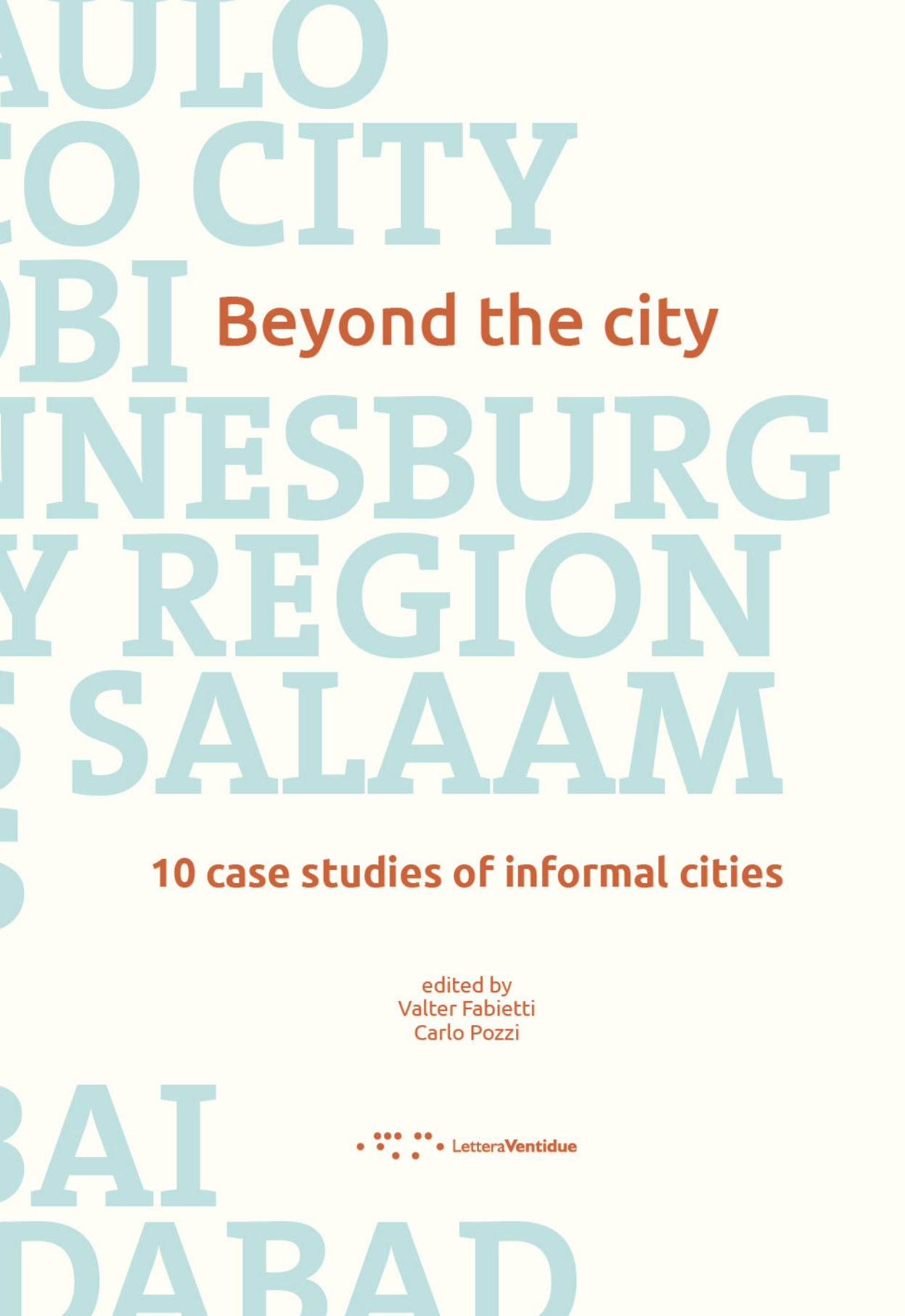
AULO
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Beyond the city
NESBURG
Y REGION
SALAAM
10 case studies of informal cities
edited by
Valter Fabietti
Carlo Pozzi
BAI
DABAD
LetteraVentidue

To Marco and Ida,
they know why

To Daniela, Francesco,
Marcello

89
Collana **Alleli / Research**

ISBN 978-88-6242-528-5

First edition September 2021

Book design Francesco Trovato

LetteraVentidue Edizioni S.r.l.
Via Luigi Spagna 50 P
96100 Siracusa, Italy

www.letteraventidue.com

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Beyond the city

10 case studies of informal cities

LetteraVentidue

Contents

The complexity and vastness of the subject of informal settlements would require a much broader treatment than that contained in this volume. What we want to represent with this work is not, therefore, an ambitious project of systematization of the topic dealt with, but rather the definition of some research questions, postponing further study to subsequent studies and publications. The study of informal settlements, even if declined according to these purposes, asks researchers some unavoidable questions, the first of which concerns the possibility of governing the phenomenon (both considering the control of proliferation and aiming to improve living conditions in existing settlements).
In the first part, a synthetic, but in our opinion necessary, definition of some matrices of informal development is developed. Matrices that, in addition to the chronological evolution, narrate physical and social morphologies, including among them, in addition to the physical structure of the informal city. In the second part of the volume, the analysis of the case studies refers to some aspects deemed relevant (the matrices of informal development).

Favelas, slums, shanty towns, ghettos, bidonville are synonymous? They refer to forms of settlement that may have very different origins and shapes. In part this depends on the cultures of the geographical contexts in which they are located, on the environmental conditions, on the political and economic employment system, on the socio-anthropological components, on local building traditions and more. However, what most of the informal settlements seem to have in common are the conditions of the soils or artifacts in which they were born and their *marginality*. Without wishing to represent exhaustively the formation and evolution of the informal city, the chapter briefly retraces some passages, phases in which the growth of the settlement was shown, read in the unifying perspective of marginality.

The slums, their morphology and the relationship between the latter and the life of the inhabitants have been the subject of various studies and field research. In many cases, the 'true nature' of informal settlements was not grasped. In fact it still remains unknown: the path to understanding it passes through local knowledge, social morphologies of their inhabitants. Is it then in the relationship between physical and social morphologies that the key to reading the informal settlement lies? A first answer to this question is formulated in this chapter, by carrying out a reflection on the modes of production of physical forms and collective space.
The relationship between physical and social morphologies, in the informal settlement, appears to fluctuate, being observable in the inhabitants.
The space between the dwellings, which historically constituted the urban connective tissue and the very nature of the city (otherwise a jumble of houses) in the 'formal' settlement, represents in the slum the element that can allow its recognition as a community. It is in this space that the sense and form of collective action are built, the identity pride.

Some architectures sing

Carlo Pozzi

According to Paul Valery, some architectures 'sing': in the case of the informal city they are those artifacts that, instead of focusing on a glamorous image, try to play the role of 'urban regenerators', resonating with the difficult and rough context of a slum to activate a new centralities. Without questioning the entire slum, with demolition proposals and/or new infrastructures they generate a positive dynamic for the life of the community and for its poor self-built architecture. The projects presented below were then chosen according to the criteria of not closing in on themselves and in their architectural appeal, but of opening up to the city through an urban-scale design operation, with the capacity for regeneration even at a social level.

Dry the Ice

Valter Fabietti

Is it possible to think that, in the world reorganization of the labor market, the territorial diffusion of economic activities (a sort of functional 'sprawl') can give an answer to the pressure on the cities by the poorest population? According to some authors, the informal economy, concentrated in urban areas, is the only possible one for the inhabitants of the favelas, slums, shanty towns, vilas miseria or any other informal settlement.
The chapter analyzes the slum upgrading, checking if this is related to the meaning that the informal city assumes in the urban context. The slum upgrading contains a principle of economic equity, of prevention and, as far as possible, of reduction of occupation a line qualities strongly present? Otherwise, says Erminia Maricato, 'it is like trying to dry the ice.'

Teaching on the informal city

Carlo Pozzi

If in the last few years many spotlights have been turned on the degraded areas of the megalopolis of Latin America, Africa, India, few projects have been implemented. On the contrary the state of the art of didactic experimentation on the subject is extraordinarily wide, showing that a new interest is applied both by teachers and by students at various latitudes. The documented educational experiences carry out the theme of the project in slums and favelas at various educational levels: thesis, doctorate, master. The text tries to condense the reflections on the teaching of the project for the informal city in some tentative and temporary guidelines: 1) Community participation: in situ open air lessons; 2) socio-political analysis written with several leaders with community leaders; 3) establishment of an Urban Corner, where to set up an exhibition of reference projects for the theme proposed by teaching; 4) presentation of the individual steps to the involved community; 5) drafting of the final project (thesis, master) with explanatory macro-captions.

Considerations in conclusion

Valter Fabietti, Carlo Pozzi

The actions that have historically been carried out in relation to informal settlements (from ignoring them to the creation of land settlements) can be explained according to some interpretative, evaluation and, in many cases, critical keys. In the practical guide to the redevelopment programs, Reinhard Skinner describes the redevelopment of poor neighborhoods as an economic and social primacy of public action. In particular, it defines the actions in a slum upgrading policy. Basically, it is an approach oriented towards the consolidation of settlements

and the attempt to bring them back into the form of formality and legality. Over time, particularly in national and international policies, we observe a greater orientation towards the reduction or complete elimination of the possibility of forming new settlements, in particular through an attitude addressed to the city as a whole, to its internal dynamics. Certainly the two roads (stop of the birth or qualification of the existing slums) do not appear in contrast. However, in an approach with realism, it is necessary to consider the constraint of economic opportunities, as well as policies, to pursue the former (avoid new slums) and to assess whether, if the former is possible, the latter is negatively affected by this practice.
The conclusions of the first part therefore open to the verification carried out through the records on the single case studies.

> CASE STUDIES

The São Paulo region runs along an asymmetrical plain. It was on some hills of its left bank, in the sixteenth century, that urbanization began. Until the mid-nineteenth century, the occupation of the region took place in the hills and there was no clear spatial separation between rich and poor, whose daily life was similar in terms of resource scarcity and austerity. This picture changed by the end of the nineteenth century: with the abolition of slavery, the newly emancipated population was segregated to live in places of little value, often accompanied by other marginalized people who came to the city due to socio-economic crises in their home countries and why their travel was facilitated by government incentives to offer their workforce.
The purpose of this essay is to describe the growth of favelas caused by this migration and the role that public space plays in the structuring of informal settlements.

Mexico City is a metropolis that is home to over eight million people and a territory with its own government, as well as the core of an urban area of over 22 million people, distributed throughout dozens of municipalities in three states. Like other metropolitan areas of comparable size, it is difficult to synthesize its urban character without turning to generalizations and overlooking exceptions to the rule.
Working-class urbanism is often considered to be a contemporary phenomenon that had its greatest period of growth during the second half of the 20th Century. Tracing its historical antecedents sends us back to the early stages of the industrialization of Mexico – before 1910 – when the first working-class neighborhoods appeared. The working-class urbanization processes are the subject of this essay.

122 Nairobi

Dr. Judith Onyoni, Prof. Erastus Abonyo
(University of Nairobi)

Kibera is a slum settlement located about five kilometers to the South-West of Nairobi city center. Informality of Kibera as a human settlement can be attributed to several factors such as dismal spatial standards, construction methods and materials, lack of security of tenure and marginalization in delivery of basic infrastructure and services, forcing residents to seek alternative finance, education and administration services.
The living arrangement is overcrowded and pauses great health risk to the inhabitants. Marginalization and exclusion of the Kibera especially challenges in accessing mainstream finance, education and administration functions has led to development of alternative systems that serve the people where the formal facilities are absent or fail to meet the unique needs of the slum dwellers.

138 Johannesburg

Prof. Denver Hendricks
(University of Johannesburg)

The appropriation of slum is not unfamiliar to Johannesburg. Inequality, poverty, and overcrowding are synonymous with this city since its inception as a gold mining town. Johannesburg, a young city, just a little over one hundred and thirty years old, grew exponentially since 1886.
Although slumming is found worldwide, what makes Johannesburg's slums different? Firstly, by definition, the inner-city is a slum and secondly, the slums of inner-city Johannesburg are based on the marginalization of the colour of people's skin.
The essay investigates the deep motivations for the specificity of Johannesburg's informal settlements

156 Tigray region

Proff. Alisia Tognon, Marco Bovati, Emilia Corradi
(Politecnico di Milano)

Ethiopia has a long history of hosting refugees and an open-door asylum policy, making it the second-largest refugee-hosting country in Africa. According to UNHCR, in November 2020, 801,349 refugees were hosted in the entire country, mainly of them originate from Somalia, Eritrea, South Sudan, and Sudan. 26 refugee camps are spread in all the country, making Ethiopia one of the five African countries partaking with the Comprehensive Refugee Response Framework (CRRF). Before the civil war (2020), in the Tigray region, UNHCR had registered refugees (96,223 Eritrean) hosted mainly in four refugee camps in the western part of the region: Mai-Aini Adi-Harush, Shimelba, and Hitsats. Some refugees (8,424) residing in the region benefitting from the Government's Out of Camp Policy, allowing refugees to live in communities. The recent conflict has increased the instability situation, and the dramatic circumstances forced Ethiopia's Government to initiate a process of relocating the refugees who had fled from camps to the region.
In these difficult circumstances, refugee camps are a physical space for humanitarian relief and welfare and a space of disorientation, insecurity, marginalization, where the emergency represents the camp's existence outside space-time.

