the government associated with the unwillingness from the government to collaborate with the inhabitants, two features that lead to informality.

This project thus aims at converting the scattered scars of former informality to germs of a new type of bottom-up formality, in which government and community co-create and co-own business initiatives that foster the economic growth of the area, mainly using the touristic sector, while maintaining its peculiar character.

This is done by both a social/policy perspective and from an architectural perspective. From the first point of view, the government provides the community with tools, material and expertise to create, build and run different types of initiatives which empower citizens to both create economic profit and to accommodate community life by exploiting their skills and resources.

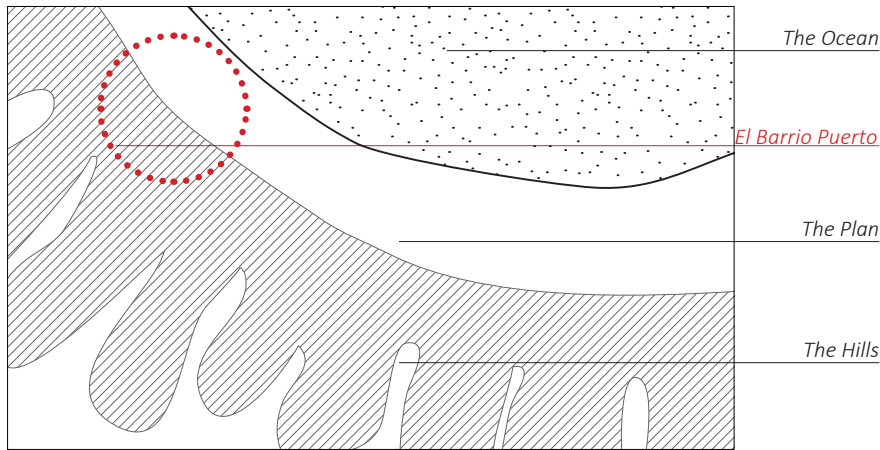
From the architectural point of view, the sites are filled with wooden pavilions producing different categories of space able to answer to the ambiguous character of the project. They accommodate functions related both to the new manufactory and to the community life, but they also aim at providing a new system of small infrastructure to improve the accessibility within the neighborhood.

To conclude, the scattered character of the sites, reflecting the pattern of the previous informality, allows a new type of collaborative formality to be introduced throughout the whole area in a punctual but connected and coherent manner.

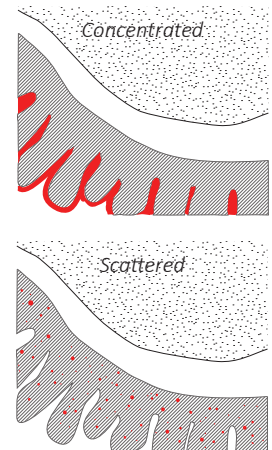
Informality is indeed crucial in the production of the fertile soil that will bring the seeds of new formality to blossom.



A flyer sponsoring the project for tourists



Diagrammatic visualization of the context



Types of informality generated



Ronald Gallardo,
Director of a community
space



Rui Cardoso,
Architecture student

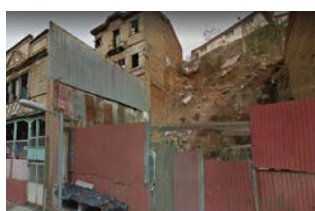
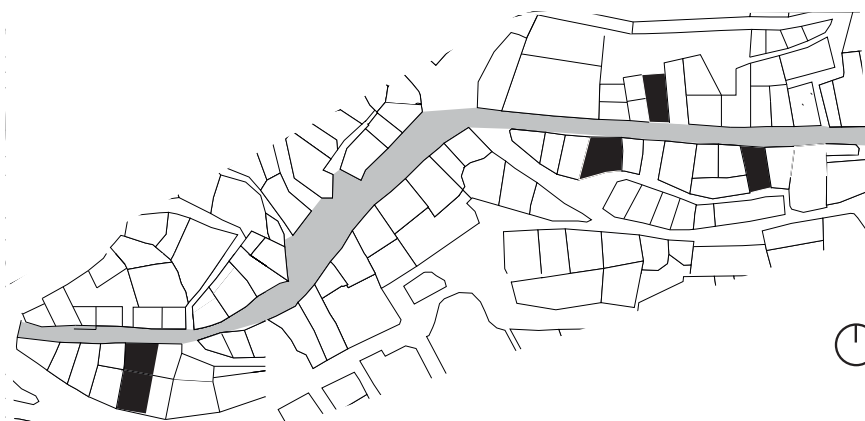


Milena Ramos,
teacher in a community

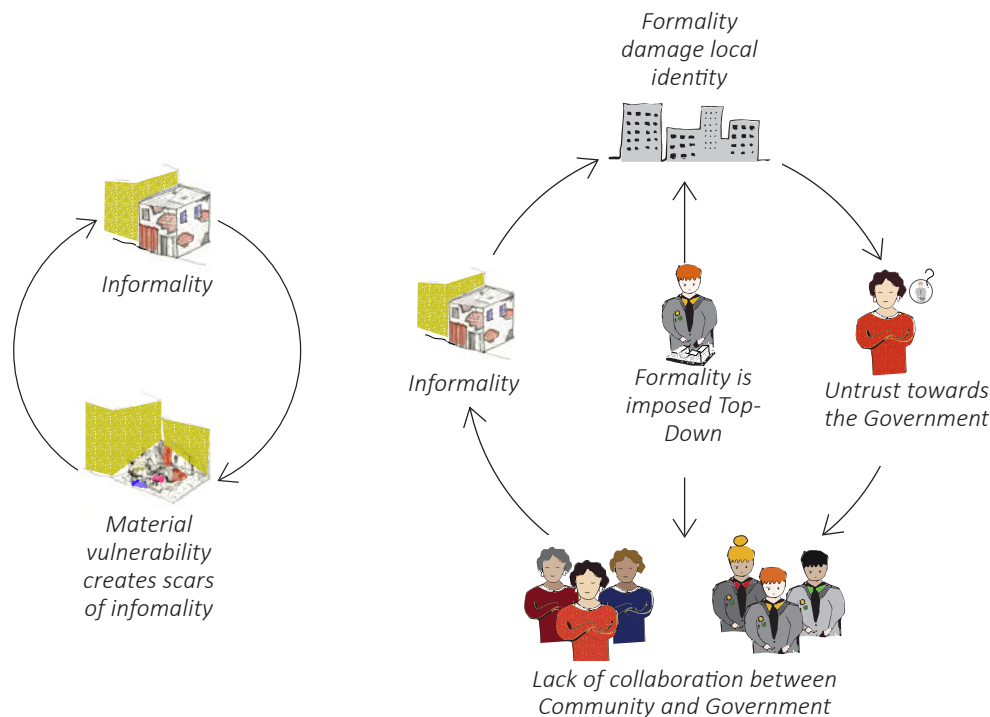


Padre Gonzalo,
priest of El Barrio Puerto

The interviewed actors of the neighborhood



Calle Cajilla and its scars of informality



Context- related problems , both social and related to the built environment

CONTEXT AND PROCESS

The city of Valparaíso, Chile, where the project is located, is characterized by a strong topography that divides it into three parts: the ocean, a narrow strip of flat land and the hills that enclose this latter. The hills, steep and difficult to be urbanized in an ordered way, present a concentration of residential constructions built both in a formal and an informal way; whereas in the plan are concentrated the public spaces and the facilities to be shared among the residents.

“Room(s) for manufactory” focuses on the area of El Barrio Puerto: the foundational neighborhood, comprehensive of the flat strip of the port and the hills behind it. Extremely flourishing during the XIX Century, the area entered into a process of decay and abandon due to the progressive loss of economic value of the port. Nowadays it is recognized, by both locals and tourists, as dangerous and unsafe, mainly because of its informal character, visible in two different ways. On one hand through the poor conditions of the standing buildings, constructed with cheap materials thus extremely vulnerable to decay, and on the other through the ruins of the ones already collapsed after natural disaster such as earthquakes or fires, really frequent in the city.

From different interviews conducted with community members of the port-contingent hills a strong sense of community and local identity emerged. The inhabitants feel that government-regulated interventions might damage the local identity of the city, since they are usually top-down processes that do not take into account the priorities, the beliefs and the desires of the community, prioritizing instead the private initiatives’ ones.

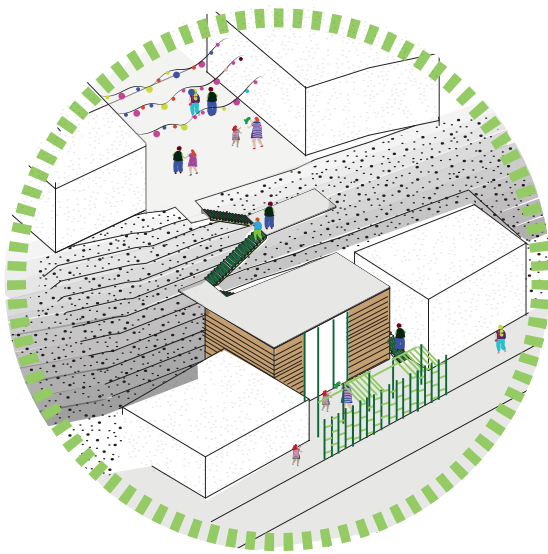
This leads to the untrust of the inhabitants towards government’s formal interventions and consequently to a lack of collaboration among them in the upgrade of the area. The result is a closed circle where formality, thus the government, is excluded and informality is perceived as the only possible way to build the neighborhood.

The consequences of this closed system are on one hand a thriving and cohesive community, that feel the responsibility to fight and actively work for their district, and on the other an area littered with ruins, scars of the informality within the area.

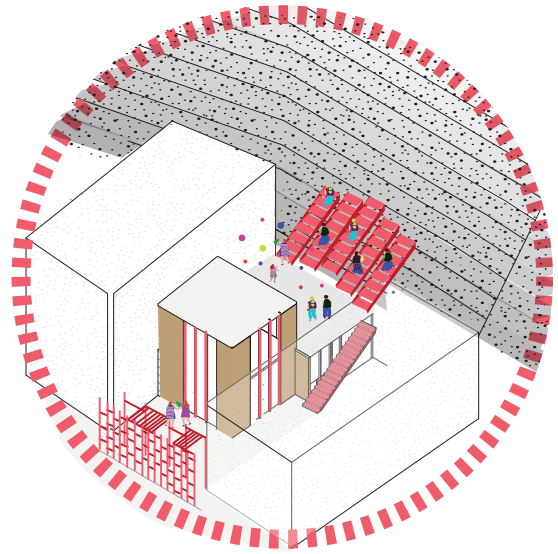
These are indeed the starting point of the proposal which led to the following statement:

By means of turning these two aspects into resources, we could produce a constellation of commons, germs of a new formality, able to change the image of the neighborhood while fostering its vibrancy and safety.

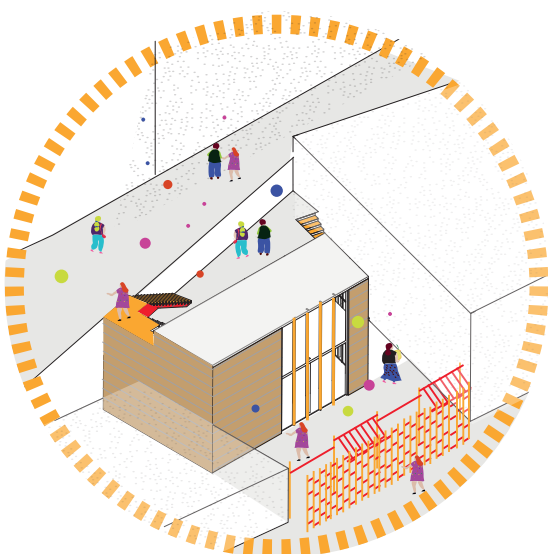
The chosen sites are therefore a collection of four “urban interstices”, currently inhabited by the ruins of collapsed buildings, and located along the street Cajilla, an important axes connecting the flat part of the port with its hills.



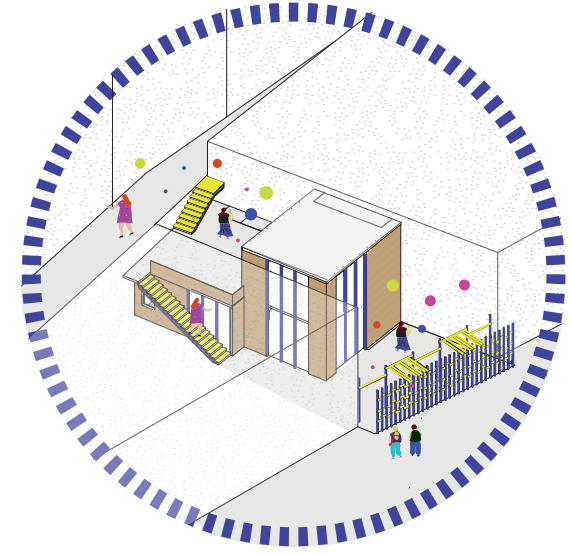
Selling



Exhibiting



Producing



Experiencing

DESIGN VISION AND STRATEGIES

From the analysis of the context what emerges is that informality arises when community's and government's interests do not meet in the upgrade of the area. While inhabitants contrast the top-down imposed formality, fearing that it would damage their local identity, with informal bottom-up processes, government do not take enough into consideration their desires and interests. Furthermore the government, in order to pursue its interest of fostering the economic growth of the city, create partnership mainly with private parties, leaving outside the community and producing the detriment of public initiatives.

The mismatch in interests results indeed in a lack of trust, and thus of proper ways of collaboration, between government and citizens.

The poor conditions of the built environment are indeed the results of a broader problem but they could also become a medium through which this latter could be solved.

Therefore the design vision of "Room(s) for manufacture" embodies all the elements mentioned above and it is to "Formally upgrade the built environment through government-regulated bottom-up processes that both maintain the local identity of the area while fostering its economic growth"

This project is thus intended as a strategy aiming to convert the addressed sites from scattered scars of former informality and negligence to germs of a new type of formality, created and run by the government and local inhabitants together, thus co-owned.

Consequently the proposed intervention is not meant to intervene only on a urban and architectural scale but it wants to impact also the sphere related to policy and community life.

The tools allowing this partnership to happen in a successful way will be indeed bottom-up processes, in which government and citizens cooperate in order to foster the economic growth of the area while maintaining its local identity, and the built environment itself, where the produced values will be embedded and translated in architectural ways.