210 Mumbai

Arch. Shivjit Sidhu
(Architect, Mumbai)

In 2001 then Chairman of Goldman Sacs Asset Management, Jim O' Neill first postulated the acronym BRIC which was soon revised to BRICS putting into focus the economic growth and investment potential inherent in Brazil, Russia, India and China while later adding South Africa to the list. This external moniker, a convenient handle for international investors looking to diversify their investment portfolio with high yield returns, was officially adopted by the respective countries in June 2009 with the first formal meeting involving the Heads of State of the BRIC countries. The focus was on the BRIC countries role in improving the global economic situation with an emphasis on financial reform and cooperation amongst the four emergent economies. Implicit in this message was a greater voice for the developing countries especially in global affairs and inclusion of their concerns when shaping global economic policy which had been hitherto now dictated by Western First World powers.

238 Ahmedabad

Prof. Giulia Setti
(Politecnico di Milano)

Ahmedabad presents a significant concentration of slums in the city's diverse areas and concerning the population's different needs. The essay describes the architectural typologies of informal settlements present in the context of Ahmedabad, together with the political, social, and economic background that support these residential spaces. Informality is a way of structuring the space. Slums and chawls showing a stratification of materials, colors, and shapes; they could represent a space for contemporary design experimentations. The essay also focuses on the essential architectural elements of informality and possible adaptation forms to the current rapid growth present in the Indian scenario. Finally, it addresses design solutions on how to work in the informality, providing basic infrastructures, a network of services, and a certain flexibility in self-construction and transformation.

Saõ Paulo. Photo by Luis Octavio de Faria e Silva.


LA DOLCE VITA
02

Favela is a weed

by
Valter
Fabietti,
Carlo
Pozzi

> **The reasons for the research**[1]

Slums are symptoms of complex urbanisation problems occurring across multiple urban sectors, therefore, improving their living conditions and preventing their proliferation require multi-dimensional and collective responses within a context of improved policy frameworks and enhanced urban governance and management, responses that also address the city-wide implications of the current socio-spatial exclusion and environmental injustice towards slum residents.[2]

The complexity and vastness of the subject of informal settlements would require a much broader treatment than that contained in this volume. What we want to represent with this work is not, therefore, an ambitious project of systematization of the topic dealt with, but rather the definition of some research questions, postponing further study to subsequent studies and publications.

The study of informal settlements, even if declined according to these purposes, asks researchers some unavoidable questions, the first of which concerns the possibility of governing the phenomenon (both considering the control of proliferation and aiming to improve living conditions in existing settlements).

Bernardo Secchi, in his *The city of the rich and the city of the poor*, wonders if 'the precarious and self-built settlement is being overcome or is it a trend for the urban future, in an increasingly divided society?' This question, preliminary to the assessment of the possibility of government, is associated on the one hand with the need for an operational definition of the term 'informal city' which assumes, in the various situations in which it occurs, different declinations and, on the other hand, the understanding of the common points observable in the various geographical, social and economic environments in which the settlement is present.

What kind of 'informality' should we refer to? The ways of settling the poorest are many, as are the motivations and dynamics that generated them and that keep them alive. From community settlements in large estates, to the use of sidewalks, from occupations of housing in central areas of cities to the settlement in areas subject to different types of hazard, the range of possible definitions is truly vast.

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1. The analysis and proposal work was developed in the *Laboratory of the informal city* of the University 'G. D'Annunzio' – Pescara-Chieti, Dipartimento di Architettura, with the main contribution of Valter Fabietti, Michele Manigrasso, Carlo Pozzi, Domenico Potenza.

2. UN-Habitat, PSUP Team Nairobi, *Slum Almanac 2015-2016. Tracking Improvement in the Lives of Slum Dwellers*, Union, Nairobi, 2016, p. 16.

In the first instance, it is possible to accept the 'functional' definition of informality, formulated by UN-Habitat, relating to five settlement conditions: insufficient access to drinking water, inadequate access to sanitation and other infrastructures, poor quality structural housing, overcrowding, lack of security of possession. However, it is necessary to verify whether these are sufficient to describe the different case studies in an acceptable way, examined through individual analyzes, and above all if it allows to identify a minimum common denominator useful for developing operational strategies and defining possible actions/roadmaps, intervention tools or at least find some best practices available in other contexts.
The composition of the book is conditioned by this research approach. In the first part, a synthetic, but in our opinion necessary, definition of some matrices of informal development is developed. Matrices that, in addition to the chronological evolution, narrate physical and social morphologies, including among them, in addition to the physical structure of the informal city, the role of the economic, environmental and community components in giving shape and substance to life in the settlement. In the construction of the first part of the volume, the actions developed by international institutions and organizations, linked to purposes not necessarily and not always coinciding with those of local communities, and the responses in terms of physical and spatial configuration of some also play an important role. Exemplary 'occasions' of intervention.
In the second part of the volume, the analysis of the case studies refers to some aspects deemed relevant (the matrices of informal development) and which can be summarized in four questions, not necessarily put in this order:

- What is the evolution of the informal city phenomenon, considered according to two types of 'informality': on the one hand the occupation of land (accompanied by a description of the territorial characteristics of the occupied soils: marginality and centrality with respect to the city, accessibility above all to the main ones workplaces, geomorphological stability, presence of additional risk factors) and its possible stratification over time (with the modification of the building types used – from the sheet metal shack to the masonry house); on the other hand, the occupation of buildings, according to the different types of occupation. It would also be interesting to understand the reasons for the formation of the settlement (war/internal or external migration/racial/endogenous urban poverty etc.) and if these have changed over time.
- What is the role of public space in activities in the informal settlement. For example, if there is a 'territorialisation' of space linked to different ethnic groups or social groups, including criminal organizations

among them. Or, again, if the public space is considered a simple place of transit or if it is instead the place where commercial, social or similar activities take place. It would also be interesting to understand the physical treatment of public space (materials and sections, if the driveway is asphalted or not, if it has drains for water or not, if it has a hierarchical dimension, that is, if its characters follow a hierarchy of use, or more).

- What are the social characteristics of the population: homogeneity or inhomogeneity, if some services exist and, if they exist, if they are self-managed or public, if voluntary associations operate, religious or otherwise, what are the economic conditions of the inhabitants (unemployed, with jobs temporary, busy even if with low profile jobs). An important issue to be addressed is that of waste and underground services (networks) or whether there are forms of subsistence urban agriculture.
- What are the public policies implemented by central and/or local governments, also through legislative measures aimed at solving problems related to the improvement/rehabilitation/elimination of informal settlements or through economic measures and programs or urban planning tools.

In conclusion, the drafters of the individual forms concerning the case studies were asked to reflect, as privileged witnesses, on what the development prospects of the settlement are, the role of participation and, ultimately, the role of the disciplinary components involved (architectural and urban planning, sociology and anthropology, and more).

Nairobi, Kibera Slum: bird's eye view. Photo by Gloria Bazzoni.

Saõ Paulo, Paraisópolis favela.

Urban poverty and informal living

by
Valter
Fabietti

> Sometime in the next year or two, a woman will give birth in the Lagos slum of Ajegunle, a young man will flee his village in west Java for the bright lights of Jakarta, or a farmer will move his impoverished family into one of Lima's innumerable pueblos jovenes. The exact event is unimportant and it will pass entirely unnoticed. Nonetheless it will constitute a watershed in human history, comparable to the Neolithic or Industrial revolutions. For the first time the urban population of the earth will outnumber the rural. Indeed, given the imprecisions of Third World censuses, this epochal transition has probably already occurred.[1]

Favela, slums, shanty towns, ghettos, bidonville are synonymous yet they refer to forms of settlement that may have very different origins and forms[2]. In part this depends on the cultures of the geographical contexts in which they are located, on the environmental conditions, on the political and economic employment system, on the socio-anthropological components, on local building traditions and more. However, what most of the informal settlements seem to have in common are the conditions of the soils or artifacts in which they are born and their marginality[3]. Without wishing to represent exhaustively the formation and evolution of the informal city, it is opportune to briefly retrace some passages, phases in which the growth of the settlement was manifested, read in the unifying perspective of marginality, in an attempt to answer the question formulated at the beginning of this volume: is it possible to govern the informal city?

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1. M. Davis, *Planet of slum*, Verso ed., London, 2006, p. 122.

2. Chryssanthi-Christy Petropoulou (2009) states that 'The confusion of terminology reflects a tendency to consider all forms of urbanization in the same way, different from those known in Western countries. The only common definition of the various approaches is linked to the description of the landscape of these neighborhoods at a given moment and self-construction plays a leading role.' And again, 'The informal settlement is better understood as a set of heterogeneous and interacting elements that operate according to different logics.' On the theme of diversity Matthew A Richmond's essay 'Rio de Janeiro's favela assembly: Accounting for the durability of an unstable object', *Environment and Planning D: Society and Space* 2016 *https://mc04.manuscriptcentral.com/societyandspace*, provides an interesting representation of assembling these heterogeneities, using a concept derived from Gilles Deleuze and Felix Guattari, expressed in *A Thousand Plateaus: Capitalism and Schizophrenia*, London: Continuum 1987.
Starting from the first definition, often cited in the texts dealing with the informal settlement, due to the '*Vocabulary of Flash Language*' of 1812, there is no single definition applicable to the various informal settlements. For the definition of informal settlement, the UN-Habitat formulation is assumed here, relating to five settlement conditions: 1) insufficient access to drinking water; 2) inadequate access to sanitation and other infrastructures; 3) poor structural quality of housing; 4) overcrowding; 5) lack of security of possession.

3. The concept of marginality can be declined in many ways. In this case, the reference concerns the capacity of integration in the urban fabric but may have other meanings, as we will be able to show in the following chapters of this volume.

> **Phases of the settlement**

As Davis states, the prevalence of cities, especially in the Third World, will bring with it the progress of informal settlements and, ultimately, the growth of urban poverty. It is a path that, although already started at the beginning of the nineteenth century,[4] assumes explosive characteristics from the middle of the last century. A path that develops in a non-linear way (Davis, 2006) and that has undergone accelerations and slowdowns in the different countries, both in relation to the overall economic conditions and to national political events. Very often, in fact, due to the social interpretation of the informal settlement and its inhabitants, the policies implemented have determined its growth rate and settlement forms.
Even considering the constant growth of the informal city, it is possible to identify phases of acceleration of the phenomenon. UN-Habitat (2003) states that before the 1950s, the population settled in the informal portions of urban centers reached a reduced size although in some cities it was already half of the population, especially in developing countries, to reach considerably higher values in the new millennium: 'In Latin America, more than 90% of the population living in urban areas, [...] 62% of the people living in cities in Sub-Saharan Africa and 43% of the inhabitants of urban areas of Central South Asia now lives in slums, [...] almost 1 billion people. [...] Furthermore, the localization of poverty in the world is moving towards cities, a process now recognized as the urbanization of poverty.'

The growth of informal settlements in urban areas is to a large extent caused by internal migration, farmers who are unable to provide for their livelihood leave the countryside and move to the city in search of job opportunities. The pressure of multinationals in the exploitation of agricultural soils for productive purposes accelerates this process in a dizzying manner: as Elena Tarsi (2014) states, it is possible to observe in the 'Third World many examples of high-density countryside and high-density de-industrialized cities of labor force.'
The growth of the urban population therefore carries with it a burden of poverty. The phenomenon from residual becomes dominant over time, especially in Third World countries without excluding, in different forms, some European capitals (Paone and Petrillo, 2017). Spain like France or Italy, especially in the agricultural South, become the permanent or transit

4. J. Whitelaw, *An essay on the population of Dublin*, 1805, published following the census of 1798. The slum phenomenon highlighted through the census returns a dynamic in the industrialized West that is comparable with the current one in Brazil, India, or others Third World. The current specific characters, however, do not allow subsequent analogies.

residence for a crowd of dispossessed, fugitives who pursue a hope of life and work.[5]

Between the 1950s and the 1980s, the massive growth of the urban population in the Third World was accompanied by a progressive marginalization of this low-cost workforce: underemployed or employed in 'informal' jobs, expelled by night from the formal city, towards risky areas from the environmental point of view and beyond.[6]

The accelerated growth of the areas of informal settlement that derives from this gives rise to a significant environmental issue or, to be more explicit, clearly brings out a relationship of 'cause effect' in the birth and development of informal settlements: not being able to access the legal housing market, the large and growing masses of migrants refer to a 'secondary market', or to an illegal market of soils and dwellings that develops in inaccessible and/or potentially highly dangerous areas, where settlement costs are decidedly lower; areas in which the legal housing market cannot, by force of circumstances, develop.[7]

As we will be able to say in the following paragraphs, the phases and ways of realization of the informal city are to a large extent linked to the attitude towards the phenomenon of local companies and, in particular, of their administrative representatives. According to UN-Habitat (Skinner et al., 2004) governments have responded to the emergence and growth of informal settlements in seven ways: ignoring the phenomenon; use slums for political purposes; uprooting, eviction and 'spontaneous' displacement; relocation through the construction of social housing; creation of sites and services and redevelopment. To each of these attitudes has corresponded, with obvious variations and variants, a form and a phase of informal settlement. The marginalization that explicitly accompanies the first phases, however, finds itself implicitly placed also in the following phases: ignoring or removing the slums represents the attempt to remove, hide the problem; similarly, the lack of a global reflection on living and the meaning of citizenship, which seems to characterize the

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5. M. Agier (sous la direction de), *La jungle de Calais*, Presses Universitaires de France, Paris, 2018; G. Avallone, S. Torre, 'Dalla città ostile alla città bene comune. I migranti di fronte alla crisi dell'abitare in Italia', in *Archivio di Studi Urbani e Regionali*, n. 115, 2016, cited by Paone and Petrillo (2017).

6. There are other ways of living, also 'informal', such as for example the Brazilian cortiços or the makeshift Indian residences on the pavements or the Argentine conventillos, which do not respond to this reading but which can however be included in the concept of marginality, here adopted as interpretative key.

7. Many authors recognize as factors of marginality, in addition to settlement costs and individual security, the possibility or not of having a title of possession, the distance from the workplace. In other words, due to the scarce economic availability, the urban poor make a trade off between the characteristics of the area and the quality of the accommodation with the possibility of remaining in an urban environment. See V. Fabietti, *Informal settlement and risk*, in M. Manigrasso (edited by), *Brazil. Learning from the favelas*, PPC copybook n. 4, List, Barcelona, 2015.

subsequent phases, represents a different expression of the same attitude. Much of the 'evolution' in governments' attitudes, starting from the 1990s, is due, as we will later explain, to the emergence of urban marginality on the world stage: visibility and, above all, strategic and political significance of the phenomenon for international balances leads to the massive entry of the World Bank and the International Monetary Fund into national policy choices (Davis, 2006; Chiodelli, 2007; Rocha, 2010; Scandaletti, 2010; Koster and de Vries, 2012; Vacca, 2014; Allemand and Sagnières, 2015).

In this framework there are also the activities of international organizations, whose interest is addressed to food resources, whose weight is often decisive for the growth of informality. The case of Zambia, described by Valeria Vacca (2014), is exemplary: 'In 1974 the 'Improvement Areas Act' declared the underdeveloped areas as areas for improvement [...] The intervention was carried out between 1975 and 1982, thanks to funds granted by the World Bank and other organizations. The compounds were 'upgrated' in the 1990s, thanks to the support of Human Settlements of Zambia, a local non-governmental organization, in collaboration with the World Food Program and other international NGOs. [...] In 1992 the country was hit by a heavy crisis due to the failure of the wheat harvest and this shifted the attention of the World Food Program towards this national emergency. When the emergency ended in 1996, the inhabitants were no longer willing to be involved in improving community structures on a voluntary basis.' There is a gradual separation between national policies and international programs, or rather a gradual abandonment of national policy choices is manifested.

As Cardoso (2004) reminds us, the housing issue in Third World countries is not strictly conditioned by the lack of housing ('the poor always manage to produce housing'), but in the inability of local governments to integrate spontaneous housing in the formal city. Within informal settlements, the action of external subjects with economic and urban relevance depends on possible political and economic advantages. This undermines the traditional approaches to the qualification of settlements and, even more so, urban integration. This condition is aggravated by the systemic effects of poor management of the environmental aspects of the problem: the lack of knowledge of (or indifference to) the reasons for interference of the secondary market and the role of environmentally degraded areas on an urban scale has prevented the understanding of the process daily production of informal settlements and compromised the possibility of assimilation by the pre-existing city.

> Natural hazard and informal settlement

Among the causes of marginality, an important, though not unique, role, as we will show, cover the physical conditions of soils.[8] A sentence by Mike Davis represents a perfect synthesis of the housing conditions of the last of the world: 'Slums begin with bad geology.'[9] Is there a close correlation between the birth and development of informal settlements and environmental risk conditions? It is certainly a partial interpretation, but one that assumes a significant value for the understanding of housing conditions and, like other readings (for example, economic, health, education) which we will deal with later, of the living conditions in the informal settlements. It is possible to find a link between the danger of soils and the birth and development, from the very beginning, of informal settlements. However, this relationship becomes evident to most observers with the aggravation of settlement conditions, or with the increase in pressure on urban centers of growing masses of the poor. The use of less attractive areas due to the objective conditions of environmental degradation (Davis, 2006) is manifested with greater importance. Although it has begun to manifest, from the 90s and in particular for Latin America (Scandaletti, 2010), the use for residential purposes of areas of high naturalistic value, attention to housing towards areas with greater environmental risk, less attractive for the 'official' construction market, it remains very high today.

The space of the informal settlement is part of the construction process: it is a residual space, ready to be used in subsequent phases of expansion of the settlement itself, following the logic of the 'urban metabolism.'

The increasing densification, generated by this growth pattern (which can occupy the entire usable surface), does not spare water streams, generally streams with torrential flow, flooding areas and slopes with high slope and/or high instability or, as for example in the Turkish gecekondu or in the Kenyan slums or in other informal settlements of the third world, in the landfills or in the abandoned industrial areas.

If these conditions of risk are the prerequisite for the birth and development of informal settlements, is it possible to speak of danger as a settlement factor in the illegal market? Is it possible to say that only through the

8. Some authors claim that the dominant character of 'self-built' neighborhoods is being built on spaces that communicate badly with the rest of the city. Accessibility is certainly a common feature of informal settlements, whose original matrix is the occupation of marginal spaces. However, in many cases the cause of this marginality refers to the environmental degradation conditions of the places, even if not all of them. These are soils whose marginal location in the urban fabric (which does not necessarily coincide with a peripheral location) is superimposed on the scarce attractiveness from the point of settlement.

9. M. Davis, loc. cit.

acceptance of a share of risk the poorest populations can access the house?[10] Natural hazard can certainly represent a localizing factor, for the reasons mentioned and, more generally, for the greater availability at low or zero price of use.[11] As Davis states 'poverty magnifies local geological and climatic hazards. Urban environmental vulnerability,or risk, is sometimes calculated as the product of hazard (frequency and magnitude of natural event) times assets (population and shelter exposed to hazard) times fragility (physical characteristics of built environment). Informal urbanization has everywhere multiplied – sometimes by a decimal order of magnitude or more – the inherent natural hazards of urban environments. [...] 'Fragility' is simply a synonym for systematic government neglect of environmental safety, often in the face of foreign financial pressures.'[12]
The environmental problems to be faced, however, are not limited only to natural dangerous conditions but are increased by inadequate behavior in the government of the territory. The peculiar characteristics of the favela overlap with the natural risk, amplifying it: among these, the poverty of the underground services, if not their total inadequacy or absence; the problem of waste disposal and their prolonged storage with evident problems of percolation and of hygienic risk (up to the contamination of the aquifers) and more.
The evolution of the informal city recalls, in many ways, the primitive evolutionary matrix of human settlement: progressive densification accompanied by a model of neighborhood community that is also expressed through the use of collective space.[13]

Conditions of neglect or, worse, damage to any risk protection works, if carried out, make it clear that it is not possible to resort to the sole realization of works, without the implementation of territorial policies with a strong community structure, including the campaigns of social education.

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10. Ibid.

11. This condition, which undoubtedly represents an element facilitating the informal settlement, is at the same time, according to many authors, one of the main reasons for housing insecurity in informal settlements (lack of a legal title of possession). This is a topic that will be discussed later in the volume.

12. M. Davis, op. cit., 2006, pp. 124-125.

13. The analogy is evident by observing, for example, the historical favelas of San Paolo: in the settlement of Paraisopolis or Jardim Colombo, the temporal stages of growth are witnessed by the building types, the construction materials used, the construction technologies but also the relationship with the surrounding space. In the areas of the most ancient settlement, these take on characteristics similar to the formal city, testifying to the presence of a process of progressive modification of the building, similar to that present in the city. See V. Fabietti, op. cit., 2015.

Exemplary in this regard is the example, now at risk of elimination, of the participatory policies implemented in Brazil by the Lula da Silva government before and by the continuation implemented by the government of Dilma Rousseff, dismissed in 2016. Thanks to some local experiences, the national government recognizes the importance of the problem of informal settlements and the repercussions on the overall urban structure. In addition to the policies most closely oriented to the housing problem, such as for example Minha Casa Minha Vida or Mina Casa Melhor or others that we will discuss later, we try to face the reduction of natural and anthropic vulnerability, accompanying the tendency to physical and social evolution of the settlement through micro urbanization actions, where it is obviously not possible to reduce the settlement on unstable areas.
In 2003 the Lula da Silva government set up the Ministério das Cidades, in order to define shared and participatory policies that tackle the main urban issues in an 'overall' manner. Among the various objectives of the Ministry there is the reorganization of the favelas.
In addition to the implementation of safety measures (reduction of danger), the preventive policy aims to reduce exposure and change the vulnerability of the settlement, also through constant work with the community, acting on its backbone, the common spaces. Therefore, the need for multi-objective policies seems to emerge in the reduction of risk, to which the various actors of the urban scene are called (the municipal administration, citizens in the broad sense and the collectivity, economic operators, etc.). It is, in other words, despite the limitations expressed by different observers, an attempt to integrate housing and environmental policies.

> Settlement ways

Why, Davis wonders, did Third World cities and informal settlements grow so slowly in the first half of the 20th century and then accelerate? The author states that, first of all, it is necessary to understand why they have grown so slowly before.[14] The question and the subsequent statement obviously admit many answers, and cannot be treated separately. Among the many possible, some dealt with in the following parts of this volume, at least two answers appear to be of some interest for the general research assumptions and in the specific treatment addressed in this chapter of the volume. A first answer, partly outlined in a summary form in the previous paragraph and in-depth in the following chapters, concerns the dynamics and the evolutionary phases of informal settlements: what

14. 'But before considering why Third World cities and their slums grew so fast in the second half of the twentieth century, it is first necessary to understand why they grew so slowly in the first half.' M. Davis, op.cit., 2006, p. 50.

are the motivations and what are the opportunities that generate them. A second answer refers to the rules and ways in which the settlement is formed and develops. Postponing the discussion of the first to the following chapters, the reading of the settlement methods is dealt with in this paragraph, with subsequent deepening in the tabs on the individual case studies, more closely related to the morphology of the settlements.

It is possible and necessary, as a first approximation, to observe that the ways of informal settlement differ greatly in the different places in which they occur and in the ways in which they come to life. Some authors recognize a substantial difference in the 'generative' moment of settlement: on the one hand, totally illegal settlements, squatters, where the first act is represented by an occupation of land or buildings, public or private, without the possession of no legal title; on the other hand, the entry, often quantitatively increasing over time, of low-income households in a secondary market in which subjects who have purchased marginal land rent them by parceling them, practicing a form of illegal subdivision. In some cases, individual lots already contain rudimentary dwellings, often placed on the market by previous tenants or landlords, who became tenants following an economic and social upgrade.
The UN-Habitat Report (2003) found that these two types of slums can also be defined, on the one hand, as their properly slums and, on the other hand, spontaneous housing. It is a definition that can be traced back to the previous one, with the particularity of a greater attention to localization (residential areas within the city that were originally built legally but which, over time, have gradually become crumbling or areas on the edge of the settlement): 'physical location and legality' are the key words that the Report recognizes as dividing line.

The settlement modes, once the occupation has taken place, are often subject to changes that vary according to the type of slum or its location (UN-Habitat – Skinner 2004): in historical centers, in peripheral areas, close to the formal city or in the interstitial spaces, as satellite cores, along the railway and road infrastructures, in the abandoned industrial areas, close to the marshy areas or along the river auctions. It is, as it is easy to understand, a vast typology for which a *reductio ad unum* is not possible.
Moreover, even within the same settlement, differences can be observed, made evident by the variety of dwellings (Nuijten, Koster, de Vries, 2012). Differences that are the expression of the economic, social and cultural conditions of the families, of the time phase of growth of the settlement, of the duration of the presence of each dwelling. These are relevant

factors which, alongside the socio-political context, determine to a large extent the speed of the growth of an informal settlement. We affirmed the existence of a correlation between the growth of slums and the immigration of poor people in the cities, the main center of informality. If the phenomenon of poverty is governed by national if not international economic rules, the rapidity of settlement progression also derives from settlement dynamics, often regulated by local economic conditions and by ascending or descending dynamics on the social scale: the marginal improvement of the conditions of some families will make available some previously occupied dwellings while the nucleus will tend to move to new housing, perhaps in the same slum but with better typological conditions. Still, the formation of new 'small owners' able to acquire soils to be subdivided (or already parceled out) will contribute to the expansion of the settlement.[15]

It seems possible to hypothesize, without prejudice to the economic and social reasons already mentioned, a correlation between social mobility on an urban scale and slum growth.