The first step of this collaboration was conceptualized in a "call for action" through which the government invites the inhabitants to participate with their skills and ideas to the revitalization of El Barrio Puerto. This will happen first through a series of creative workshops in which, with the support of experts and tools provided by the government, ideas for community initiatives that focus on the shared goal can be created and discussed. The idea is to create business initiatives co-created and co-owned by both community members and government, in which every citizen can contribute to the upgrade of the area. From the physical reconstruction of the scars of former informality to the operation of the initiatives, citizens are supported by the government with tools and expertise.

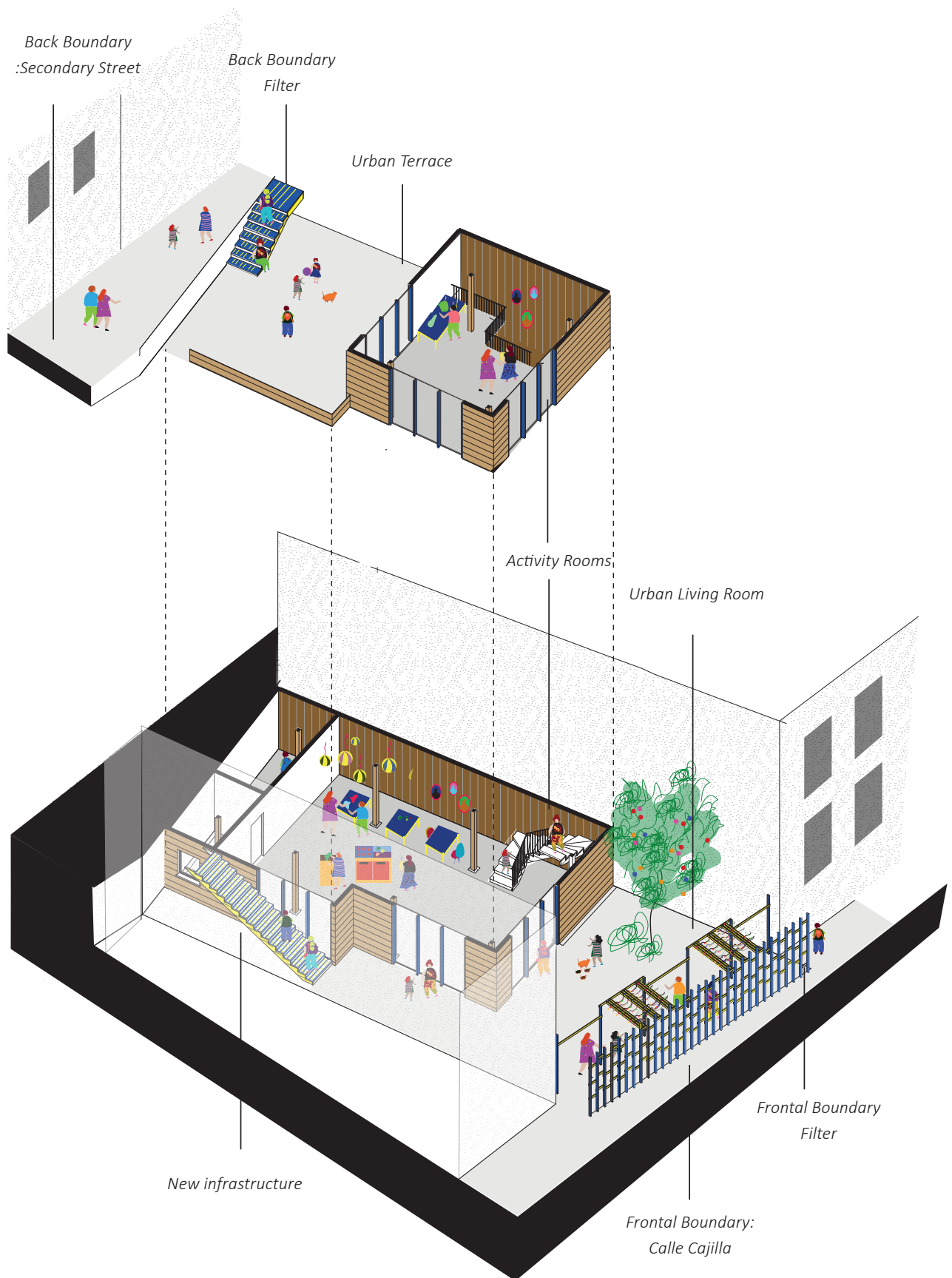
Thanks to this support, the citizens that already have ideas for the revitalization of El Barrio Puerto can propose them in the workshops, where designed tools will help them to tell the story of their initiative and to explicitate the resources needed to implement them. These proposals are then evaluated together with experts and the other citizens are involved. With the support provided by the government, the skills of all the inhabitants can be discovered, in order to empower them to be active part of the site's revitalization. The resources that the inhabitants could share with the government were identified mainly in their low tech skills, translatable in a local manufactory attractive for the tourists, together with their strong motivation in investing time and energy in their neighborhood, thus the will to run a business or being engaged in a physical way by building, cleaning and so on.

The workshops are also places where government and citizens can co-create initiatives from scratch, based on the skills of the participants and on the problems and opportunities identified in the area.

During the workshops, the best initiatives to be implemented are chosen by both government and community. These are to be built in the former informality scars by the inhabitants with provided lands and construction material provided by the government. The selected initiatives should foster economic profit, mainly by means of tourism, a main source for a possible financial prosperity given by the strategic position of the area: next to the most touristic hills of the city. Also the initiatives should accommodate as many skills of the inhabitants as possible, and should also serve as shared spaces for community life. The project in fact aims at producing fruitful and valuable spaces for functions related to the new local manufacture without forgetting the everyday life of the community, ensuring a balance between this latter and the focus on tourism and economic growth.

Each one of the selected sites is indeed meant to be imagined as a different room of the same manufactory building, intended as the entire area of intervention, where different functions are associated with the same manufactured element (such as producing, selling, exposing, experiencing and so on).

In this way, while working with the scattered character of the sites, formality and order are introduced throughout the whole area in a punctual but connected and coherent manner.



The formal architecture of the room and its outdoor spaces

DESIGN VISION AND STRATEGIES

The architectural language of the “Rooms” of this larger manufactory will have to respond to several intentions.

Firstly it will have to ensure, as previously mentioned, spaces for functions associated with manufacture as well as ones more related to public life. This is why the small pavilion determines the creation of two balanced category of space: the ones always accessible and completely public, such as the urban living room and the urban terrace, and the one inside the small wooden pavilion, co-owned by the government and the inhabitants actively involved in the business thus semi-public.

The relation with the boundaries of the interstice was an essential key in the definition of the architectural guidelines. This is visible mostly in the urban terrace, whose character changes according to the back boundary that could be extremely different because of the topography.

The element of “the filter” becomes then a meaningful tool to transform this space, which can become a stage when the filter is shaped as multiple seating elements or a more transitional space, when it has the form of a stair connecting to secondary streets or small urban square.

The architectural language of this element is the same of the filter facade connecting the main street of Cajilla with the urban living room. They are both produced with a main wooden structure and embellished with a substructure of materials recycled from the ruins of the collapsed houses. Hence the configuration will be different according to the availability of the materials and the choice done by the inhabitants, builders of the intervention, in its configuration.

However a colour code will be provided, inspired by the existing palette given by the colourful facades of the street. This will ensure on one hand recognizability, intended as a meaningful tool to provide the order that is missing in the area, but it will also highlight the peculiarity of each site and its relative intervention.

Another important element of the architectural intervention is that it will improve the accessibility within the hill, extremely difficult because of its very steep character. Every site will provide a public stair connecting the main street of Cajilla with the one in the back boundary, and some among those will be associated with elements, such as elevating platforms, in order to ensure accessibility also for different category of users such as elderly people and disable.

Coming to the construction method of the room itself, this is thought in order to be cheap and easily built by the inhabitants, who will have to become the builders of their own pavilions.

Therefore it is a light wooden structure with balloon frame walls build up in situ, where the colour of the site will also be readable.

Emerging Formality

Enhancing livelihoods within informal urbanism

CARACAS, VENEZUELA

NICOLAS PEREZ, ELIZABETH HAUVER

WENTWORTH INSTITUTE OF TECHNOLOGY, BOSTON, MA.

A NEW URBAN TYPOLOGY

Petare is an informal settlement located on the outskirts of Venezuela's capitol city, Caracas. Petare is not the only informal settlement located near Caracas, but it is the largest and most dangerous. Informal urbanism is typically found in regions that are experiencing a rapid increase in population growth, while also facing insufficient funds for the increasing housing needs due to governmental, social, or economic issues. The citizens who inhabit these informal regions often face several serious issues which include but are not limited to; a lack of public space, increased violence, reliance on governmental aid for food and water, and disconnection. This project aims to understand the emergent bottom-up nature of informal urbanism in order to recognize and utilize its strengths through a series of formalized top-down design strategies to combat the issues its inhabitants are facing.

Our proposal will combat the issues that were previously mentioned through several design strategies that developed from an iterative design process. Through this process emerged a deep understanding and analysis of reoccurring patterns that ultimately form informal settlements such as Petare. These patterns include elements such as construction methods, building material, and pathways. In the case of this project these patterns were critical in developing an intervention that not only resolves some of the issues stated but does so in a manner that is both respectful to the typology and minimizes the need to demolish existing homes. This particular project serves as an example for how these design strategies can be utilized to reconnect neighborhoods, provide public space, reduce the possibility of crime, and increase the independence of its inhabitants. Reconnecting previously detached communities will allow new bonds to form as well as the possibility for community members to gather and discuss the possibilities of improving their living conditions. The creation of public spaces provides the residents with opportunity for play and gathering. Youths can hang out together and develop critical social and motor skills while building lasting friendships that will help shape them to be responsible adults. The dependence on government aid with food and water can be reduced by utilizing the topography and roofscapes to collect rainwater, while communal gardens provide citizens the opportunity to grow food. The combination of these elements will ultimately improve the overall quality of life while providing residents with a sense of ownership over their space. These elements combined reduce the possibility of crime to develop as more citizens become invested in the welfare of their community. Ultimately the goal is to create a flexible set of design strategies that can be utilized in order to combat similar issues that plague several locations, not only across Venezuela and South America, but throughout the globe.

Figure 1

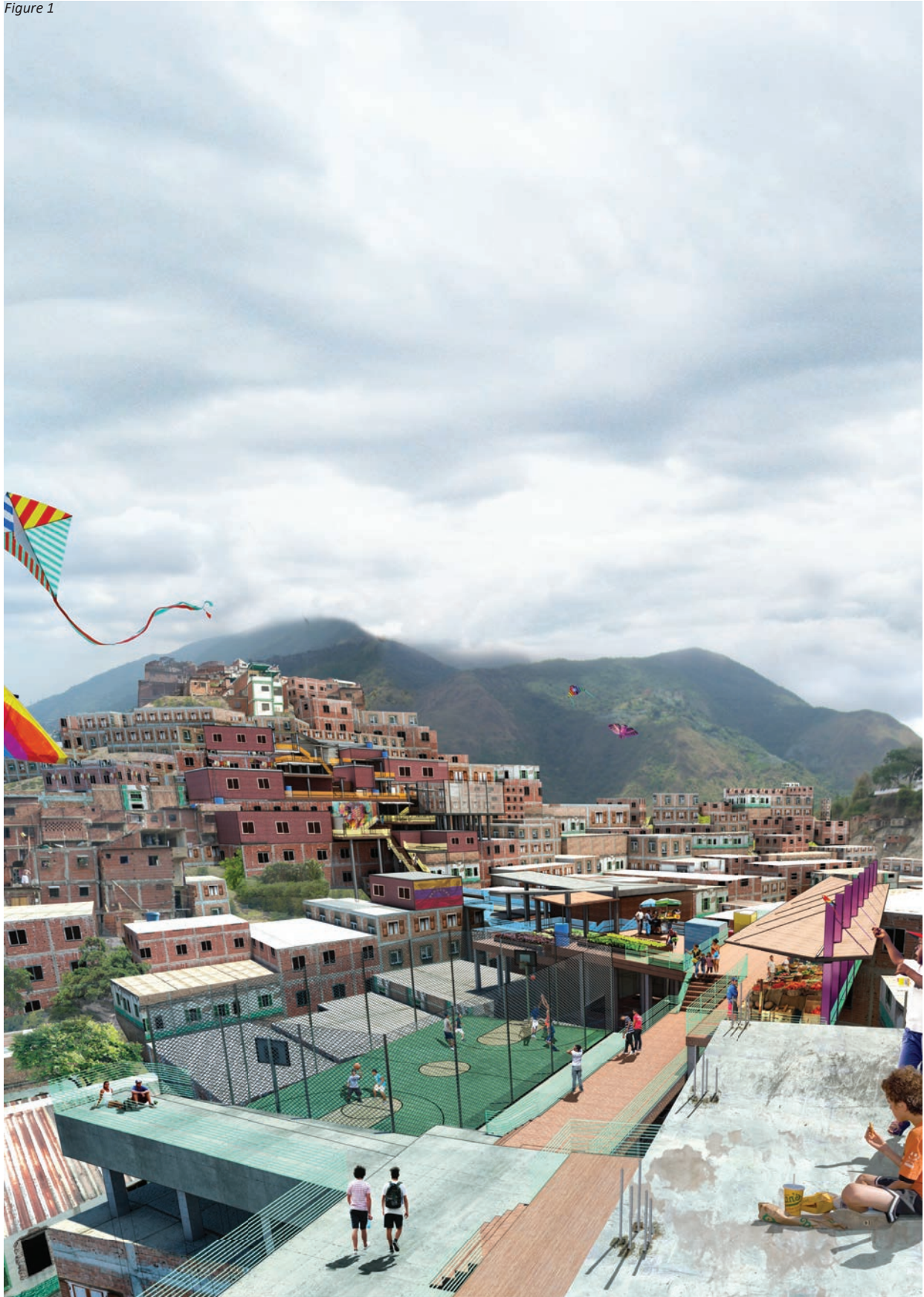


Figure 1 : View from Isabel's home, Rendering by Elizabeth Hauver, 2018.