The phenomenon appears more complex if we consider informal settlements deriving from the occupation of already existing buildings (condominiums, villas, hotels, shopping centers, and others) in degradation and abandonment. This is a particular growth of the informal settlement generated by the occasions that are extemporaneously created in different parts of the city, according to a 'leopard spot' geography that does not exclude the most central urban areas. Around these forms of settlement, which have had alternating periods of acceleration and slowdown, various occupational associations have been formed, which in some cases have had contractual power vis-à-vis the local administrations. The expulsion of urban poor to peripheral areas remains the main factor of growth of the informal settlement. In Brazil, for example, 'Inner-city cortiço dwellers should not be confused with the shantytown population', says Levy (2010).[16] Until the 1980s, the cortiços were the dominant type of slum in

15. 'In Brazil the strong urbanization process has not been matched by the production of planned and adequate urban spaces. [...] The salary was never regulated on the price of the house and therefore access to the goods in the home occurred in an informal parallel market made up of favelas, subdivisions and self-construction' (Arantes, Maricato, Vainer, 2000) quoted in E. Tarsi, op.cit., 2014.

16. 'UN-Habitat describes a cortiço as a unit used for collective multifamily dwelling, totally or partially presenting the following characteristics: it is made up of one or more buildings constructed on an urban lot; it is subdivided in several rented, sublet, or ceded units on any ground whatsoever; several functions are performed in the same room; there is common access and use of nonconstructed spaces and sanitary installations; in general, circulation and infrastructure are precarious, and there is an overcrowded population.
Rent for the rooms is exorbitant, the conditions are unhygienic, and there is little privacy because several families share the same house. The inhabitants must also pay for electricity, water, and the municipal taxes. Since the cortiços are older buildings, structural problems, such as leaky roofs, inadequate ventilation, and excessive humidity, are very present. Consequently, the precariousness and the deterioration of the houses often provoke serious health problems among

Sao Paulo. Since then, 'the favela began to dominate the urban landscape, growing sharply during the 1980s and 1990s. In fact, the cortiço population decreased throughout the twentieth century.'
The speed of growth of the slums, Skinner reminds us (Skinner, 2004, Massida sd), also depends on different conditions of the settlement area: whether or not it is an impoverished area, characterized by dilapidated makeshift shacks, by the lack of services; if it is an area built with recovery means, or has multi-level buildings, in brick or reinforced concrete; if it is an area confined and dominated by an opposed and excluded minority, or instead it includes various heterogeneous groups coming from different areas, according to what Dias (2013) defines as 'variable geometry citizenship.'[17]

> **Urban policies**

The utopian vision of a city that can accommodate all has often had to deal with the administrative inability to give a real answer to the housing demand expressed by the urban poor. The first of these utopian visions (Massida 2016) is to have a city devoid of informal settlements and that the existing ones have been transformed into completely comparable neighborhoods to the formal ones. Supporting this utopia refers to the idea of urban renewal and qualification through public works (underground utilities for the main supplies, such as sewerage, electricity and gas networks, but also waste collection, public lighting and more) and actions of social support (such as school, health and employment support). This is a political vision that has to deal with public economic resources or with the capacity for public-private cooperation, both difficult during the period considered in developing countries.
However, this utopian vision, states Massida, is 'an exciting design challenge coupled with social responsibility [...] In fact, many plans combined the practice of villas eviction with proposals of re-accommodation of residents into State-built housing.'

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the inhabitants. Each family occupies a single room, and the bathroom and kitchen are shared by several families. The house owners usually hire agents or middle men to rent them out', Charmain Levy, 'Brazilian urban movements', in *Studies in Political Economy*, 85 SPRING, 2010.

17. 'In Brazil, the inhabitants of the favelas are Brazilian citizens a priori. However, de facto, the favelas are on the political, economic, social and legal margins of the society. This interpretation produces a stigmatizing discourse that results in the distance of the populations of favelas from the city, as well as the legitimization of a more or less arbitrary use of state violence in these spaces.' ('Citizenship with variable geometry', concept of Bruno Lautier, sociologist).
'The notion of variable geometry corresponds to a citizenship that changes according to tacit hierarchies of power, but informally consolidated, variable and always located.' (Machado da Silva Luiz Antonio and Leite Márcia, *Violência, crime enpolícia: o que os favelados dizem when falam desses temas?* In *Vida sob cerco: violência e rotina nas favelas do Rio de Janeiro*, under direction by Dias L.A. Machado da Silva, Rio de Janeiro, Nova Fronteira, 2008), in A. Dias, *Aux marges de la ville et de l'état. Camps palestiniens au Liban et favelas cariocas*, Éditions Karthala, Paris, 2013.

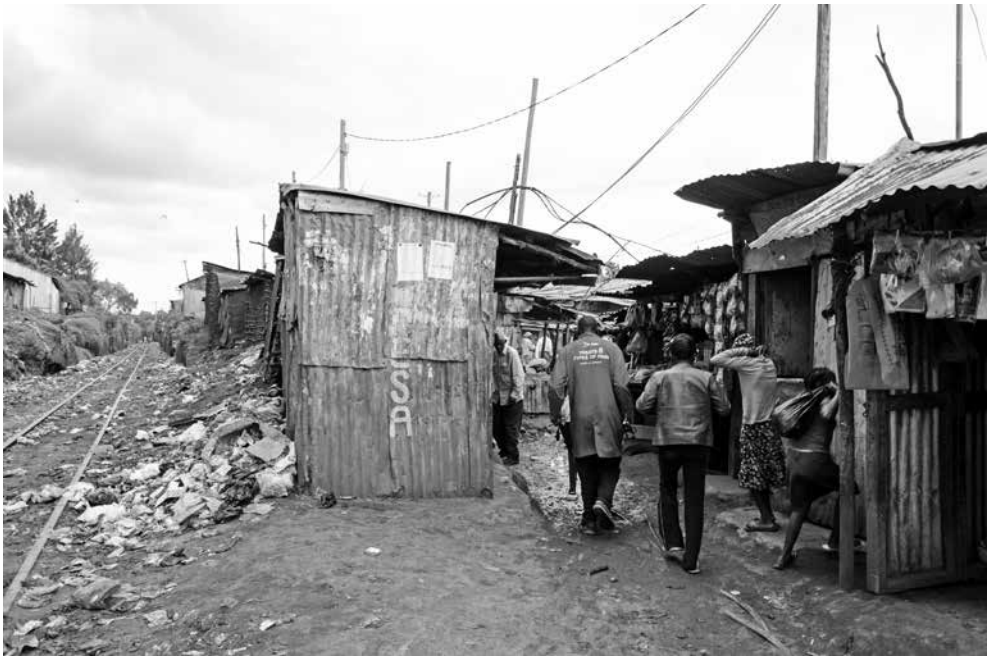
The idea of being able to provide a solution to housing problems has deep roots, particularly in the 19th century utopian reformism, when there was a strong settlement pressure on the cities of the First world in correspondence with the growth of the manufacturing industry and the consequent demand for workforce. The same matrix can be found again in the period of maximum expansion of the informal city, particularly in Third World countries, after the centralized and technocratic planning phase; this second phase goes, as mentioned, from the 1980s to the 1990s. The political and economic framework, as already observed (Massida, 2017; Vacca, 2014; Petropoulou, 2009), was affected in those years by international economic contingencies and by the intervention of the World Bank and the International Monetary Fund (Davis, 2006).

In the countries of Latin America and the Mediterranean (and in other Third World countries), this normalizing intervention surpasses national policies, paradoxically favoring the illegality of informal settlements. Petropoulou (2009) states that 'In some cases, this type of neighborhood cannot be consolidated due to bans by public bodies. Prohibitions that reach demolition [...] without relocating the inhabitants (a practice widely used by authoritarian governments). In other cases, especially in the poorest neighborhoods, [...] the regularization of their situation is very long (5-10 years). But there are also cases (like in São Paulo) where the precarious installation during 5 years in public or (in some cases) private lands offers the possibility of appropriation of land for the construction of houses. The transition from a precarious situation to the regularization of their situation and the consolidation of the neighborhood depends on many factors and above all on the level of organization of the inhabitants.' In fact, precisely in the phase of greater commitment of local governments towards informal settlement, a partial, patronizing attitude seems to emerge (obviously with due exceptions) that fails to address the 'housing issue' according to a general framework of structure urban. This is despite the effort to develop territorial governance tools. Only recently this 'generalist' utopian vision seems to emerge, thanks also to the action of the United Nations (UN-Habitat) through pilot actions, considering the phenomenon of the informal city as a particular aspect of urban dynamics. In other words, the action seems to address an approach that is no longer aimed at rehabilitating individual slums, but on the one hand to activate policies that can reduce their training and, on the other, to activate support for national policies aimed at inclusion.

This is a vision in which the support of the State (they are an example, albeit with the limitations highlighted by some authors, the policies implemented by the Brazilian government of Ignazio Lula da Silva and by Dilma Rousseff)[18] is not aimed at a specific settlement but to population categories. A mix of actions therefore able to bring the theme of citizenship back to the center of urban and territorial policies.[19]

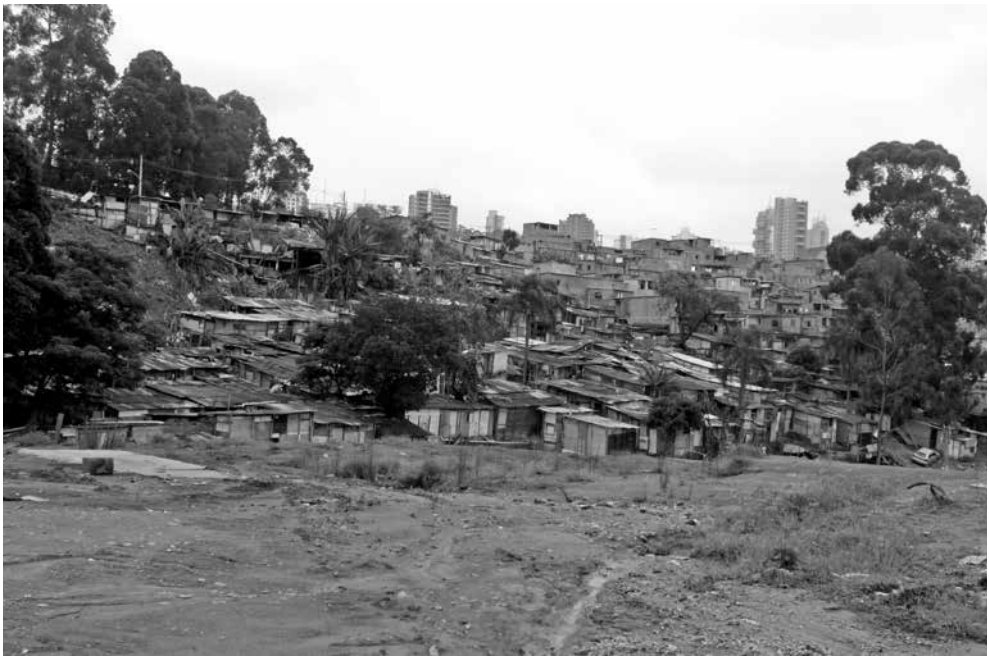
18. Since 2009, a pacification policy has been initiated through collaboration between the municipal, state and federal government (Jacobi 2014). A policy which, together with the measures aimed at restoring the standards of living of the 'favelados' in the bourgeois society, such as *Bolsa familia*, *Minha casa minha vida*, *Minha casa melhor*, was intended to rebuild the image of the favelados as citizens.

19. The theme of the relationship with the hinterland of the big cities has never been investigated enough. As Davis states, 'In Latin America, where primary cities long monopolized growth, secondary cities such as Santa Cruz, Valencia, Tijuana, Curitiba, Temuco, Maracay, Bucaramanga, Salvador, and Belem are now booming, with the most rapid increase in cities of fewer than 500,000 people.' These are cities that are completely unprepared for the growth boom, for some of which it is a consolidated reality.



Nairobi, Kibera Slum: access to the market. Photo by Gloria Bazzoni.

Nairobi, Kibera Slum: food retail. Photo by Gloria Bazzoni.



Saõ Paulo, Paraisopolis: building stratification of the favela.

Physical morphologies, social morphologies

by
Valter
Fabietti

It is difficult to make a comparison between urban forms and, in particular, between the characteristics of public space in western cities and that of slums. The difference lies, rather than in aesthetic quality, in the profound modification that the meaning of space has undergone in our latitudes (Fabietti, 2015) compared to what it still assumes in the informal settlement. The analytical categories normally used in urban studies in developed countries do not, therefore, adapt to the knowledge of the informal city.
The slums, their morphology and the relationship between this and the life of the inhabitants have been the subject of various studies and field research. Some authors (Cavalcanti, 2015) affirm that in many cases such researches have not grasped the 'true' nature of informal settlements which remains, in fact, still unknown: the path to their understanding passes through local knowledge, social morphologies of their inhabitants. 'The observations of families, the economy, the values and the resources produced in the slums appear to be central. [...] Space, as Lefebvre would say, is a construction that is not based only on material aspects, but also on everyday life, the senses, the imaginary.' Very often, says Cardoso (2004), the physical form of informal settlements is investigated due to their size, ownership of the property and the 'density' of the physical form.
Is it then in the relationship between physical and social morphologies that the key to reading the informal settlement lies? A first answer to this question can be formulated by carrying out a reflection on the modes of production of physical forms and collective space. The history of migrations (proximity or long distance) from which the slums originate testifies that (Ascensão, 2010) the unedited space of the slums is an expression of the 'complex material expressions of an uneven geography of settlement that takes shape in varied ways.'