Figure 2

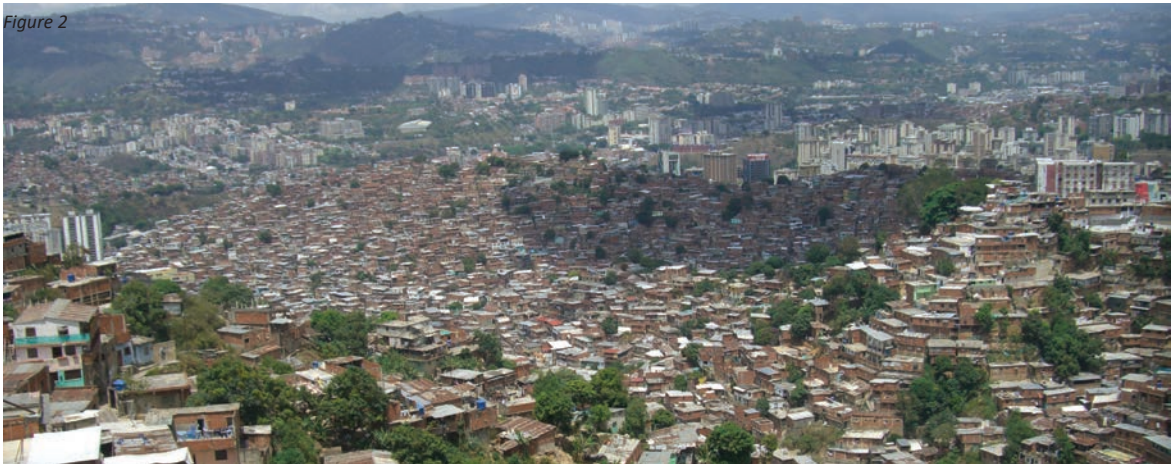


Figure 3

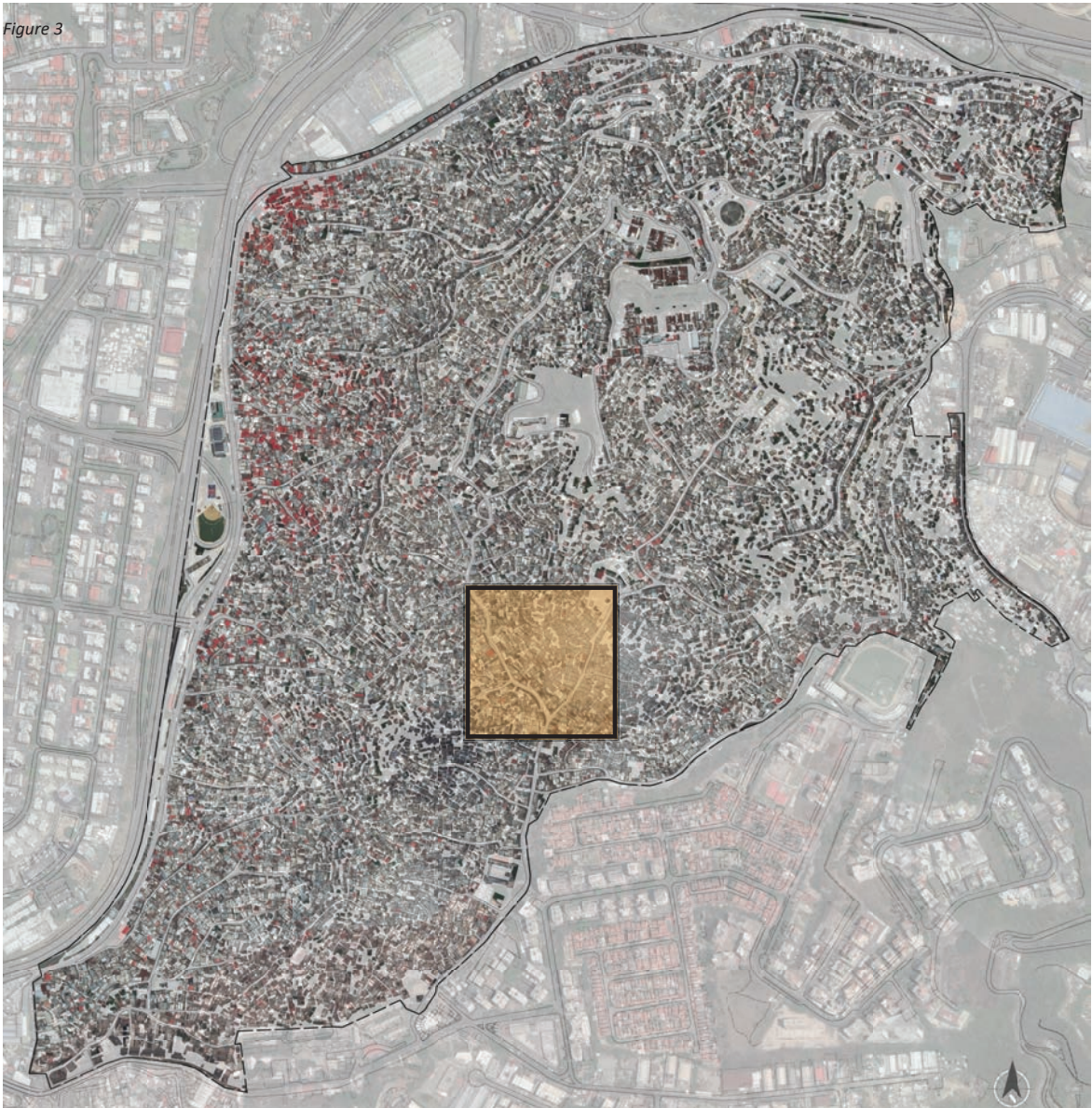


Figure 2: Petare Norte, Robert Cowherd, 2006 / Figure 3: Site Map of Petare Norte, Elizabeth Hauver, 2018 / Figure 4: Barrios, Robert Cowherd, 2006



PETARE NORTE, CARACAS, VENEZUELA

In recent years Venezuela has been facing economic, social, and governmental turmoil, this turmoil has affected the quality of life of many citizens throughout Venezuela. Food and water shortages have become common place, inflation of the Bolivar has been increasing exponentially, and violence has risen as some desperate citizens turn to crime as a means to acquire income. Caracas, being the capital city, has been at the forefront of this decline. Petare's already existing issues have only grown and worsened as Venezuela's economic health continues to decline. Informal settlements such as Petare will play a crucial role in the overall development of the cities in the future as the demand for housing space continues to grow. The welfare and quality of life for the citizens who reside within informal urbanism will inevitably play a large role in the overall success for its host city or country. Due to the poor condition that Venezuela and its residents find themselves in, it has become even more important to develop a strategy that could help combat some of the issues which plague informal settlements such as Petare.

Through analyzing photographs of Petare certain patterns began to emerge. Understanding these patterns, how they influence each other, and how they combine to construct the built fabric of Petare became a fundamental aspect of this project. Some of these patterns are building material, structural, construction method, and pathways. One of the more significant discoveries is the structural pattern that's used to build these informal homes. This pattern was recognized by observing columns of several dwelling spaces in Petare, after some deeper analysis it became apparent that there exists a three-meter grid pattern. The three meter pattern developed from the only length of rebar that residents can purchase, and therefore became the structural norm. Understanding this structural pattern is imperative to design an intervention that could exist within and throughout Petare without causing displacement. Through this analysis, we designed a structure can that connects and reinforces the existing structure of the homes. This added structure can then continue to rise and support a platform that can house several programs and public spaces one story above the barrios rooftops. These additional platforms connect and serve as a new elevated pathway. However, due to the density of Petare, there are times when the intervention must go directly on top of a resident's roof. This yielded a problem, because roof rights are extremely important in such a dense area. Having the ability to expand your home vertically allows for families to grow or gives them the opportunity to rent as a form of income. Due to the importance of roof rights, a design rule was developed to manage this problem respectfully. If the intervention must use a resident's roof, it will not use more than twenty-five percent of the existing roof, and the remaining space will be used to construct an addition that ties directly into the intervention, giving them direct access to this public network. Through digital modeling these design strategies were tested and evaluated to further ensure that the success of the intervention not only benefited residents but increased the quality of there built environment.

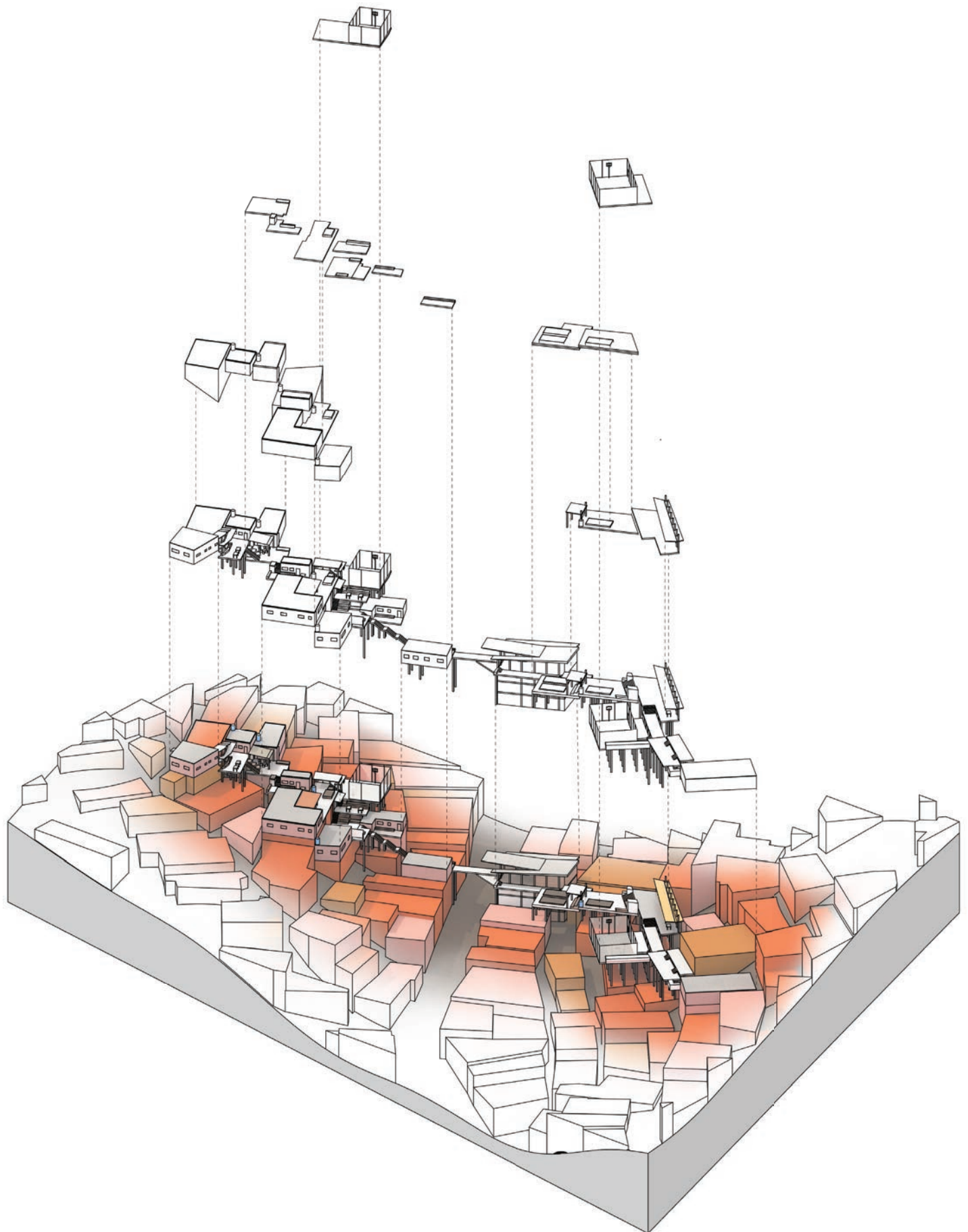


Figure 5: Axonometric Diagram of Intervention, Nicolas Perez, 2018

DESIGN CRITERIA

The intervention is comprised of several design strategies that when combined can improve the overall quality of life for the residents by providing urban amenities and additional public and private spaces. These strategies emerged from our initial criteria which aims to improve the existing living conditions without forcing residents to compromise. Typically, urban projects conducted within the informal sector unfortunately promote the demolition of existing homes to rebuild better ones, this leads to large numbers of displacement which creates more issues than it solves. This project aims to provide an alternative to improving the living conditions without significant displacement.

One of the challenges in which to overcome is sheer density of buildings. This density is due to a lack of affordable housing paired with an increasing population, resulting in all previously available space used to construct homes. In the attempt to stay true to the original ambition it became imperative that the dwelling spaces must become part of the solution. This led to developing a structural system that felt natural to the site which would not only support the intervention but tie into the existing structures of homes and reinforce each other. However, since one of the issues is the rapid takeover of empty space, it became a concern that if the platforms were designed improperly then it could lead residents to simply take over and extend their dwelling space resulting in an even more condensed space.

As a result, five key design criteria were established. The first is that the platforms should change elevation to signify different uses, this creates a visual cue that would act as boundaries. The second is that there must be a strong force of circulation throughout the space, this prevents the construction of unwanted dwelling spaces but also provides a sense of safety as there are more people who will intuitively defend the space. The third and fourth design criteria are similar, they state that there must be pre-emptively designed private and public spaces. The private space allows residents to feel welcomed while also reducing the necessity to continue to build into the intervention. The public space provides an area for residents to gather and discuss, for classes to be held, for recreational activities to occur and to act as an attractor that invites residents to travel through the space. The fifth and final design criteria deals with the issue of having to sometimes use existing roofs, due to high density of Petare it is sometimes beneficial for the intervention to go through an existing roof. This yielded a problem, because roof rights are extremely important in such a dense area. Having the ability to expand your home vertically allows for families to grow or gives them the opportunity to rent out and serve as a form of income. Due to the importance of roof rights, the fifth design criteria were developed to manage this problem respectfully. If the intervention must use a resident's roof, it will not use more than twenty-five percent of the existing roof. The additional space will be used to construct a new addition that will tie directly into the intervention, giving the residents direct access to this public network. In addition to these main design criteria other simple design strategies could provide additional benefits to the residents in the area. One example would be to use the roofs and platforms of the intervention as a rain water collector system, this system would take advantage of the topography and the existing roofscapes. Each roof would collect water which would then be directed down to the adjacent neighbor downhill. This system would promote cooperation between neighbors, because you collect water for your neighbor as your neighbor collects water for you.