> Space and society: a dynamic relationship

In his book *Modernità Liquida*, Bauman (2012) states that modernity does not recognize space as a collective place because a sense of disorientation, a loss of connection with others exists and pervades Western society. 'What is wrong with the society in which we live' says Bauman, quoting Cornelius Castoradis. 'Is that he stopped questioning himself. Ours is a type of society that no longer recognizes any alternative to itself and consequently considers itself exempt from the duty to examine, prove, justify (and even less prove) the validity of its tacit and explicit assumptions.'[1]

1. Cfr. V. Fabietti, *Le storie degli altri. Un incontro tra luoghi e società*, in F. Bramerini, *Atlante letterario di Villa Borghese*, Fefè Editore, Roma, 2017.

This interpretation of urban space, linked to its social value, takes us back to the theme of this chapter. In informal settlements space is not something that separates private appliances, but is strongly intertwined with them. To put it better, private and collective space almost seem to merge in an incessant process of invasion of the second by the former and vice versa. The space in the slums is the space of the community. Small businesses extend to the road and the same food uses tend to widen their borders by involving public spaces. Obviously, for non-residential activities, these are not extensive practices (i.e. they do not concern the entire settlement), but follow the rule of the hierarchy of use of space. The spatial order and orientation pass through the social forms of grouping, through the relationships that are established between those who belong to that community.[2]
The physical form, seen from the outside, makes the informal settlement look like a homogeneous expanse of artifacts without any apparent hierarchy. However, there is an internal inhomogeneity that is motivated by the patterns of consumption of space, and by lifestyles, in which the ethnic, cultural background and work experience are important.
The link between collective space, its plot, and the society that inhabits the settlement thus takes on a double meaning: on the one hand, space defines the places of sociality and, on the other, it is characterized by the sense attributed to it by the inhabitants. The occupation of space is a process of gradual growth, which follows the model defined by mobility which, in turn, is modified by the process of housing growth.

The relationship between physical and social morphologies, in the informal settlement, appears to fluctuate (Paloscia, 2014), being observable in the inhabitants 'the oscillation between the lack of interest in the community dimension of living [...] and the identity pride that emerges and strengthens itself in the collective action aimed at affirming its right to the city.'
The social condition of the inhabitants, which represents a second possible answer to the initial question, is changeable in the various geographical contexts and in the different settlement realities, and largely defines the relationship with the physical space in the informal settlement.

2. 'Streets in slums have multiple functions, more than in other neighbourhoods. This is because in most slums streets are the only public space available. Streets in slums tend to be multi-layered entities instead of clearly zoned areas of use and types. They are host to multiple activities which co-exist and replace each other at different times of the day', Banerjee with C. Acioly, A. Gebre-Egziabher, J. Clos, K. Dietrich, *Streets as tools for urban transformation in slums*, UN-Habitat, Nairobi, 2012.

The space between the dwellings, which historically constituted the urban connective and the very nature of the city (otherwise a jumble of houses) in the 'formal' settlement, represents in the slum the element that can allow its recognition as a community. It is in this space that the sense and form of collective action are built, the identity pride of which Paloscia speaks. Space which to a large extent constitutes the fundamental part of the structure and growth of the settlement and which fully enters the housing production cycle. The relationship between the shape of the space and the dwelling changes, in fact, over time through a progressive colonization of the unoccupied surfaces, according to transformations and extensions of the built, whose shape and size varies in relation to the needs of the nucleus that inhabits it.[3]

According to Cardoso (2002), there is a close relationship between urban and social morphology in informal settlements. According to the author, the urban morphology and the social structure appear to be connected through the production of built spaces and the potential that these represent to improve the long-term economic and social prospects of the inhabitants. 'The concept of *life opportunities*[4] offers a broad framework for addressing social issues. [...] The spatial evaluation of rights, performances and ligatures is mainly based on the relationship of the streets [primary spaces] with the other elements of the urban form, since they are the most stable and prevalent element in these areas' (Cardoso, 2004). In other words, it is a transformation that involves different aspects of social morphology: the size and structure of family, the ability to produce income, the level of education, the position on the social scale, but also the security of the permanence, the legal title of possession and more. Considering the combination of these factors, the expansion of the built accelerates or slows down, invades or not previously empty spaces, modifies or not the typology and the building materials.

The prevalent building types, which are originally shacks, are made through the use of makeshift materials and recovered at the expense of other artifacts or through the collection of waste: timber, sheet metal, plastic. The historical stratification of the informal settlement can also

3. As Cardoso (2004) says, 'it is possible to assess patterns of density and land use over time, and to understand the socio-economic conditions of a settlement's origins, by analysing the combination of basic components of urban form, according to different resolutions and over a selected period of time. Physical elements evolve diversely from city to city and even within a city, according to the socio-economic and cultural profile of successive users. This evolution creates cycles of transformation, which are able to show rates of functional (related to activities) and physical change, correspondent to the city's economic and cultural conditions.'

4. 'life chances is defined as the long-term prospects of someone brought about by choices from available options and according to a person's social objectives'(Cardoso, 2004).

involve, in the oldest and most consolidated portions, the modification of the materials used, up to brick buildings or, in some cases, partially or totally in reinforced concrete, sometimes well maintained. What the different types of informal settlements share is the lack of underground utilities (water networks, sewers) and other basic services.

There are two trends that overlap in the modification over time of the physical form of the settlement and that can be represented by two opposing terms: 'horizontalization' 'verticalization.' The first, linked to the concept of urban periphery, refers to Davis, who states that 'the 'horizontalization' of poor cities is often as astonishing as their population growth: Khartoum in 1988, for example, was 48 times larger in developed area than in 1955. Indeed, the suburban zones of many poor cities are now so vast as to suggest the need to rethink peripherality. In Lusaka, for example, the outlying shantytowns house two thirds of the city's population – leading one writer to suggest that these compounds are called 'peri-urban' but in reality it is the city proper that is peripheral.' The second that refers the densification of the settlement is recognized as a strategic attitude linked to the social morphology and, in particular, to the social behaviors useful for strengthening parental and neighborhood ties. Referring to refugee camps (another category of informal settlement), Dias (2013) states: 'There is a trend towards the verticalisation of space. One of the housing strategies commonly used by spouses is to build a floor above the parents' house, but also of a stranger, buying the 'roof' as if it were a building plot generated by the verticalization of space seems to strengthen family ties, as well as the control of members inside the refugee camp and the favela. The densification of spaces also tends to reduce the places of aggregation. The shack with the small front garden is replaced by a higher density building type.

What initially appears as a unitary space is actually made up of different locations, each of which was formed at a specific time. In addition to illuminating the formation of the camp and the favela, understanding these spaces from their compositions in the locality provides information on local identification processes.' Space, therefore, as an instrument of social cohesion, even if this seems to diminish over the years.

Social cohesion often manifests itself in the refusal by the inhabitants of the informal settlement of accommodation in residential towers, generally provided by state programs, a motivated decline in neighborly relations and the loss of a sense of community. Matteo Clemente claims (cited by Tarsi, 2014) that 'the jumble of different forms and functions, the syncretism of materials and the morphological variations make this self-organized suburb similar to the medieval city: apparently chaotic and disordered but subject to a higher order.'

In fact, a clear example of the failure of 'relocation' policies is represented by the rehabilitation policy of the Brazilian favelas. As Cavalcanti (2015) recalls, 'the understanding of what space is, the right to housing and the right to the city, is disturbed by the failure of the system of mass housing for the less fortunate and evictions of the inhabitants of the favelas.'
Without wishing to fall into the 'rhetoric of poverty', which has often done much damage, the social complexity of the informal settlement, of the relationship between space and society, can be summarized in a poetic description of the favelas of St. Paul, written by Philippe Revelli (2007): 'In some places a column of white smoke signals the fires where the morning coffee is heated. Here, about three thousand families from the favelas of the megalopolis occupy private land on which the flag of the Homeless Workers' Movement flies. [...] Hammer, saw, and pickaxe noises. In this new city, there is always a pit or a latrine to dig, a roof to repair, walls to reinforce.'

> **Employment and informal economy**

The employment of slum dwellers, as already observed, characterizes the social morphology and casts its shadow on the physical form of the dwelling and the settlement as a whole. The world of work in the slum, like the physical space, appears to be an external observer, completely homogeneous: criminality, prostitution, small marginal occupations. In reality, the informal economy is composed of different sectors ranging from the collection of waste materials, recyclable waste (cardboard, iron and other) to the family-run micro-enterprise. In this occupational arc there are really varied jobs. It is possible to observe street vendors, who in some cases move to the cities, in other cases, as happens for example in India, they are placed in portions of urban sidewalks that become both a place of residence and of economic activity[5]. Still in domestic services (maids, cleaning workers), in services in commercial services (orders, cashier in supermarkets, waiters, warehouse workers), or in security (vigilantes, guardians on construction sites).
Alongside these prevailing occupations, localized activities can also be traced back to the petty bourgeoisie, impoverished by the change in local

5. 'Bombay's pavement is a platform separated from traffic that accommodates many uses. Street vendors establish themselves on it in the heart of the city. Shoeshine boys, umbrella repairmen and barbers claim pieces of sidewalks and transform the mobility platform into a service platform. In front of a house, the pavement might be used as an 'espace servant': kitchen, laundry or even the bathroom. At night, after the street vendors have left, the pavement becomes an open air bedroom to more than a million individuals. In some places, tarps are spread out along whole stretches of streets as protection from the monsoon. These people are often displaced and have no option other than finding a new home on the sidewalk' (Allemand and Sagnierés, 2015).

economies. In addition to public employees, this category includes tailors, laboratories for wood or iron, for repairs of domestic instruments.
In reality, therefore, the informal settlement thrives on a very diversified economy that determines the range of social morphologies. Many members of the small and, in some cases, of the middle bourgeoisie have sought, after economic setbacks, housing in the extreme suburbs and slums, increasing the informal settlements with migration and adding a concern to the secondary housing market illegal (or semi-legal).
Talking about the condition in the favelas, Ana Rosa Cavalcanti (2017) represents a geography of work that can also involve the physical morphologies of the settlement: 'the work of the people living in the favela [...] is considered in its various forms (mainly of subsistence) as an important element for planning social housing. The work takes place mainly in the favelas (where the house is used to help the activities managed by the residents), in the daily activities of the family and in the increase in houses, and the adaptation of existing structures to facilitate work activities (shops, sales of food products, various goods, services).' Although specific to a particular type of informal settlement, the favela, this condition recurs in other slums, especially in the large cities of the Third World.

> **Boundaries**

The relationship between the informal settlement and the city passes through the 'boundary line', the space that separates the consolidated fabric of the city and the spatial texture of the slum. It is an apparently permeable space which, however, marks a social as well as a physical gap. It is the perception that the inhabitants of the city have of the inhabitants of the slum that determines the boundary, rather than the physical space. Richard Sennett (2019), in one of his interesting essays published in the Lotus magazine, places the emphasis on the difference between the two meanings of the term border, the limit and the edge, which is very reminiscent of Kevin Lynch's perceptive analyzes. The limit, in the interpretation provided by Sennett, is a boundary where things end, while the edge is a boundary where different groups interact.
On closer inspection, from the perceptive point of view, although the discontinuity between the two fabrics, slums and cities, is evident, graduality can often be observed in the passage from one fabric to another. The border of the settlement is no longer a city but is not yet a slum, representing an idea of proximity that suggests more to the edge than to the limit. The edge of the slum is the gateway, the space in which the informal settlement 'presents' itself to the city. The idea of proximity is referable to many forms, perceptive, symbolic, social that connote the physical

edge, in which each seems to have a distinct result in the production of urban space. 'When walking around the structured areas along the axis of access, we could see characteristics that differed not only from the formal neighborhood around it, but also the from the slum itself, creating a 'transition' relationship that took on characteristics of its own, [...] a more active neighborliness spills over onto the street although the streets are still full of informal commerce, trash, bicycles, etc. This relationship shows that the strong spatial influence, the mutual exchanges, and the intense communication between these spaces makes it increasingly difficult to have a clear definition of boundaries, creating an ambiguous space where the characteristic elements of each pattern of occupation are more evident the closer they get to each of these spaces'(Lobosco, 2012). A hybrid zone is thus created in which the two models merge, but the slum margin is at the beginning of the access road, a place where the first signs of informal occupation are seen.

The case of informal settlements combined with *gated communities* or *condominios fechados* is different. In this case, the role of the border is properly that of limit, which manifests itself as a simple juxtaposition, generally with interposed separators, such as walls, fences, roads.

The roads are usually the elements on which the occupation of spaces for settlement is based, which define the plot, (Cardoso, 2004) 'They are intermediaries between private and collective scales and aggregate investments in ownership and infrastructure that make them more resistant to change than plots and buildings.'

The model that attributes to the road the multiplier function of the intervening opportunities, of the facilitator for urban conurbations, in the case of the *gated community* fails its role.