These five design criteria along with other design strategies create a dynamic intervention that can provide residents with amenities that have the potential to alleviate some their existing issues. Some of the issues that can be addressed include reducing violence, providing public space, providing opportunity to grow food, provide rainwater collection system, increased connections throughout Petare, developing bonds between neighbors and many more. The hope is that the design strategies developed throughout this project can be used to begin a discussion on how interventions can be created that both improve the quality of life while respecting the existing conditions and residents.

Responsive Archipelago

Symbiosis between identity and territories

CARACAS, VENEZUELA

SAUL YUNCOXAR, GABRIEL GARCIA, JUAN CARLOS MORENO

FAU UNIVERSIDAD CENTRAL DE VENEZUELA

Informality is in essence, the denial of the idea of the formal, understood as an environment where everything responds to the established rules or complies with the established requirements. In contrast, the unplanned urban environment is a territory that appears disordered and accidental, distinguishing it from the planned city.

In Latin America at the beginning of the 20th century, unplanned settlements began to develop as a result of the uncontrolled rural exodus to the cities. Thousands of families were forced to solve their housing needs by improvising shelters, as a natural solution, born from the impulse and the need to build homes at the lowest cost possible. These settlements, choosing strategically sites, located to associate with the productive centers of the urban cores and arterial roads that feed and link the different regions of the city, created a particular landscape according to the hills that characterize their geography, and maintained an exponential growth, as evidenced in the present, when most of these settlements have four times more inhabitants than at the beginning.

The separation from the formal city has the effect of making the informal territory a commuter town, a dense agglomeration of extra-urban dormitories, an archipelago of marginalized islands, without the amenities that enliven urban living and disconnected from the public goods of the planned city. We are interested in the construction of new landscape that is progressively developed and that strengthens the roots with the place, a symbiosis between identity and territory through specific and temporary interventions that stimulate the specific identity of the “barrio” and recognize the values of unplanned territory.

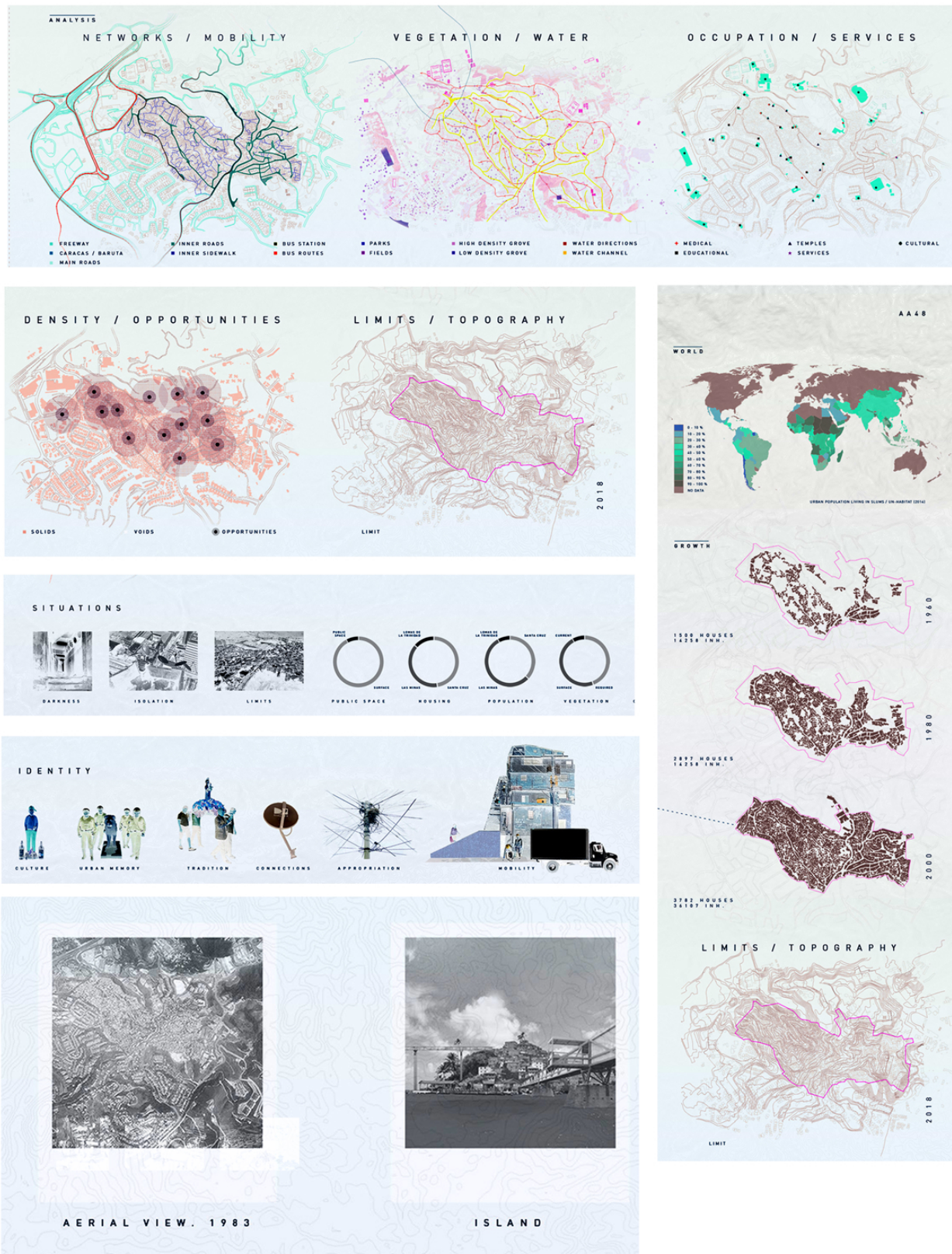
Weaving a responsive network of connections that consolidates over time and takes advantage of the new lay-out for the distribution of basic services while building a scenario for daily life, by allowing the inhabitants the appropriation of lightweight structures, versatile enough to be used in the development of multiple human activities, like mobility and productive and educational activities and living quarters.

Are the slum patterns an urban model that show resilience, adaptability and validity over time, above the rational conventions of the formal city? Will the conditions of resilience and adaptability of informal settlements be a key to anticipate the evolution of formal cities?

Could it be that the slum has the answer to the future growth of cities?



Informal Island



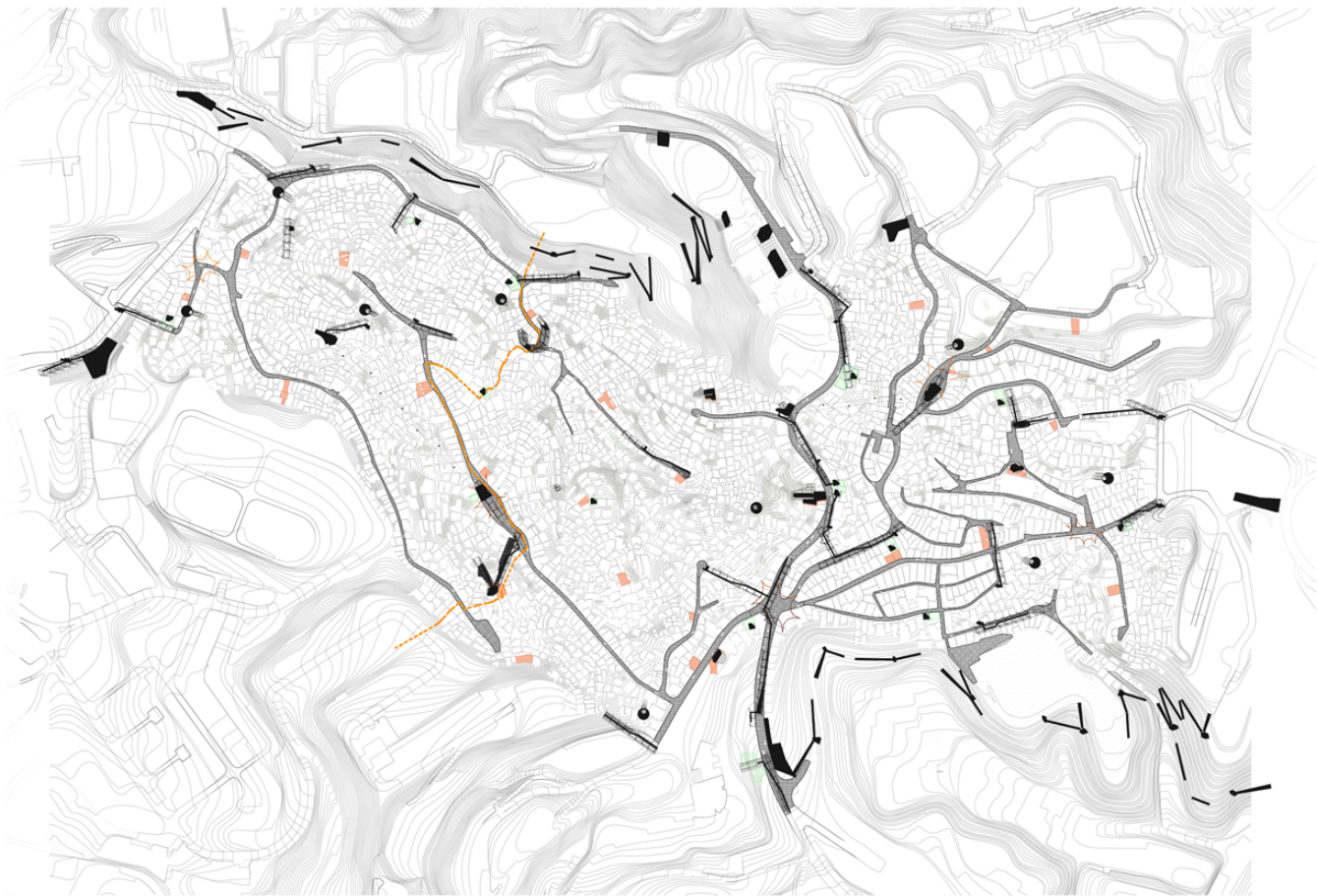


Caracas Archipelago

Currently Caracas counts with an estimated population of 1,943,901 inhabitants unevenly distributed over 43.3 km². The research reveals that currently half of the capital's population lives in informal settlements, although, in terms of territory, they represent a quarter of the urban footprint. In terms of housing, densities are 3 to 4 times greater than the density of the planned areas. The requirements of green areas, public space, streets and setbacks imply that the land available for housing is maximum 17% in the formal city. Instead, in the slums, housing reaches 60%, leaving too little space for everything else. (Silva, Caradonna and Galavis, 2015, p.9)

Our research defines informal settlements as a situational archipelago, fragments from the depths of a submerged city, which evidences the contrast and disconnection of these surfaces. We centered our attention to the case of Las Minas, founded in the city of Caracas, Venezuela, more than eighty years ago, articulated by a major main road, declared good of municipal interest in 2005 for being a testimony of modern Caracas urban planning since 1930. Its name refers to the origin of its foundation, the exploitation of ancient gold mines, finally exhausted, left in abandonment a territory that served as the starting point for the growth of this informal settlement, highly dense and **mainly** characterized by being surrounded and enclosed by numerous and boundless growth of juxtaposed scenarios. (Silva, E., Caradonna, V., Galavis, O. (2015). CABA slums Cartographies of Caracas 1966-2014. Caracas: Fundación Espacio. Pp. 9.)

Currently, these densely populated territories build a landscape that exhibits an extensive homogeneous surface of zinc roofing scraps, clay block walls with laces of various materials, small windows, plastic water tanks, cable TV metal antennas and the intervention in the sky of many kites that manifest themselves at the rhythm of an urban environment in constant transformation and growth. Through that metallic skin, incomplete and full of uncertainty, an important network of simultaneous intentions, vectors and energy flows is articulated, that we have interpreted as a heritage from which to reconcile informal settlements with the environment. We believe that informal settlements **substantially** complement the formal city, preserve the productive human value that daily activates the entire labor structure that gives life to the city. Behind the construction of planned urban environments there is a workforce that mostly resides in informal neighborhoods and rarely enjoys the public goods that it builds, that is, the population living in slums spend their lives working in and for the formal city, while it continues to stay disconnected through its isolated growth, impermeable in relation to what is considered informal. The massive daily displacement builds an important **link** between the formal and the informal city, journeys that produce an invisible trail that manifests the need to obtain in the city what the slum doesn't guarantee.



interface.

FRAMEWORK
DWELLING
COWORKING
EDUCATIVE
MARKET
OASIS
SQUARE

promenade.

BRIDGE
STAIR
ELEVATOR
CABLEWAY
SURFACE

situationism.

ALLOTMENT
EQUIPMENT
CLOUD
SILO



Situational Processes

Tactical urbanism, soft occupation, temporary punctal interventions that stimulate the rooting with unplanned territory and promote citizen planning processes. The construction of changing atmospheres from an ephemeral character in the city, integrating daily life, in conjunction with ludic and creative activities that offer populations multiple possibilities while exalting their capabilities, defining the space as a dynamic product of a grammar and urban order developed by its inhabitants, allowing a prolonged occupation over time that results in the appropriation of it.

- Cloud: Itinerant shadow.
- Allotment: Farming Core.
- Equipment: urban services.
- Mise-en-scene: Installations, theater, street music, temporary appropriations.
- Silo: System of recollection, purification and distribution of water.
- Links: Community bonding.

Promenade

Mobility activation and uses. An urban intervention is proposed through a system composed of horizontal circulation axes that reflect the preexisting traces of circulation giving them a pedestrian character, as well as vertical circulation modules programmed as meeting spaces. We interpret mobility as the main axis of the proposal, not only as a circulation system, but as everything involved in the development of daily life. The streets in the formal city generate in their paths a variety of services and activities that we consider pertinent to extend to the informal sector to question the limits between State and citizenship, blur the contrast between the formal and informal through the integration of communities to the structure plan of the city, and collaborate along the difficulties of their own context for the collective benefit.

- Bridges: Service and mobility network.
- Stair: Enhanced mobility device.
- Elevator: Express circulation for extreme vertical conditions.
- Cableway: Journey into the informal landscape.
- Surface: Activation of the everyday public space.

Interface.

The growth of informal settlements has been exponential. The densification models that the development of modernity achieved, show a lack of solutions for the high demand for temporary habitability that characterize the slums. We propose a support system that receives and stimulates a new housing model that recognizes the values of horizontal occupation while in vertical growth.

- Framework: Contact surface.
- Dwelling: Collective housing system.
- Coworking: Productive activities gyms.
- Educative: Learning spaces collector.
- Market: Exchange unit.
- Oasis: Path through the limit.
- Square: Surface of adaptative reuse.
- Terminal: Conections center.
- Void: Open Zoning.