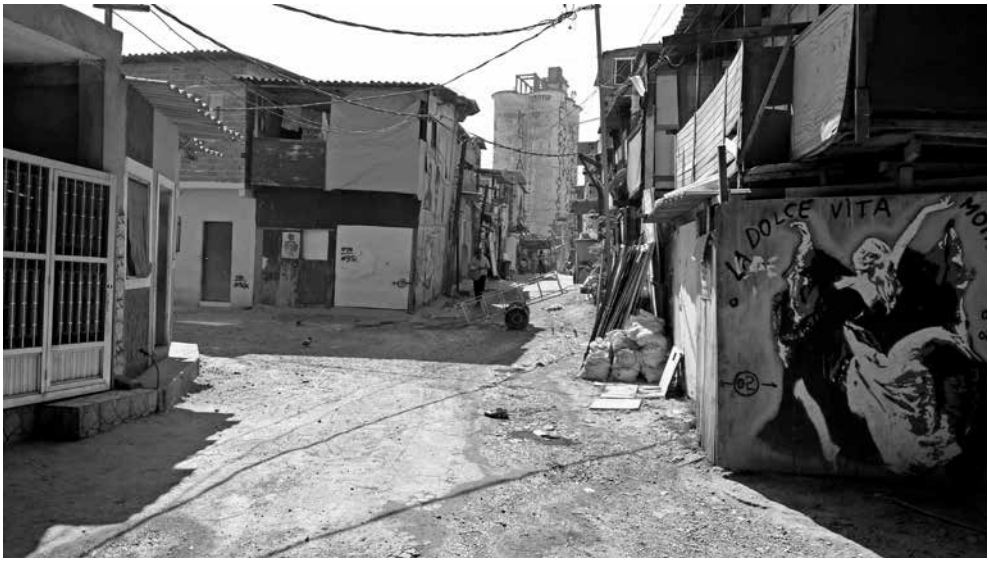
The road, especially if it is a freeway, takes on a completely different meaning from the one described.[6] In this case, the road takes on the role of separator, a useful tool to hide the presence of the informal settlement through appropriate constructive measures. The road, from a connecting tool, becomes the way to implement a segregation policy, of separation between two societies, two seemingly too different social morphologies.

6. 'The urban highways that connect the enhanced areas of the city become barriers to transversal mobility, above all of the population that goes to occupy the patches of land with no economic value near those arteries. The road network is an internal fortification, separating two districts in the metropolis, marking differences of status even between those who have the possibility of following it and those who are not, the basic principle to which the location of housing projects is linked.' (Tarsi, 2014).

It is in this path that one of the main obstacles (but not the only one) is placed for the regeneration of slums or, more generally, for the return to all urban inhabitants the right of citizenship, regardless of the conditions of wealth or ethnicity. The qualification of informal settlements, recognize several authors (Banerjee, 2012), can pass through accessibility, but requires 'participation of local residents, defining a spatial structure for the settlement [...] carving out public open spaces.'

The UN-Habitat agency, in its programs, has recognized the role of spaces for mobility as a tool for improving slums (Skinner, 2014), both considering the space of road infrastructures as a support to reduce density, for installation subservices, both as a support for the realization of social, cultural and economic activities. The presence of more living spaces is believed to also foster safety in social interactions, interrupting the impermeability of dense tissue and also reducing the separation with the rest of the city.

In particular, the *City Prosperity index* was introduced for this purpose by UN-Habitat, in which an important role is also played by mobility infrastructures. Mobility spaces play a key role (Warah, 2013) in terms of productivity, environmental sustainability, quality of life and social inclusion.



Saõ Paulo: public spaces inside the favela. Photo by Luis Octavio de Faria e Silva.

Saõ Paulo, Paraisopolis: informal city versus formal city.

Saõ Paulo, Paraisopolis: evolution of the building type.

Some architectures sing

by
Carlo
Pozzi

According to Paul Valéry[1] some architectures 'sing': in the case of the informal city they are those artifacts that, instead of focusing on a glamorous image, try to play the role of 'urban regenerators' entering into resonance with the difficult context of a slum to activate a new centrality that, even without questioning the entire slum, with demolition proposals and/or new infrastructures, generate a positive dynamic for the community life and for its poor self-built architecture.
The projects presented below were then chosen according to this criterion and by relating in the identified categories some educational elaborations which, although not based on possible realizations, had the same objective, not to close in on themselves and in their architectural appeal, but of open up to the city through an urban-scale design operation.

> **Collective buildings**

Visiting that 'human hell' which are the muddy slums of Nairobi, with ups and downs but always impressive, after having verified that the interventions of the municipality are limited to the construction of technical-sanitary artefacts (drinking water, showers, various services), indispensable but which do not call into question the accumulation of shacks in raw earth with structural armor consisting of branches and a covering of corrugated sheet metal (techniques inherited from the villages of origin of the neo-urbanized), we understand completely the interest constituted by a small school built within the Mathare slum by the non-governmental voluntary association 'liveinslums', which arrived in Kenya from Milan and also experienced in Cairo.
A building that looks like a building in progress, growing according to the needs and with the total participation of the community and in combination with a zero-kilometer agricultural project.
The 'street school' was born in the Mabatini district of the Mathare slum with the name 'Why Not Junior Academy' created by the inhabitants of the same neighborhood thanks to the support of Karibu Kenya and Karibu Afrika Italia. Within a few years the school, whose kitchen was built first, welcomed almost 200 children divided into twelve classes and managed to integrate into the slum, becoming an important community reference for many families. The space left free in front of the main façade, also used for sports activities related to teaching, is in fact a square that interrupts the dense construction of the slum, a point where the informal city finds its modest form of representation.

1. P. Valéry, *Eupalinos ou l'architecte*, in Oeuvres II, Pléiade, Dijon, 1960.

The school is built by recycling the materials of a pre-existing building, whose beams and wooden pillars were recovered, the sheet metal of the facade, which was used to cover the new building. It also has some panels in raw earth, not for a fashionable habit, but to take up the technique of the presses, much used in the slum, making them make some technological advances, reusable in the construction of the barracks.
The main image that appears on the free space in front is of an arcade building with a main structure made up of pairs of wooden beams (the columns) that carry the first floor facing a long balcony and the reticular structure of the wooden trusses on which rests the roof in onduline.[2]
The 'wall facing' of the ground floor consists of raw earth panels, surmounting panels with vertical wooden strips, and grids with strips of woven bamboo canes that favor the ventilation of the interior spaces: the latter draw the main façade of the entire upper floor. The staircase that emerges from the main body of the building is entirely covered with wooden planks spaced apart to allow ventilation and define an artistic image.
'However, with time the school began to lack some services, first of all those related to the canteen and the kitchen. In a context of severe poverty, guaranteeing a meal for pupils is a fundamental component that affects the functioning of the school and the achievement of a sufficient number of students. The school also needed interventions of redevelopment of the external spaces, partly due to a landslide in the neighboring land. A new kitchen was therefore built, the point of arrival of a self-managed agricultural production by the school, using all the available surfaces to guarantee adequate nutrition for all children. The productive garden stands on an ex-illegal dump that has been cleaned and decontaminated. The ground collapsed on the school was used to create a retaining wall, using a very low-cost technique, which consists of filling and placing rice bags.'[3]

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2. Other technological methods have been put in place by Herzog and de Meuron for the construction of the Arena do Morro in Natal (Brazil), in particular for the large metal mantle of the roof: 'the existing structure that houses the old gym constitutes the base of departure of our project; this involves the creation of a single wide coverage that will extend over the entire area of the architectural project; the shape of the roof will be limited and will therefore be defined by the very boundaries of the site. This coverage will introduce a whole new dimension within the MãeLuiza neighborhood and, at the same time, will resume the typical tradition in the northeast of Brazil, of giving life to public spaces using large roof-covers. The project will become a symbol for and of the community itself. Below the roof covering, the paving presents a series of terraces typical of the place, which follow the course of the ground itself. The stands for the spectators mark the perimeter of the playing field, the multifunctional hall and the dance halls, a whole corollary of other spaces is formed between one environment and another. The inner perimeter is defined by a wall in its own right that follows the profile of the stepped seats and the circular volumes of the detached rooms and the more intimate atmosphere. These last volumes underline the 'community' character of the spaces and activities carried out inside' (Area n. 132, October, 2014).

3. Slum insider – Mathare, Nairobi.

The Mathare community that revolves around the school will be involved through an information/training activity in an economic project that uses the micro-credit technique developed in Bangladesh by Muhammad Yunus, awarded the 2006 Nobel Peace Prize.[4]
The theme of the school included in the slum, capable of activating processes of new centrality and urban regeneration, is reverberating with the project for Kibera under construction by the Kenyan NGO Havilla Children Center.[5]
The theme of participatory construction of school buildings has seen similar solutions also in other African countries, such as Ghana.[6]

> **Residential buildings**

In 1996 Bombay became Mumbai and assumed the role of financial, economic and commercial capital of India, a hybrid city characterized by the overlap of large informal residential areas to the business city.
The city is the capital of fashion, costume, nightlife, new trends, Bollywood (thriving film industry), luxury, but it also plays the role in India and in the world as a center for the elaboration of ideas, thoughts, literature and creativity.
A city that has a lot to teach about recycling: in Mumbai everything is consumed, nothing is thrown away; in its streets everything thrown by

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4. It was 1974, Bangladesh was hit by a violent flood followed by a severe famine and Yunus made a loan of 27 dollars to a group of women from the city of Jobra, near the university where he taught. Women made bamboo baskets, but were forced to sell them at such a low price that they could barely repay the raw material. With the small sum received they succeeded in giving a boost to their activity and repaying their debt with perfect punctuality. Thus microcredit was born, which would literally revolutionize the life of entire rural areas of the southern hemisphere.

5. 'The Architecture Team has designed a new center which will house, in addition to the current kindergarten, a primary school [...]. The center currently hosts 85 children from 3 to 7 years of the poorest, often orphaned, of the slum. The project is proposed as a reference for the conscious use of local resources, for the technical and social progress made and for the involvement of the local community in the school building processes. The design is based on the choice of combining modern, recycled and local materials allowing to obtain a coherent, participatory project and promoter of sustainable urban development within the informal context of the slum. One of the fundamental aspects of the project is adaptability [...] in terms of space and financial availability: the school was in fact conceived as a modular system based on subsequent expansions in order to support the students' training path and allow a gradual finding of funds necessary for its construction.' From the *SIT social innovation teams* website.

6. 'They have designed, designed and built it. Now the children of Yeboahkrom in Ghana finally have a school and this thanks to 'InsideOut' a non-profit project by Andrea Tabocchini and Francesca Vittorini, two former students, today graduates, in Building Engineering Architecture of the Polytechnic University of Marche. school was built in 60 days with 12,000 euros, together with the local population and volunteers from 20 different countries, during the summer of 2017, including Lori Zillante who took part in the initiative from the first hour and Alessia Bernini both graduated in Engineering Architecture at Univpm The school was built without electricity, with materials available on the site (earth, wood and vegetation), moving 58 000 kg of land by hand and working 3 km of wood with 2 planers. Born while the boys were attending the course in Architectural Engineering with Prof. Gianluigi Mondaini, he won several international awards.' *Ancona Today* website.

someone is recovered by someone else and reused or sold. A kind of digestive process that takes place with an open intestine.
Today configured as a peninsula, originally Mumbai was made up of seven fishing islands covered by an extensive forest. The city of today is the result, started by the English domination, of the removal of land from the sea and its progressive reclamation. It is therefore the result of physical growth of land taken from the sea and a demographic growth of immigrants attracted by the hope of improving their living conditions.
'The theme of housing, in an overpopulated city with scarcity of soil, where every inch becomes precious, is therefore intertwined with the ecological theme linked to water, its scarcity and at the same time its abundance and dangerousness.'[7]

In the informal part of the Indian megalopolis, the slum of Dharavi emerges in size and density, site of the successful film 'The Millionaire', inhabited by hundreds of thousands of people who carry out commercial activities in small markets, craft activities in workshops and laboratories encysted in dense residential settlement: a constant and efficient reality that makes what was born as a slum a productive district of the city.
The Royal College of Fine Art of Stockholm tried in 2008 to document the informality of Dharavi by building maps and drawing the reliefs of some houses, the so-called informal 'nagar' (the lodgings of Meldridge and Shakti Mari), also considering the profound changes in view of the urban densification program.[8]

Subsequently a rather interesting participatory work was developed, carried out by the only design studio based in the slum, 'URBZ', founded by Echanove, a Swiss-Spanish urban planner, Srivastava, who studied Urban and Social Anthropology.
The first phase of this procedure consisted in the census of the professional activities carried out in the residential area, identifying the typology of the spaces in which they take place.
The transition to the project crosses the analysis carried out by URBZ on social housing imposed so far by the government as a response to slums and the housing crisis, with the construction of vertical slums.[9]

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7. Politecnico di Milano, Master's thesis, A.A. 2014/2015, Ambra Chiaradia Graduating, Professor Antonella Contin, Rapporteur.

8. Lotus International, n. 143.

9. Even in Brazil there has been a concentration of inhabitants of favelas (for example Paraisópolis in São Paulo) in social housing buildings of good quality, where, however, both the diffusive nature of the settlement and the communication and sharing capacities are questioned typical of the neighborhood.