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On a day like any other,
my journey began.



Filled with uncertainties
and worries.



As well as curiosities
and motivations.



Which gave me the chance
to experiment and grow.



Besides drifting, exploring
and acknowledging.



However, this produced
a variety of possibilities.



Like, extending the horizons
of the imagination.



Breaking paradigms.



Recognizing and learning
about the path of time.



To finally
coexist and share ideas.



Maybe about civilization
and its relationship with the world.



That will develop a vision to evolve on
and celebrate the meaning of life.



ANALYSIS

NETWORKS / MOBILITY

VEGETATION / WATER

OCCUPATION



SITUATIONS

IDENTITY





WORLD



URBAN POPULATION LIVING IN SLUMS / UN-HABITAT (2014)

GROWTH

1960
1500 HOUSES
14258 INH.

1960

1980
2897 HOUSES
14258 INH.

1980

2000
3782 HOUSES
34107 INH.

2000

TEMPLES / SERVICES



TEMPLES
SERVICES

DENSITY / OPPORTUNITIES



• CULTURAL

• SOLIDS

VOIDS

• OPPORTUNITIES

LIMITS / TOPOGRAPHY



LIMIT

2018



TRADITION



CONNECTIONS



APPROPRIATION



MOBILITY



AERIAL VIEW, 1983



ISLAND

Expandable Limits

Potential field for slum upgrading

CARACAS, VENEZUELA

OLIVER BELISARIO, JAVIER PEREIRA, LUIS PORRAS, LUIS SANDOVAL

FAU TALLER X, UNIVERSIDAD CENTRAL DE VENEZUELA

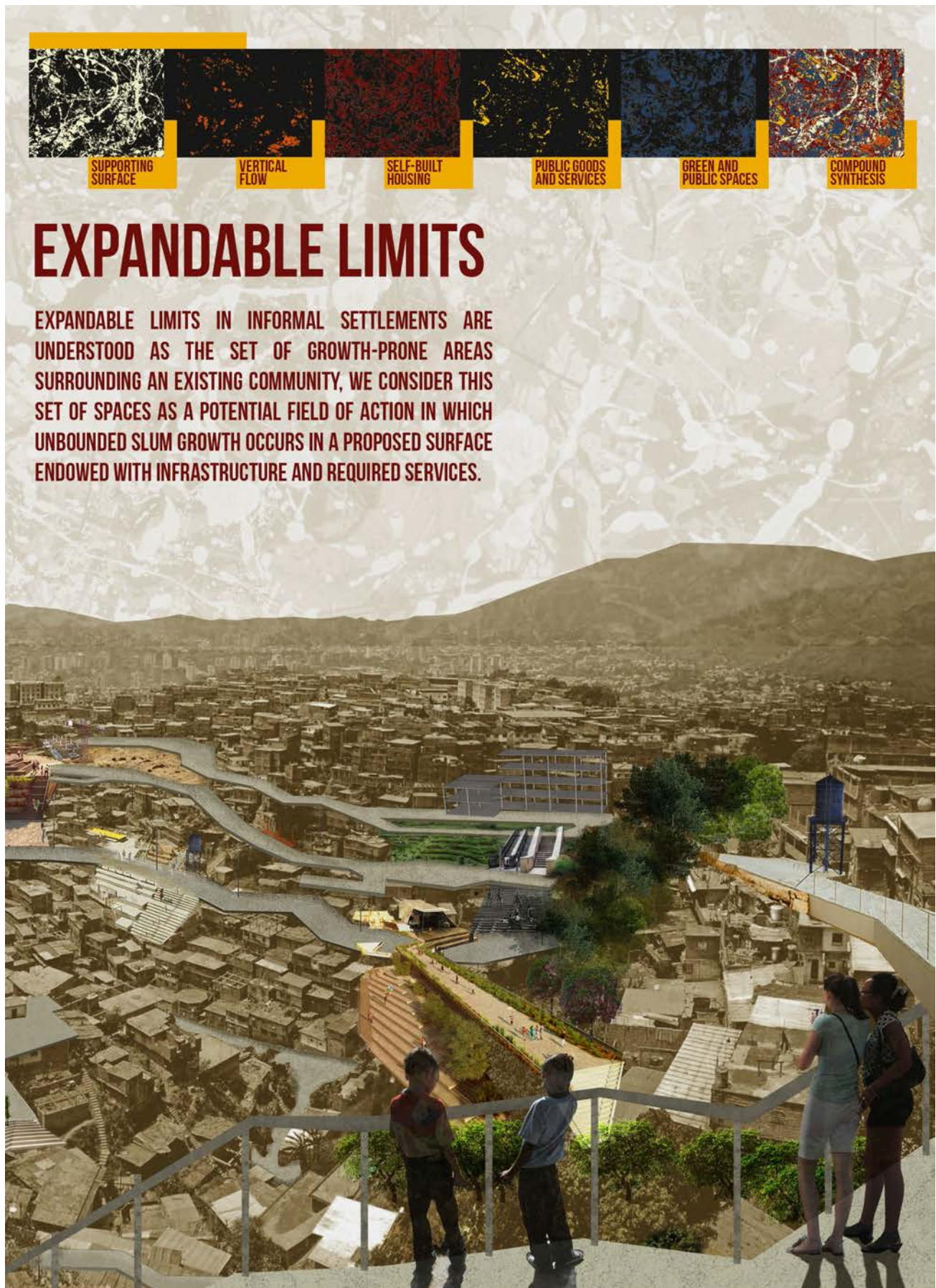
PITCH YOUR IDEA

The expansible limits in informal settlements are understood as areas prone to the territorial expansion of the communities, considering it a potential field of action for Slums upgrading due to the following reasons:

- 1-The sense of belonging that communities have towards the areas where their next generations can expand.
- 2-The low monetary value of these territories at current conditions, but with great potential to be inserted into the real estate market.
- 3-Providing services to the neighborhood without drastically affecting (in a first stage) the existing settlements and avoiding the problems that it might generate until creating bonds of trust between the community and the institutions.
- 4-Through these territories, informal settlements can be communicated with other areas of the city, achieving better accessibility for the slum.
- 5-Enhance the economic character of the community, involving the constructive processes of the project and strengthening its productive projects.

In these territories it is proposed to generate another type of landscaping based on the customs and activities of the people who live there, creating open occupation systems that propitiate the encounter between the community and the city. The top-down planning process (State) will generate the surfaces to be inhabited, these must support systems of infrastructures, equipment's and accessibility so that later this area will be occupied and developed by the community through Bottom-up processes that can include different programs like housing, production agricultural or commerce spaces.

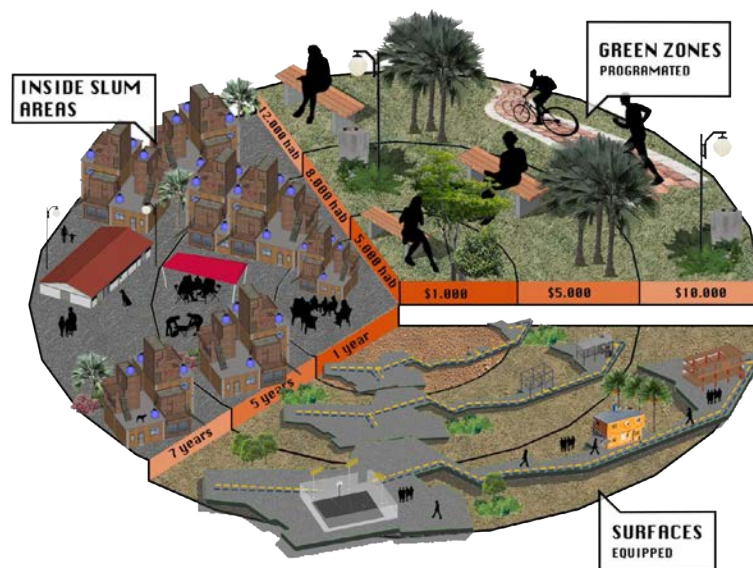
This proposal seeks to anticipate the uncontrolled growth of some settlements, achieve the social inclusion of them in the community, enhance economic activities, generating a number of dwellings that assume the positive characteristics of the neighborhood and confront the negative ones.



Slum upgraded : The expansible limits in informal settlements are understood as areas prone to the territorial expansion of the communities.



Slum The Flintstones. Potential field



CONTEXT AND PROCESS

METROPOLITAN SCALE
CARACAS, VENEZUELA.

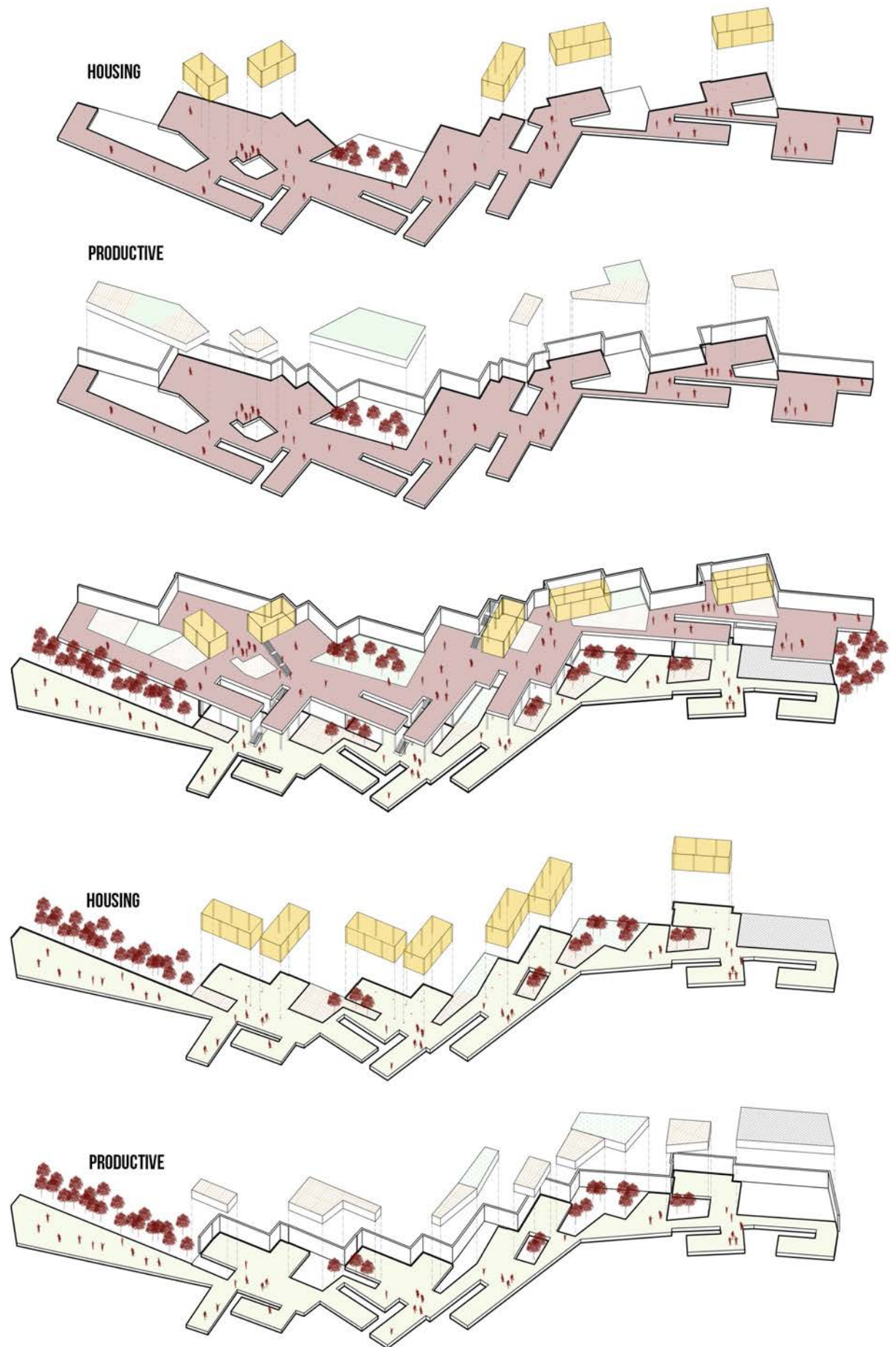
The Topography of Caracas conditions the urban growth of the city. Traditionally, formal settlements have been developed mainly in the flat areas of the valley where the land is more apt for construction. For this reason, informal settlements have usually occupied interstices of the formal city or areas with steeper slopes. In 2014, the Informal Territory occupied 25% of the urban territory of the Metropolitan Area of Caracas, although more than 46% of the city's population lives in it.

We consider that the established informal settlements will continue to grow in the areas we classify as the expandable limits. Based on this supposition, we consider valuable to plan for these territories. The types of boundaries of the informal settlements used in the C.A.B.A (CARTOGRAPHY OF THE BARRIOS DE CARACAS) were categorized from minor to major according to their possibility of expanding the informal settlement. Planned limits, roads limits, hydrography limits, Protected Area limits and topography limits. In each community these boundaries change and relate to each other in specific and circumstantial ways. Studying these territories, we observed, which of these territories are prone to expand and we selected a Case study.

Settlement scale.
Baruta Ojo de Agua, The Flintstones.

As a community, it has a single point of connection with the city. Where the garbage, transport and trade systems collapse. It is bordered by a topographical limit prone to expansions that separate it from the city. Around The Flintstones are other residential developments, of different characteristics. A traditional private urbanization, a social housing development of the Venezuela Housing Mission, a Sports Area and a Productive Workshops Area.

The neighborhood is made up of 3 sectors with different characteristics: access, hinge and high part. We propose to develop the project in stages that relate to the 3 existing communities with their expansible limits.



DIAGRAMS MIDDLE SCALE

DESIGN VISION AND STRATEGIES

In these territories it is proposed to generate another type of landscape based on the customs and activities of the people who live there, creating open occupation systems that propitiate the encounter between the community and the city.

We look for descending planning processes (The State) generate the surfaces to be inhabited, these must support infrastructure systems, equipment and accessibility to be subsequently occupied. In order to achieve this, we generate a series of strategies to be carried out by the state.

Top-Down process in association with Bottom-up.

ESTABLISH BASECAMP: The establishment of a basecamp is seen as a basic tool of the project, with the purpose of a consolidated space for the planning, construction and internal meeting of the community.