The alternative becomes working with the local master builders, as in the studio held by the firm with the mason and building contractor Amar Madhukar Nirjankar which led to the construction in the Utkarsh Nagar neighborhood of the Amar house at a cost of 250,000 rupees (€ 3,850). The project consisted in drawing up the outline of the construction process for a two-storey house,[10] with indication of the materials used, the working time spent and the total cost. A. M. Nirjankar was the creator, architect and entrepreneur of the project, with the advice of URBZ. The local authorities, on the other hand, have inserted Dharavi under the responsibility of the Slum Redevelopment Authority, which has expressed the intention of a total demolition of the slum, in view of real estate operations interested in the context in which the current slum is located and ready to exchange – of lodgings scattered in the megalopolis – with the current inhabitants. Echanove and Srivastava have reacted both with provocative artistic methods and photomontages, and working from the bottom, with the direct involvement of the inhabitants in the construction of their tool-houses, residences with productive activities included.[11]

> **Environmental remediation**

A corner of the sky is the literal translation of 'Cantinho do céu', the group of favelas (Residencial dos Lagos, Cantinho do Céu and Gaivotas) located on the edges of the most important water reserve in the city of São Paulo, structured thanks to the 'Billings' dam, confirming that one of the first elements for the abusive settlement is the identification of a possible water supply.

A public program of environmental remediation of the areas on board the water basins of the paulista region has experienced the intervention in question, confronting the need to secure the favela, demolishing the

10. A graduation thesis carried out in the Department of Architecture of Pescara has addressed similar residential themes in an urban regeneration project applied to a very problematic favela of São Paulo, Jardim Colombo: 'The project aims to establish a new centrality, given by insertion of a SESC (social gathering space for sport) of high technical-architectural quality, capable of acting as a bridge between a formal city and an informal city. [...] For the residences, innovative systems for assembling prototype houses with partly state-owned construction methods were conceived, partly through self-construction, along the lines of the 'Elemental' proposal by Alejandro Aravena, in Chile' in V. Fabietti and C. Pozzi, *From Sprawl to Slum*, LetteraVentidue, Siracusa, 2018.

11. 'The hypothesis of the formulated project consists in the definition of buildings in which the ground floor and the first two floors in elevation are destined to non-residential activities, while the upper floors are envisaged as a residence for refugees. The construction of a building stratification, with upper floors destined for residences, can allow to reach the goal of reconciling two constraints: allowing the control of the residential spaces of the refugees and at the same time integrating them vertically with the social and economic fabric of the neighborhood, characterized by strong presence of commercial activities managed by predominantly Somali refugees'(Project for Fifth Avenue in Nairobi, IDeA competition 2018 'Integration of refugee populations within cities').

houses with hydro-geological risk (the ones closest of the 'lake' shores), without also upsetting the overall character of the informal settlement.
'In proposing the urbanization of precarious settlements, the goal is to integrate them into the official city, providing them with the necessary urban infrastructure, qualifying them as a built environment that allows people to develop within society, without the need to reproduce the formal standards of neighborhoods that have been implemented according to urban standards.'[12]
The buffer zone has thus become a park that runs along the coast of the basin with dimensions ranging from 15 to 100 meters. Today the park is extended for 1.5 km and is concentrated in Residencial dos Lagos: the project was developed as the risky houses were demolished, drawing a sequence of sections and thus bringing into focus the specificity of the various segments of land to be redeveloped. Wooden platforms have been extended towards the water; walking paths for walking, lookout terraces and spaces for playing and free time (skateboarding, football, cinema, etc.) have been created. A real sewerage system was also built, with drainage systems capable of countering the sudden flooding due to sudden rainfall due to a tropical climate,[13] the public lighting system and the supply of electricity to individual users, the road network has been restructured. The design program had in fact these objectives:

> Preservation of life through the correction of all identified risk situations.
> Urban integration between all new interventions and the existing fabric, respecting the typological autonomy deriving from the different conditions in which the existing units were produced.
> Completion and adaptation of urban infrastructure with health, environmental and mobility improvements throughout the settlement, obtaining a new dignity of the settlement and new interventions for the neighborhood as a whole.[14]

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12. *Boldarini Arquitetura e Urbanismo_Cantinho do Céu Complex Urbanization* website.

13. 'The theme of flooding during the sudden and abundant Pauline rainfall was admirably addressed by Milton Braga's MMBB study in redesigning the residential sector that illegally overlapped Corrego do Antonico: in addition to the new, large underground disposal pipeline, the floods found tanks side panels that normally play the role of small squares and play areas.', V. Fabietti and C. Pozzi, op. cit. The project was never realized, although it had the same characteristics of Roman hydraulic engineering that came with 'utilitarian' artifacts to build architectures of great durability and beauty (aqueducts).

14. Issues that were also analyzed in the Charrette held in Vicenza in 2011, which proposed to give the Cabuçu favela new urban dignity in a logic that was never welfare-oriented but of a participatory improvement in the housing condition with a fair multi-temporal vision. In fact, all three project works, rather than immediately asking questions of form, questioned the question of sustainability, the hypothesis of reusing existing materials, the relationship between architecture and landscape, the opening of new relationships between favela and city.

> Urban-environmental renewal of the settlement and new interventions for the neighborhood as a whole.[15]
> Generation of the conditions necessary to regularize the titles of ownership of the built lots.

Compared to the residences, the most interesting result was a spontaneous change of orientation, from turning one's back to the water of the basin to opening new views towards the reclaimed lake. This change in the role of the houses was underlined by the coloring in irregular bands with bright colors (intervention by Maurício Adinolfi) in particular on the fronts facing the water. The fundamental role was played by the enhancement of the public and community space, the places of the collective meeting such as alleys, streets, squares, parks that have become the main tool for the redevelopment of the district, aiming to save the sense of belonging to the city and to the definition of a broad social inclusion as a fundamental condition for the development of future generations. The roads were organized in a hierarchical manner according to the role played in the urban system and the type of traffic: asphalt paving for the busiest roads; roads with slopes greater than 15% have been paved with lightly reinforced concrete screeds, while those with less traffic have been paved with concrete with a central drainage system.

> **Infrastructure**

The city of Medellin, in Colombia, was known for years first as the site of an important South American episcopal conference, which launched some principles of liberation theology, later as an operational site for the drug-trafficking actions conducted by the Pablo Escobar cartel. Between 1990 and 2000, nearly 50,000 people were killed in the streets of the city. To witness a concrete change – after the killing of Escobar – it was necessary to await the administration of the mayor Sergio Fajardo who in a few years transformed the city with very significant projects by Colombian architects (Bonilla, Mazzanti and others) hinged between cities informal and barrios pobres: by overthrowing a commonplace, Fajardo has decided to build contemporary architecture in the most degraded areas,

15. Among the projects developed in the Workshop Kibera2017 there was the one dedicated to the redevelopment of the Ngong torrent: 'The hypothesized environmental devices, dry phytopurification tanks with plants of cattail and banana canes, alongside rainwater collection tanks, not only they start the environmental regeneration in terms of water and air purification, but they are to be interpreted as possible places of sharing. [...] The transformation of the stream into an ecological corridor is not a preconceived axiom but a goal in which to convey the liquid infiltrations to act on the gaze with which the inhabitants turn to it' in M. Manigrasso (edited by), *Regenerating Kibera*, LetteraVentidue, Siracusa, 2018.

triggering a sense of pride and belonging to a state no longer an enemy of hitherto forgotten citizens. The 'Medellín la mas educada' development program has seen the involvement of institutions at various levels and the informed participation of the populations involved.
The connection was made possible thanks to a new multimodal infrastructural system: underground, trams and dedicated aisle buses (Metroplús) are also connected to the new lines of the 'Metrocable' cable car that reach the top of the favelas, previously accessible only to feet, on which the new architectures stand as so many urban 'landmarks.'
Metrocable is a positive example of public entrepreneurship. The EPM holding company (Empresas Públicas de Medellín) is a giant – 1.7 billion dollars in turnover in the first quarter – which not only manages public services in Colombia well but is also expanding abroad. The choice of the cable car is motivated by its adaptability to the conformation of the site, by the possibility of avoiding demolitions in the pre-existing urban fabric, by its sustainability and flexibility, qualities reiterated in the intervention designed by Urban Think Thank in Caracas (Venezuela)[16]and from the hopes introduced in the period before the World Cup and the Olympics in relation to the pacification of the favelas of Rio de Janeiro, immersed in the war between drug traffickers and the police, also thanks to the new infrastructures.[17]

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16. Urban Think Thank (A. Brillembourg, H. Klumpner) built the Metrocable in Caracas in the following ways: '1. A conference open to the public and a presentation at UCV (Central University of Venezuela), which was attended by architects, urban planners and other experts, university activists and neighborhood leaders, all with the aim of questioning the state development and propose alternative solutions. 2. The creation of a task force that would study all the different alternatives, consisting of the U-TT study, residents of the San Augustin neighborhood and volunteers. 3. The task force's choice of a cable car. This means of transport was chosen because it has great potential: adaptable to the shape of the land, non-invasive towards the existing urban fabric, highly sustainable and flexible. 4. Organization of a one-day charrette, directed by the task force, in order to better define the ideas behind the project. In order to obtain the greatest possible support for the project and to find the necessary funds, an analysis and planning phase was necessary, as well as a media campaign and the related presentation of the project. The cable car system, integrated with the Caracas metro network, is 2.1 km long and provides for the use of 8-seater cabins as well as being able to guarantee the transport of 1,200 people per hour, in any direction.' (*Area,* n. 128, May-June 2013).

17. 'Alemão, one of the main favelas complexes in Rio de Janeiro from today will be able to feel much more integrated with the rest of the city. In fact, the cable car line was inaugurated, a public work carried out by the state authorities with the strong support of the federal government of ex-president Lula. Between the first station in the Bonsucesso district and the last Palmeiras section, there are 3 and a half km of cable car and four other stations among which over 150 'gôndolas' circulate (this is what the cableway transport units are called). Each unit has a capacity of 10 people to sit plus two other people who can travel standing. These numbers make the cableway of the complex of Alemão a great public work [...] According to Supervia, the managing body, in the first six days starting from the inauguration of July 14, 2011 over 100,000 people traveled on the plant for the modest sum of a real each. A great public work capable of bringing development and integration to the inhabitants of the favelas involved in the realization of the project. There are already those who see in the cable car of the complex of Alemão one of the new symbols of Rio de Janeiro, which will rightfully enter the pages of the tourist guides of the city. There is already talk of bringing tourists and visitors interested in getting to know the reality of Brazilian favelas more closely. [...] Certainly there is the fact that thousands of workers who live

The north-eastern Santo Domingo Savio neighborhood is 'overlooked' by the cable cars that stop at various stations at different altitudes of the settlement: new public spaces and neighborhood services are integrated into the individual stations, up to the top station, in the highest part, where the Biblioteca de España is located, designed by Giancarlo Mazzanti's studio, which has become an iconic image of this way of working that combines architecture and infrastructure.[18]

The escalators that climb into the Comuna 13 slum also become part of the infrastructure network: divided into six parts with different orientations, the open air system, designed by César Augusto Hernández, transports 750 people who can climb 400 meters in just a few minutes, where before it was a very steep cement stairway.

The city was recognized as the 'Most Transformed City of the Year' with the 'Bravo' award and subsequently won the 'Sustainable Transport Award', the Curry Stone Design Prize and the Veronica Rudge Green Prize of the Graduate School of Harvard design. The Wall Street Journal and Citigroup called it 'the most innovative city in the world.'

More recently, the UVA project (Unidades de Vida Articulada) was presented at the 2016 Biennale, curated by Alejandro Aravena: it consists in giving an urban role to forgotten areas around the water infrastructure, consisting of large water cisterns, whose presence certainly helped to the abusive settlement of poor communities.

Some thirty of these abandoned spaces (of the city's 150 water tanks) are being transformed, thanks to projects introduced by participatory laboratories, in gardens and parks with collective cultural, sporting and recreational facilities.[19]

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at the Complêxo do Alemão will be able to count on a vehicle of economic, fast, safe, efficient transport connected to the public transport network of the carioca metropolis.' (S. Apollo, *Inside Rio de Janeiro* website).

18. The master graduation thesis of Francesca Marinelli and the workshop on the favelas of Florianópolis in 2012 dealt with a similar theme, with the transformation of a military barracks and heliport annexed to the cable car station also for tourist use, proposing a new Landmark of the Brazilian state capital of Santa Catarina, characterized by the favelas perched on the mountain massif that cuts the island in two.

19. *Domus*, n. 1039, October, 2019.

School in Mathare.
Metrocable in Medellín. (following)

Dry the Ice

by
Valter
Fabietti

> Cities fail in all these respects because of public policies, irreparable social ills and economic forcesthat go beyond local control. The city is not mistress of itself. (Richard Sennett, 2019)

Is it possible to think that, in the world reorganization of the labor market, the territorial diffusion of economic activities (a sort of functional 'sprawl') can give an answer to the pressure on the cities by the poorest population? Or rather, can the slum growth of the slums from major cities to medium and even small cities, an increasingly evident phenomenon,[1] make the proliferation of slums and informal economic activities associated with it more manageable?