DESIGN access: The access areas are the points of greatest concentration of activities. These spaces tend to collapse. Rethinking these areas to improve transportation and garbage collection system is fundamental.

RESCUE SPACES and PUBLIC GOODS. Several spaces and public goods have been identified within the existing community, seeking to rescue them to reaffirm and strengthen an existing system.

NEW SERVICES: It is proposed to generate several services within the expandable boundary of the neighborhoods that cover the needs and requests of the current community. Looking to complement the current sector system from its periphery.

Horizontal Circulations: It is proposed to generate several circulation systems that complement each other. The horizontal circulations would be developed every 6 meters on the z-axis accompanying the original topographies and based on the scale of the neighborhood path.

Vertical Circulations: 2 types of connections were developed, EXPRESS and intermediate. The express ones are developed by means of mechanized systems that facilitate the routes of people of reduced mobility. While the intermediates connect by means of stairs the different levels generated.

INFRASTRUCTURES: Network of water services, electricity, solid waste management, contained in the topographies so that future occupations and equipment are connected to these systems.

Topographies: Generate, through slopes and walls, different levels to be occupied.

Bottom up Process in Association with Top Down.

The surfaces generated by Top-Down planning process will be occupied by the Bottom-UP process, consolidation will evolve within the rhythm, capacities or necessities of every single community. We give the same value to every state of consolidation achieved. Any ascendant process can ask help from Top-Down planning process to achieve a core for the occupation.

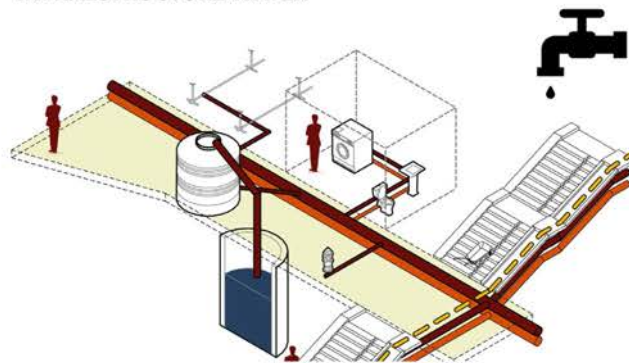
Housing: It is conceived as an approximate area of 80m². It contains a core of 20 m² with kitchen and a bath; the remaining 60m² are open to be occupied.

Production Areas: A variable area is granted with a watering system.

Trade: An area of approximately 120m² is established as module with in 20m² core that contains 2 bathrooms.

Public Spaces: A system of gaps that can be developed in different ways by the community.

INFRASTRUCTURE WATER

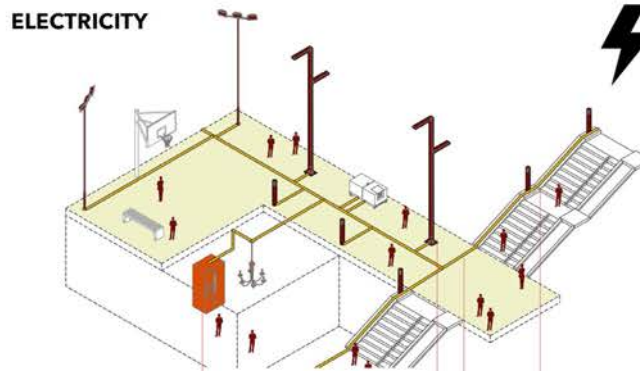


CLEAN WATER

WASTE WATER

BLACK WATER

ELECTRICITY

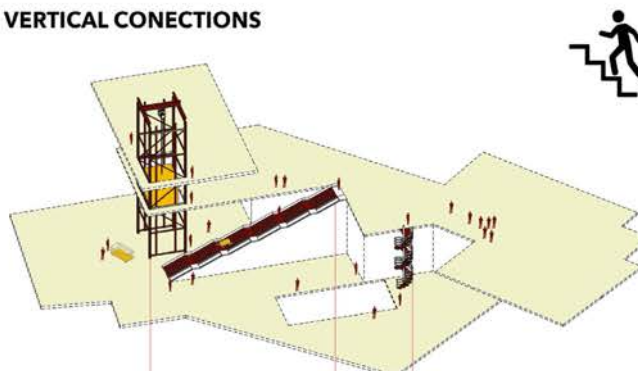


-HOUSE CONECTION

PUBLIC ILLUMINATION

RED

VERTICAL CONECTIONS

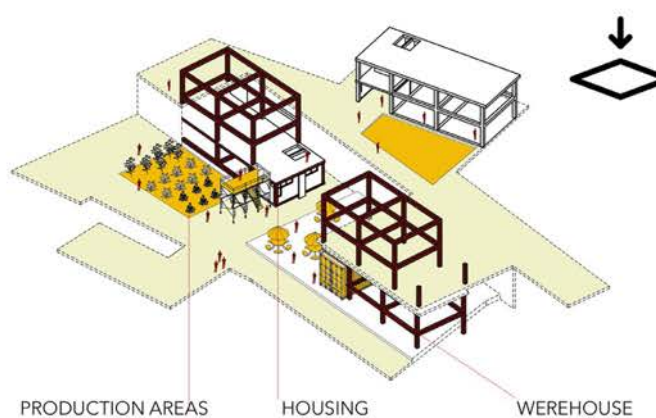


EXPRESS

INTERMEDIATE

LOCAL

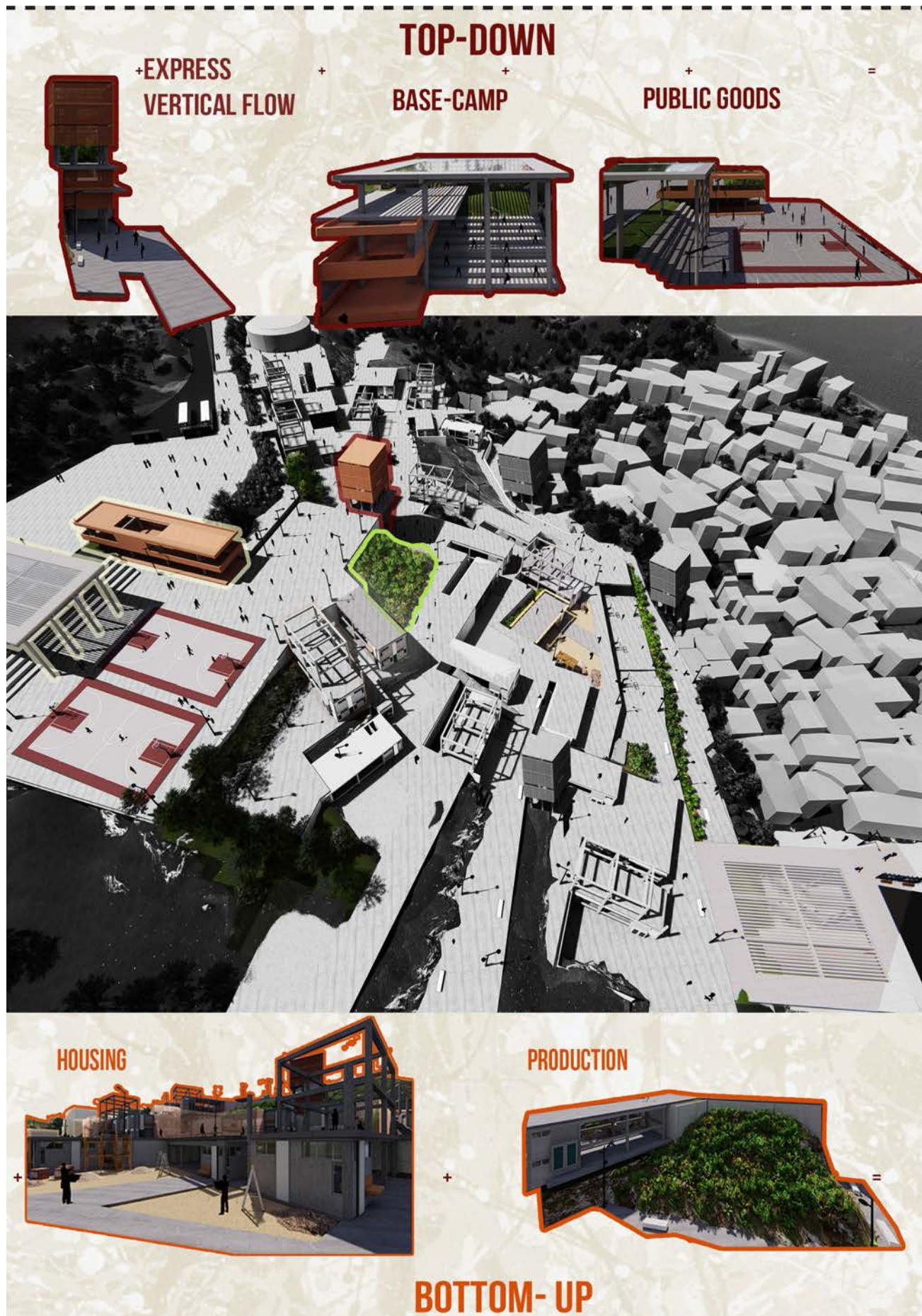
BOTTOM-UP OCUPATIONS



PRODUCTION AREAS

HOUSING

WAREHOUSE



EXPANDABLE LIMITS

EXPANDABLE LIMITS IN INFORMAL SETTLEMENTS ARE UNDERSTOOD AS THE SET OF GROWTH-PRONE AREAS SURROUNDING AN EXISTING COMMUNITY, WE CONSIDER THIS SET OF SPACES AS A POTENTIAL FIELD OF ACTION IN WHICH UNBOUNDED SLUM GROWTH OCCURS IN A PROPOSED SURFACE ENDOWED WITH INFRASTRUCTURE AND REQUIRED SERVICES.



SUPPORTING
SURFACE





+

+

+

+

=

VERTICAL
FLOW

SELF-BUILT
HOUSING

PUBLIC GOODS
AND SERVICES

GREEN AND
PUBLIC SPACES

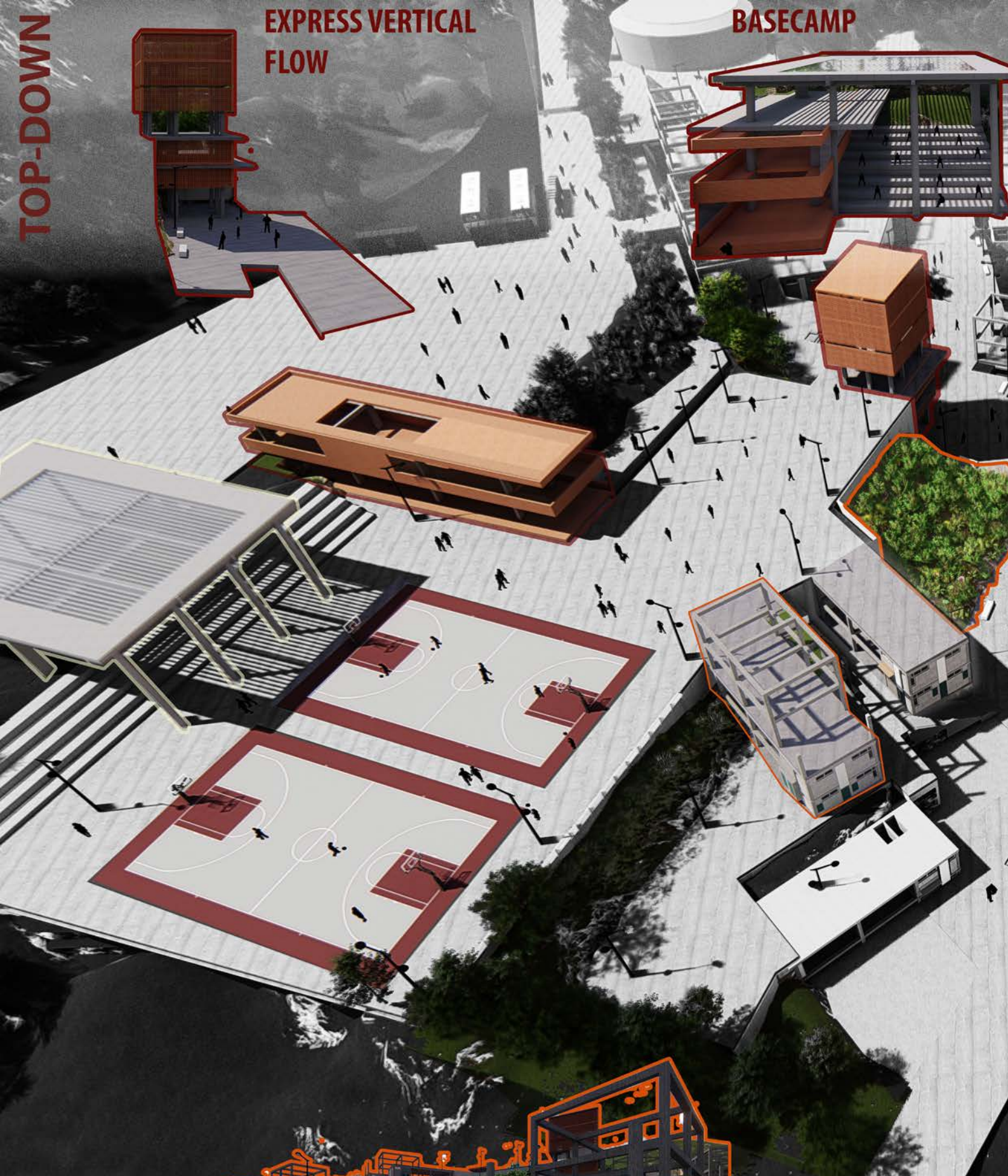
COMPOUND
SYNTHESIS



TOP-DOWN

EXPRESS VERTICAL
FLOW

BASECAMP



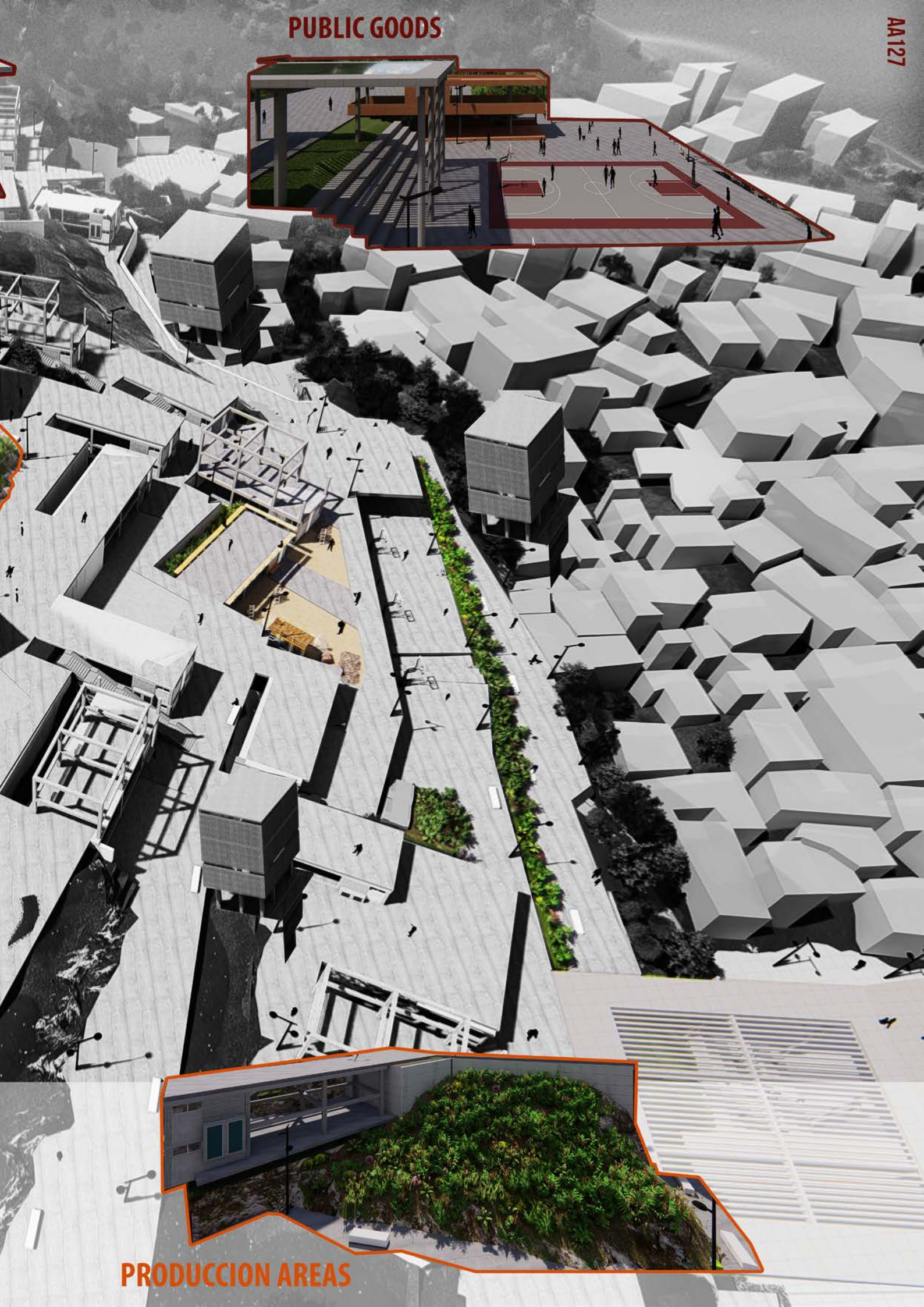
BOTTOM-UP

HOUSING



PUBLIC GOODS

AA127



PRODUCCION AREAS

Systematizing Sanitation

A dry latrine project for colonia Santa Clara

TEGUCIGALPA, M.D.C./HONDURAS

ANELL MARIE PADILLA MAZIER, JOSÉ LENIN PERALTA PORTILLO, STEPHANIE ADRIA PATZER

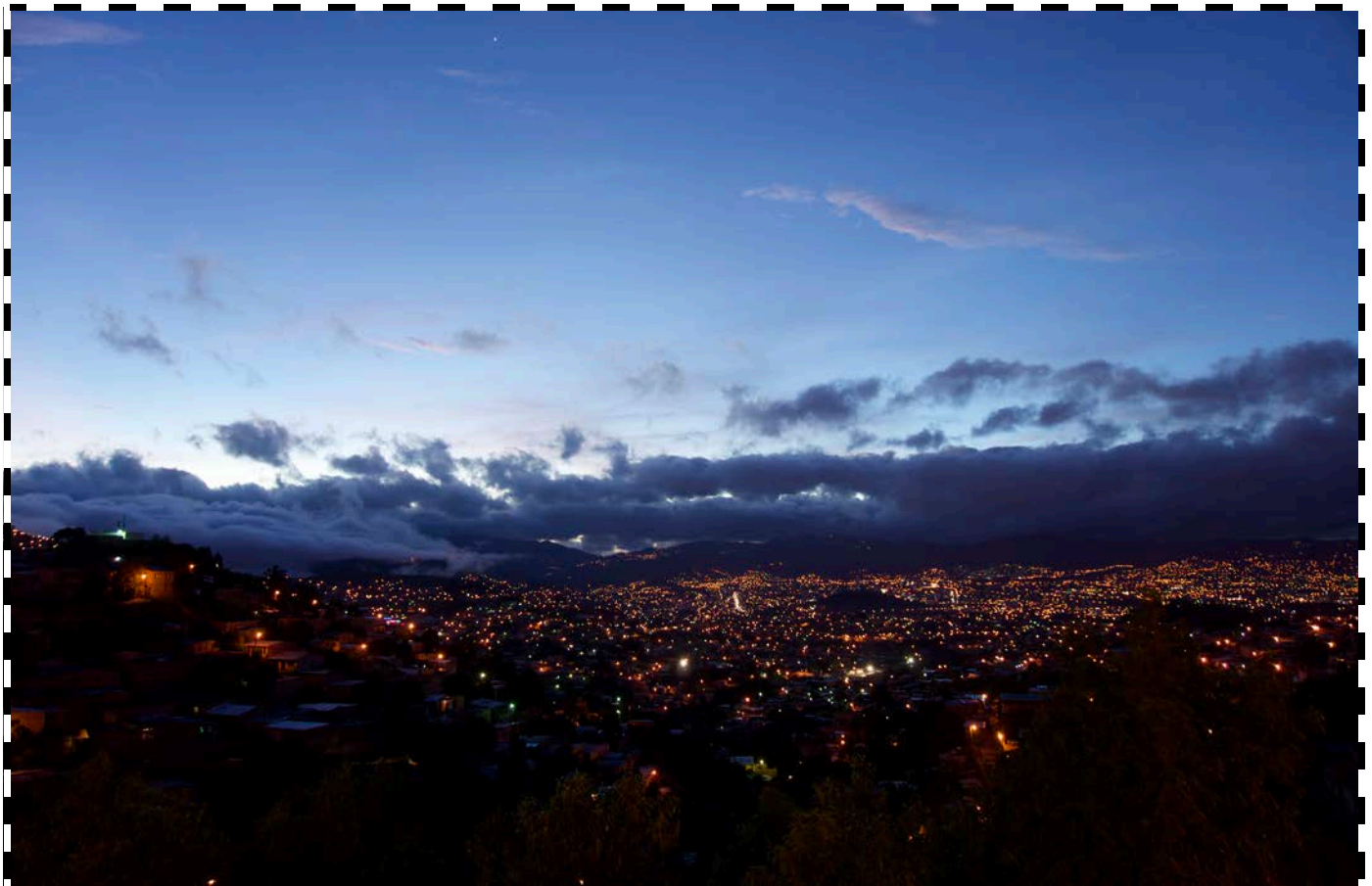
TECHO HONDURAS/UNIVERSITY OF GUELPH (CANADA)

PITCH YOUR IDEA

From the community hall of the *colonia* Santa Clara, its residents can see the rest of the busy and chaotic capital of Honduras, Tegucigalpa. Situated on the north-west limits of the mountainous city of more than 1.5 million people, Santa Clara is one of approximately 220 informal settlements in the municipality of the central district of Tegucigalpa. Similar to most informal settlements around the world, public potable water and sanitation services are not provided in this peri-urban community, even though it is within the headwaters of the laguna Pedregal, an important water source for the capital. A minority of families currently use private or shared tradition latrines that are in poor condition and require the use of water. Those who can afford it, buy water from private trucks that arrive irregularly to the community, when the unpaved roads are passable. Otherwise, residents have to find space among the remaining shrubs and grasslands dispersed throughout the community and surrounding areas to satisfy their physiological needs. Not only does the latter option not provide privacy or a dignified way of relieving oneself for the residents of the community, it presents a risk to the water quality a particularly dangerous and precarious situation for women and girls who already risk sexual assault.

The proposed idea is to provide a private dry (waterless) latrine to each of the 457 families that live in this settlement. The *patronato*, or community board, of Santa Clara has identified that lack of sanitation infrastructure is a priority in the community, as it is becoming a pressing issue. Santa Clara is experiencing constant growth both within the community and in its surroundings. The population of Honduras is still relatively highly rural; it is estimated that 45% of the population still live in rural areas, though the numbers have been declining steadily for the last 50 years due to urbanization. The impact of urbanization on areas such as the headwaters of the laguna Pedregal is also alarming. The challenge to effectively treat and distribute potable water in the city with very limited resources is further complicated when its water sources are reduced and contaminated with human excrement and garbage.

Dry latrines offer a relatively inexpensive and environmentally sustainable way to systemize and control human waste that not only helps reduce fecal-oral transmitted diseases in the community, but also protects the water produced in the area for rest of the city. Through the existing partnership between TECHO Honduras, a pan-Latin American NGO and the *patronato* of Santa Clara, this low-tech infrastructure would be provided to all homes within the community in multi-phase dry latrine project.



Above: Photo of Tegucigalpa, M.D.C. Below: Photo of Tegucigalpa, M.D.C. from Santa Clara



Above: An aerial photo of the colonia Santa Clara Next page: An existing urinal in a partially completed latrine in Santa Clara

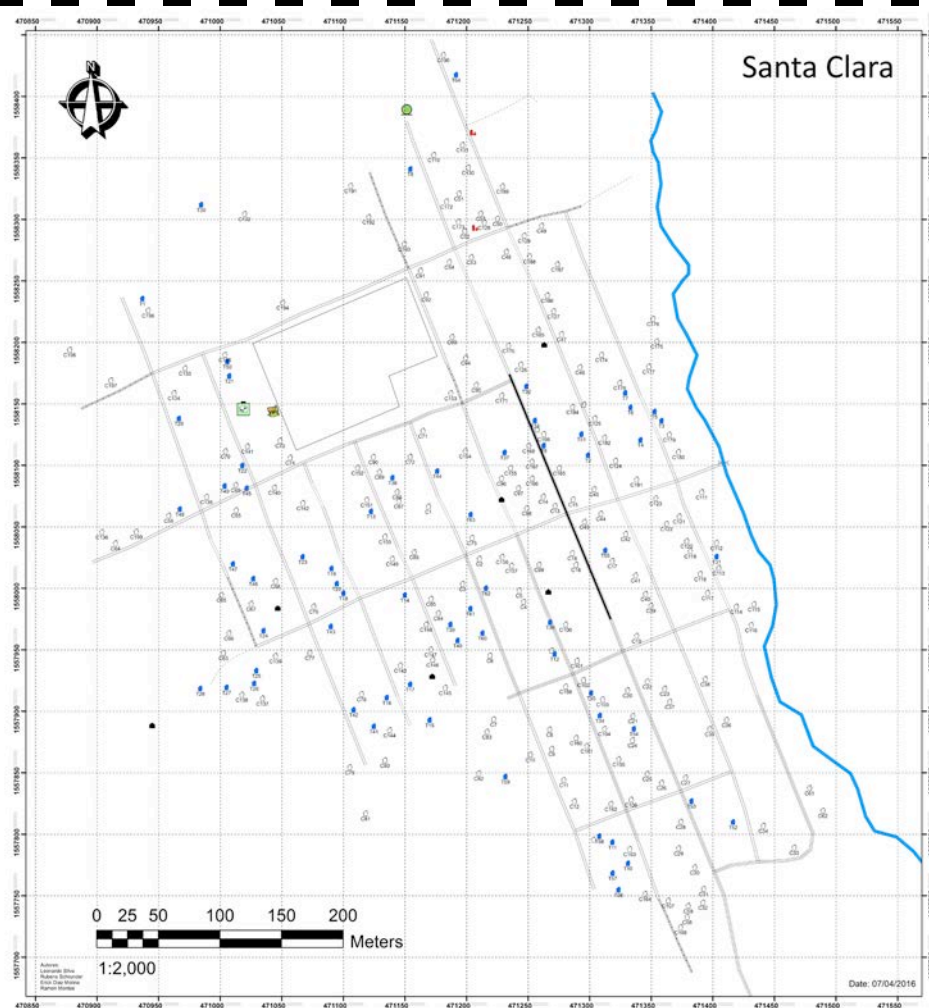


CONTEXT AND PROCESS

Honduras has one of Latin America's highest rates of poverty. Approximately seven out of every ten citizens live in poverty and four out of every 10 citizens live in extreme poverty. Even in the capital, where the highest-level decision-makers live and work, such poverty is abundant and perceptible. However, partly due to Tegucigalpa's remarkably undulating topography, informal settlements are often hidden within valleys and on mountaintops, with very limited access. Santa Clara is located both beside a stream and on top of a mountain. The community began as a collective invasion of land, which occurred in 2007, and now consists of 457 families. The growth that it is experiencing is due to both internal and external factors. New families continue to settle there because of relatively low cost of land and relatively high level of security. New families originating from within the community tend to stay within the existing family plot. The only service that exists for the majority of homes is the formal connection to the electrical network, which were installed through an initiative taken by the *patronato*. Otherwise, no communal or public water or sewerage infrastructure exists.

Ideally, community development projects, such as this one, would be supported, funded and executed in partnership between the relevant public, private and nongovernmental not-for-profit entities. Unfortunately, the reality in Tegucigalpa is that many informal settlements are neglected by most of these entities. Access to these communities, especially in Tegucigalpa, is particularly difficult due to the real and perceived risk of gang-related violence in poor communities. In the case of sanitation infrastructure, the *Servicio Autónomo Nacional de Acueductos y Alcantarillados* (SANAA) of Honduras has the legal mandate to provide sewerage infrastructure to all households in the municipality of the central district of Tegucigalpa. However, due to lack of resources, this service has not yet reached the community in its 11 years of existence. The community does, however, have a well-organized and active *patronato* that has already independently planned and executed community infrastructure projects such as a community hall and formal electrical connections. They have also directly petitioned the municipality for better access to public transportation, regular garbage collection and paved roads.

In 2016, TECHO, an NGO, present in 19 countries in Latin America, working to overcome poverty through the collective action of student volunteers and the residents of informal settlements, began to engage with the *patronato* of this community. The planning and execution this project would occur via this existing relationship, where TECHO Honduras would support the planning stages of the project as needed and would provide 90% of the financing. In order to reach all 457 families, the project would be divided into several phases.



Above: A map of Santa Clara indicating all the houses in the community. Below: Residents of Santa Clara and volunteers of TECHO building an emergency shelter.

DESIGN VISION AND STRATEGIES

Dry latrines are an inexpensive and sustainable way of systemizing the collection and disposal of liquid and solid human waste, particularly when water is not accessible, physically or economically. The design of dry latrines differs depending on the environmental conditions, however the basic principle is that they work without the need of water, by collecting and treating liquid and solid waste separately. In the case of Santa Clara, the soil is very rocky and sandy. The terrain has a gentle incline and a low water table. The lots are also sufficiently large to each have their own fully equipped dry latrine. Therefore, in this case, it is feasible to capture and drain the liquid waste (urine and menstrual fluid) directly into the ground using a deep hole and several perforated PVC pipes. The solid waste (feces) would be captured separately in a portable plastic container, which would undergo a two-step composting process. The first step occurs in the portable plastic container, where after each use, the user must add any dry carbon-rich material such as newspaper, coconut shells, pine needles, sawdust, banana leaves, woodcuttings, or dry leaves. The second step occurs when the solid waste mix is compiled into a larger heap to be further decomposed and finally discarded. This second step is also variable depending on available land, however there are important temperature-to-duration ratios that must be followed in order to ensure that dangerous pathogens are destroyed.

The second phase of the solid waste composting process is possibly the most complex aspect of the project, mainly due to the required collective commitment to its operation. Because land in Santa Clara is increasingly being occupied, communal composting sites would be established for each 3-4 blocks, which currently contain 30-40 families. These sectors would coordinate with the *patronato* to establish an appropriate site within their 3-4 block sector of the community that would be used for the second step of the composting process. The specific decomposition process in terms of time, temperature and form would be determined based on the size of compost pile. Each sector would decide upon a person responsible to collecting and maintaining the compost pile. The person selected would be paid by each family who participates in the communal compost pile, who would pay L.50 (€1.8) per month to use the pile.

As previously mentioned, the *patronato* and TECHO Honduras would collaborate on the planning, phasing and execution of the project. First, a working group of TECHO volunteers and interested members of the *patronato* would be created to execute the project. This working group would do a household survey to collect geo-referenced data related to the existence and state of sanitary infrastructure in every household. Second, using the data collected, the working group would tabulate and evaluate each household according to a set of mutually agreed upon criteria. The total value assigned to each household would be summed per sector. Then each sector of the community would be ranked in order of most to least need. The sector with the most need would be selected for the first phase of the project.

Subsequently, a meeting would be held with the working group and all families selected for the first phase. During this meeting, a comprehensive presentation would be given to explain the benefits, costs, and designation of responsibilities related to participating in the project. All families who agree to participate would sign an agreement and would commit to participating in mutually agreed-upon dates for training regarding the importance of systemized and controlled sanitation, the mechanics of the dry latrine, the construction and maintenance, and the management and disposal of compost. One important part of the agreement would be the commitment of each family to pay 10% (L.1,500 or €54) of the material cost of the latrine. Obliging beneficiaries to pay a small percentage of the material cost of infrastructure is standard within the TECHO project model as it has proven to be most effective in obtaining community acceptance and continued commitment to community infrastructure projects. The remaining financing would be provided by TECHO Honduras' various funders, as is the case for TECHO's other projects.

DESIGN VISION AND STRATEGIES

The dry latrine project of Santa Clara would continue to be rolled out sector by sector, according to need. The duration of the project will depend on the amount of funding and volunteer commitment available. Not only would TECHO Honduras volunteers facilitate the planning and phasing of the project, but the majority of the labour for construction would also consist of TECHO volunteers. Following the completion of each phase of the project, the project working group would communicate with those responsible for the communal compost piles to respond to any concerns, and address any issues that arise. During this period of testing, troubleshooting and adjusting processes to suit each sector's particular circumstances, the community members who were part of the project working group would become default experts in the community for dealing with daily issues related to the latrines and communal compost piles. In addition, TECHO Honduras would continue to work with the *patronato* and would continue to support the working group as needed.

This project has been proposed for Santa Clara specifically due to the community's history of collective action and effective participation in communal projects. The *patronato*, along with the rest of the community members of Santa Clara have been proactive in improving their community and in urging the municipal authorities to provide the basic services that they know they deserve.



The 4th generation of a concrete heaven

Urbanizing and Upgrading Burj El-Barajne Refugee Settlement

BEIRUT, LEBANON

NASR CHAMMA,

INTERNATIONAL UNIVERSITY OF CATALONIA (UIC-BARCELONA)

The Burj El-Barajne Camp started in 1948 as tent camp in response to the influx of Palestinian refugees into Beirut, Lebanon. The camp expanded over time to huts then concrete buildings, in order to accommodate subsequent generations of Palestinian refugees, whom were never given rights or citizenship by the local government. Additional stories were added to these impromptu concrete structures as needed with an average of one floor every five years. In 2011 the camp had 28,000 residents, which is now over 40,000 after the influx of Syrian refugees. Our strategy is to map the camp, to define clear boundaries, locate central nodes/openings, and pinpoint buildings with weak structures. Since the heavy concrete buildings were made informally, many are structurally unsound and prone to catastrophic damage in the wake of an earthquake. Gradual removal of risky structures will form streets and districts. Other buildings can be reinforced externally, and then we can add lightweight units to create additional stories. This opens space for proper infrastructure, public services, roads and green spaces to be installed, as well as areas for kiosks offering job opportunities.



Figure 01: The skyline of Burj El-Barajne refugee camp. Photo by Christina Malkoun



Figure 02: The outline of Burj El-Barajne camp. Map developed by author



Figure 03: In Burj El-Barajne camp, children play in alleys due to the lack public space and formal playgrounds. The photo also shows part of the existing infrastructure systems (electrical and water). Photo by Christina Malkoun

CONTEXT AND PROCESS

Burj El-Barajne refugee camp was established in 1948 to accommodate the large influx of Palestinian refugees who arrived in Lebanon after the Palestinian-Israeli conflict. The majority of these refugees and their families still reside there today. The camp was constructed on one-square-kilometer of land in the southern suburbs of Beirut. Burj El-Barajne was initially envisaged as a temporary part of the city; however, decades of neglect of the area and refugees from the Lebanese authorities led to the chaotic, problematic, informal, and permanent settlement that exists today. With time, Burj El-Barajne has grown organically and without structural planning, producing a maze-like web of dense alleyways and informal buildings. The social fabric of the camp is torn due to the physical limitations of the settlement, the low quality of buildings, lack of services/ infrastructure networks, the high density, chaotic layout, and lack of public spaces and recreational features.

The area is composed of around 1,250 concrete buildings constructed on foundations capable of supporting two stories, though most buildings have four or more, lacking formal structure. The camp has been isolated from the social and administrative life of Beirut city. Inhabitants are deprived from the right to vote or work in many professions. Until 2011 the settlement housed around 28,000 inhabitants. Today the camp's population has rapidly increased to over 40,000, due to the influx of Syrian refugees. The camp started with tents which were gradually replaced by mud huts. Zinc roofs were installed on the huts, later replaced by concrete houses/buildings. When the site got no more vacant lots, inhabitants began to expand vertically in order to cater for the needs of the growing population. Regarding space in individual apartments, most rooms are shared by 3 people or more. There is a complete lack of formal public infrastructure in the camp such as sewage, drainage, rainwater network, and power lines. Many die annually from electrocution whenever it rains.

A slight amount of natural light reaches street level and even less the ground floor rooms. The streets are narrow, damp and dark, giving the feeling of being underground. There is an extreme lack of public space within the camp; it also lacks green spaces and recreational features. People instead gather in the residual spaces around markets and between buildings. Ground floor spaces are constantly reconfigured to maximize profitability. The main source of income for many inhabitants is these small shops and spaces, found in every street and alleyway.

Proposal: Even though the settlement has numerous issues and has been neglected for around 70 years, the inhabitants of Burj El-Barajne still consider it home-the place which they love and belong to. Burj El-Barajne is where three generations of Palestinians have grown up, socialized and made memories. From an urban planning perspective, the settlement currently lacks vital structural and road/transportation networks, and implementing these fundamental urban elements might be the first step to improve and upgrade this compacted settlement. The macro vision can be developed in four steps:

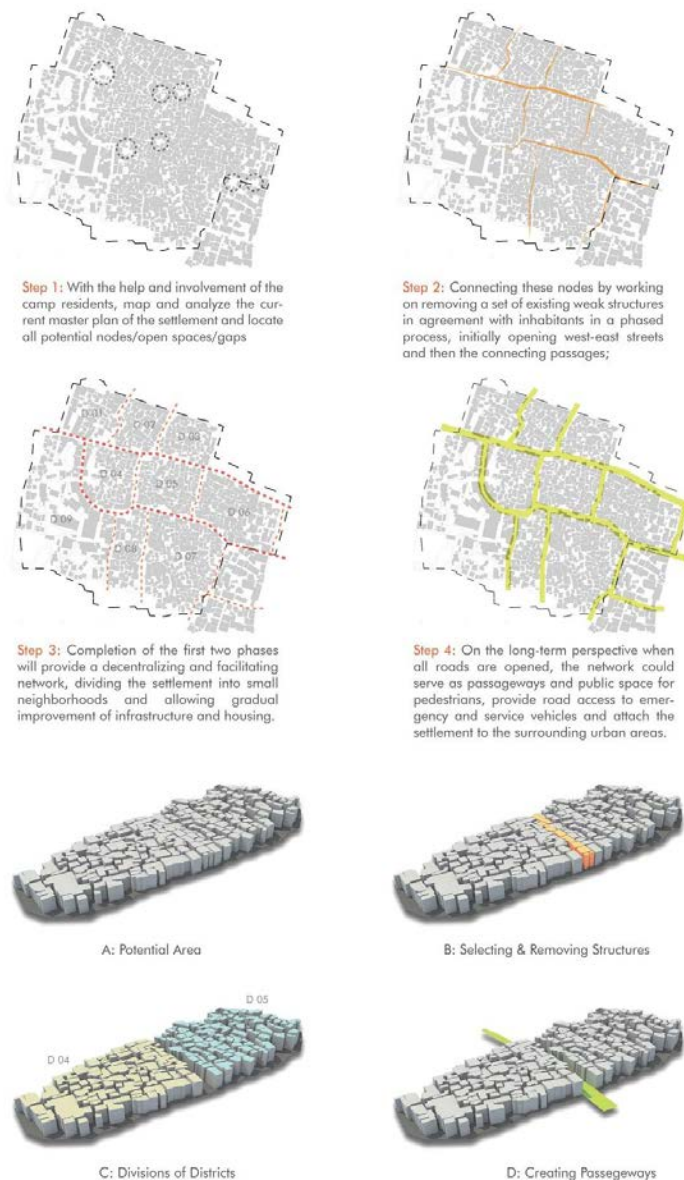


Figure 04: Macro: An Integrated Vision of Transformative Community Development

Advantages: The average width of these passages would be 9m with an axial central area (3-4m in width), providing space for mobile commercial kiosks, green areas, playgrounds and street furniture; This network will increase sunlight and natural ventilation, aid recognition of building elevations, and facilitate improvements of architectural structures; The development of these open spaces will facilitate implementation of additional formal infrastructure layers and networks for each neighborhood, which would also facilitate maintenance and decentralize services; These open spaces will thus improve the social fabric and urban dynamism, create spaces for job opportunities and support interaction between inhabitants, both within the settlement and externally with surrounding areas' inhabitants.

DESIGN VISION AND STRATEGIES

Resolving Urban Density Issues: This proposal argues that instead of further heavy concrete being added to existing structures, lighter weight units could be placed on existing roofs to form extra stories, mainly after removing the weak structures.



Figure 05: Micro: Improving the Urban Environment at Borj Al-Barajne Camp

Displacement & Relhousing: Families affected by agreed demolition could be hosted temporarily in prefabricated units in a site near the east entrance of the camp, till the weak selected buildings are demolished/removed, and the roof units are built. The 2D drawings present the different areas of units which can be build and used based on each family's size, in both the temporary site and later the roof units. The modular space is 20 feet (6x2.4m) which multiplies the bigger the unit gets.

Structural Weight Efficiency: As the existing structures in the camp have a high-risk of destruction in case of an earthquake (6mg), some buildings would have structural support to reinforce what exists and/or carry the roof extensions. When using steel or wooden structures, every 20 feet of built space weighs around 1,900kg. For a 100 sqm extended floor: - concrete used will weight around 80,000kg (80 T), while steel or wood require 13,300kg (13.3T). Thus, concrete, which is widely used in the camp, is six times heavier, and instantly makes the destruction risk higher. Moreover, steel and wooden structures are cheaper can be easily moved, added, assembled and maintained.

The **Micro and Macro visions** interconnect to form a holistic and transformative proposal. The two visions should be developed congruently: creation of the access networks would facilitate delivery and installation of roof units; creation of space for access networks will also allow existing residential and commercial structures to be installed in the reclaimed spaces. **The success of this proposal** is predicated on full collaboration of the inhabitants. In terms of funds, policies and viability, this also requires the collaboration of UNRWA, UNHCR, the Lebanese Government and society.

Conclusion: Today, after 70 years of its opening, Burj El-Barajne is no longer a refugee camp and must be considered as a permanent settlement and an integral part of Beirut. This proposal argues that now is the time for integration, acceptance and empowerment of the inhabitants, no longer seen as abandoned refugees living in a slum but as citizens with rights and wills, citizens who embrace this camp as their concrete heaven.



**ORGANISERS OF THE
CONFRONTING INFORMALITY
SYMPOSIUM UNDER THE EYES
OF GERTRUDE STEIN AT THE
TUDELFT CENTRAL LIBRARY**



“It takes time to be a good person, but it's not an excuse to sit around and do nothing.”





Favela Paraisópolis, Sao Paulo, Brazil. Photo by R. R.





Confronting Informality Symposium

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