According to some authors, the informal economy, concentrated in urban areas, is the only one possible for the inhabitants of the favelas, slums, shanty towns, vilas miseria or any other informal settlement. It is a marginal economy, 'made up of family-based micro-enterprises (tailors, small laboratories for wood, metals or waste materials, shops for repairing objects and household tools), street vending ... small counters set up on the threshold of home, ... material transport, small carpentry as well as illegal activities.'[2]

To a large extent, these occupations consist of low added value activities, often unable to support the entire family unit individually, requiring, in fact, a work commitment of several members of the same nucleus in different activities. Most occupations present in countries and small towns are informal in nature. However, although activities in the informal sector tend to be labor intensive and can absorb significant quantities of labor, there remain strong doubts about their economic efficiency and their productive potential (Laquian, 1997).

Alongside the aforementioned underlying motivations that have pushed large sections of the population to move towards the cities, some authors recognize in this type of economy – which at least seems to foster the hope of subsistence – the very reason for the formation and proliferation of the informal city.

On the other hand, other authors recognize as contributing factors to the birth of the favelas, issues of a higher scale that have destabilized the relationship between urban and agricultural areas, generating mass shifts towards the former ('the city is no longer master of itself'). In particular, reference is made to the action of the international economic institutions

1. Cfr. M. Davis, op. cit., 2006.

2. Francesco Chiodelli, *Metropolis – Zapruder*, 14 sett.-dic. 2007. http://storieinmovimento.org/wp-content/uploads/2017/10/Zap14_8-Schegge2.pdf.

that have been reflected, in fact, in the degree of concentration of income: alongside the further impoverishment of local (agricultural) economies, the development of position income for the population groups (urban) with higher income, whose behaviors have fueled the growth of the informal city, through the income of marginal lands and dilapidated dwellings for the populations expelled from the countryside ('commodification of living').[3]

Others, however, recognize a positive role for the action promoted by the international institutions themselves, namely the Monetary Fund, the World Bank or the African Development Bank, which will be discussed in the next chapter. For example, Allmand and Segniàres (2015) affirm, thinking about the informal city born in the Bombay sidewalks, which 'a part of the seventh goal targets 2020 to improve significantly the lives of at least 100 million slum dwellers. This means not only addressing the issue of providing shelter to the slum dwellers, but also the global issues concerning urban poverty, especially unemployment, low incomes and access to basic urban services.'[4]

It is, undoubtedly, issues of great importance and controversial solution, but which, in any case, as the Vancouver declaration already acknowledged in 1976, attribute a central role to work. The essays on the case studies, present in the second part of the volume, illustrate an articulated framework, in which it is possible to trace some points for reflection. As Scandaletti (2010) states, slum upgrading must be linked to revisiting

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3. Says M. Davis, op. cit., 2006. 'The commodification of housing and next-generation urban land in a demographically dynamic but job-poor metropolis is a theoretical recipe for exactly the vicious circles of spiraling rents and overcrowding that were previously described in late-Victorian London and Naples.' Still, Rocha (2010) reminds us that 'The structural adjustment and economic stabilization plans prescribed by the International Monetary Fund (IMF) are throwing populations into poverty. In Latin America, the number of poor almost doubled between 1980 and 2001, from 120 to 220 million. [...] Social damages and the questioning of international financial institutions soon force the World Bank to 'repaint' its economic program. A series of lively recommendations aimed at re-legitimizing the Bank's action is published in the 'Report of the World Bank on Development in the World, 2000-2001.' In the preface, the president of the institution, James Wolfensohn, reveals an unsuspected aim: 'to strengthen the acceptance of reforms and stabilization processes' in order 'to prevent conflicts linked to the distribution of resources, which sometimes lead to blockages, aggravate economic crises and can even make governments fall.'
The program was structured in 8 main objectives, each articulated in specific purposes. The financial organizations carried out the role of economic managers of the program on mandate (and funding) of the G8 finance ministers. The mandate, in addition to canceling the large debt of some member states, was to reduce the conditions of poverty present in these countries, G. Hutton, Assessing the costs and benefits of water improvements and sanitation at a global level, WHO-Geneva, 2004.

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the meaning they have in the urban context and this meaning contains within it a principle of economic equity, prevention and, as far as possible, reduction of occupational inequalities strongly present. Otherwise, says the author, quoting Erminia Maricato, 'it is like trying to dry the ice.'
Employment in economic activities has a strong relationship with space in the slums.[5] Chagas Cavalcanti (2017), speaking of the favelas, states that 'the relationship between living space and work has revealed its 'human' [family] aspects and takes place mainly in the favelas (where the house is used to help residents' activities), in the daily activities of the family and in the increase of houses, and the adaptation of existing structures to facilitate work activities (shops, sale of food products, various goods, services).' Many programs have been started since the 1990s with the aim of defining integration interventions able to bring the slum space back into the urban environment. An exemplary case is certainly the launch of the Favela Bairro program.[6] The objectives of the program were the completion of the urban structure of the favelas (almost 700 at the start of the program), making the favela 'like a neighborhood of the city,'[7] also through the participation of the inhabitants, introducing 'urban values of the formal city as a sign of its identification as a neighborhood.'[8] The redevelopment of space is interpreted as a measure to accompany work.

> Food production and space in slums: a job opportunity

The relationship between work space and living space is particularly evident if we consider a very present activity in the less developed countries (but not only): the production of food through urban farming practices. This presents a very close relationship with the space of the informal city and constitutes, in fact, an indirect source of income or savings.

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5. Skinner (2017) states, in the *Guide to design and implement the Citywide Slum Upgrading*, that among the various incentives necessary there are certainly those for the management and maintenance of the community; the improvement of earning opportunities through training and micro-credits; building of social capital and the institutional framework to support slum improvements. The upgrading of the informal city must therefore be integrated with other policies and measures to prevent other settlements or the development of existing ones. Among the possible actions, says Skinner, surely there are 'job creation, the social safety net, employment in public works.'

6. The program, funded Banco Interamericano de Desenvolvimento, was started in 1994 and continued during Maia's second term (2001-2005) and during his third term (2006-2010), when another program was launched, Morar Carioca .More recently, the current mayor of Rio, Marcelo Crivella, announced the recovery of Favela-Bairro after his election in 2017, https://www.rioonwatch.org/?p=53346.

7. http://www.dentroriodejaneiro.it/articoli/36-la-dinamica-dellurbanizzazione-carioca-come-le-favelas-sono-diventate-un-problema.html.

8. The program included, among other things, 'installation interventions and improvements to sanitary and sewer infrastructures, public and domestic lighting network, reforestation, opening and paving of roads, squares and sidewalks, [...] training centers and organization for work', (Tarsi, 2014).

The modification of the production methods of food (essentially the industrialization of agricultural production cycles and the entry of multinational companies into the markets of seeds and extensive production for non-agricultural purposes) has pushed substantial masses of the population to abandon the countryside and areas internal of many nations (South America, Africa, Asia) in search of job opportunities and, in any case, in order to guarantee a minimum vital economic income.
The construction of minimal economies linked to the production of food is affirmed in the spaces of the informal city. For many years, in the countries with the lowest per capita income, the practice of food production in urban areas has been developing as a tool to support family subsistence, with the allocation of land to the care of women and children; this phenomenon is far more extensive than that achieved so far in the industrialized countries. Recently, more and more countries have begun to carefully consider the relationship between poverty and urban agriculture, evaluating the latter as a real instrument of urban policy and welfare. The possibility of identifying areas for food production in urban areas plays a large role in informal areas. The development of spaces destined to the production of food could restore urban quality to areas that have arisen in a chaotic and illegal way, creating green spaces cared for by the established community, offering the possibility of feeding important shares of the indigent population, reducing urban density, thus pursuing the dual goal of reducing social conflict and fighting poverty.

> **Fight against poverty and urban agriculture**

The choice of land ownership and security, many authors say, is a fundamental choice for fighting poverty. However, there are considerable difficulties with regard to the space available in the cities: the price of the land and the regulations concerning property, market conditions, the operating capacity of local administrations and more. The approaches used in the past to fight poverty do not aim to increase the flexibility of the poor and their ability to insert themselves profitably and to support themselves in urban contexts, so different from those of origin; rather they encourage their dependence on governmental and non-governmental organizations. Often the policy has deemed it more convenient to introduce a sort of social assistance system to prevent people from dying of hunger, rather than letting them occupy 'precious' urban territory with urban settlements and crops. Land values may make it more convenient to transfer the urban poor to the peri-urban regions and adopt subsistence practices, until the price of the land rises to a level that justifies again the removal according to the 'urban dual model.' The socially important

aspects of urban agriculture, such as the interaction and integration of people settled in the informal areas between them and in the city, the identity of the community, the existence of places where children can interact with each other and with nature, the improvement of environmental sustainability conditions at the local level are simply ignored.
Despite ongoing studies on urban agriculture, little is known about the real extent of this phenomenon, even less than its relationship with the informal city and, above all, its ability to contribute to family income. Little is known about how urban agriculture can influence the organization of space in the city and consequently it seems more complex to set up any virtuous development policies. Many questions can be asked: where is urban agriculture to be concentrated and where could it be concentrated? Which are the subjects involved and to be involved? What types of crops are actually practiced and which are practicable? Which groups of citizens? What is the product's contribution to nutrition and food security? What kind of land can be occupied? What is the availability and quality of the water?
These are questions that it is difficult to answer that has a 'universal' value, able to represent the vast articulation of conditions with which the informal settlement appears, especially in the less developed countries.
Certainly urban agriculture, as noted above and as verifiable in many less developed countries where it is practiced, can represent a valid means of economic integration, but it cannot by itself solve the problem of employment and the minimum level of income. An indispensable condition for addressing the issues raised is the involvement of slum dwellers in the process of improving their economic conditions. However, this is not a sufficient condition: the rethinking of urban agriculture and informal settlements passes through a broader vision of the economy and structure of the city.

> **Land economy**

What relationship is there between the need to reduce (if not prevent) the expansion of the informal city and the living conditions present in it? As already noted, it is not possible to think of a social policy that separately tackles, on the one hand, the contrast to growth and, on the other, the qualification of the slums. Is it possible to think of a labor economy that knows how to absorb the growing masses of urban poor? And is it possible to think of this as an instrument of action towards the informal city? And do this without falling back into the dangers of hetero-directed welfare?
In 2009, Fricska and McLeod stated that a possible interaction between the informal city population and the main stakeholders could be developed

through the Slum Upgrading facility tool that 'the Slum Upgrading Facility operates under the premise that slums can be upgraded successfully when slum dwellers are involved in the planning and design of upgrading projects and able to work collaboratively with a range of other key stakeholders. [...] The finance side of slum upgrading is challenging.' This last aspect is faced by the authors referring to housing finance, the construction or purchase of a house that is usually supported by a mortgage, recognizing that 'mortgage financing is not adequate to the needs of the poor.' The central point is, however, that irregular and informal employment does not allow 'the construction and planning of the standards of middle-income neighborhoods.' It is therefore the work, together with the possession of the land, that can allow a real action to contain the informal settlement: 'There is a very real danger that without a clear strategy to promote access to land and security of tenure on a city-wide basis, informal settlements will continue to grow and poor people will be pushed further and further from their jobs and livelihoods.'

> **Tourism and employment**

A new aspect of the informal economy is represented by the recent development of 'exotic tourism' towards the main megalopolis of the Third World, of their most degraded areas, in Asia, Latin America and Africa[9]. As Madureira and al. (2018), speaking of Brazil, 'tourism in the favelas has been interpreted as a real possibility for economic development, cultural enhancement and fighting the stigmas associated with these spaces. But this type of activity has also been criticized by many researchers, since it would represent a way to aestheticize the misery and the exoticization of its inhabitants. In this sense, the visit to the favela would still be perceived as a sort of 'human safari' and of voyeurism of foreigners, with the consequent economic exploitation of poverty by agents of the tourist trade.' However, there are, for example, Rochina or Vidigal in Rio de Janeiro, some virtuous examples in which tourism has created real income opportunities for the inhabitants of the favela and has allowed visible redevelopment actions.

But what does slum tourism mean in terms of work? Certainly there are some indispensable 'stakes' (hygiene, safety) but also the presence of entrepreneurial skills, at least the knowledge of English, the ability to

9. See the interesting article on tourism in Kenya slums by Kennedy Odede, 'Slumdog Tourism', *NYT*, August 9, 2010, one of the first to address this issue https://www.nytimes.com/2010/08/10/opinion/10odede.html?mtrref=www.google.it&gwh=9904488F30373B26E82AF28452AF7CEE &gwt = pay &assetType = opinion. See also the site of the *Asian Corrispondent newspaper* https://asiancorrespondent.com/2018/01/slum-tourism-driver-development-poverty-porn/#vcKoxTPpLLdAV11I.97.

organize an adequate service to the demand and more. These are activities that require political, legal and vocational training support. This type of activity could represent, if properly supported, a resource both for the induced generated (from the sale of local handicrafts, to catering, to music schools and other) and, above all, for the opening of the slum fabric and for a new consideration of the inhabitants to which to recognize the dignity of citizens.

Therefore, it is a question of setting a multi-objective policy that is able to combine the two horns of the problem, organization of space and economic capacity, with the ultimate goal of translating both into the realm of the formal city.

Ask yourself the question whether and how it is possible to think of a policy of upgrading the informal city in a historical moment in which an approach similar to that prior to the 1970s seems to be dominant, oriented to the radical demolition of what is perceived as 'the obstacle greater for the societies of the first world' may appear incongruous, ideological and in any case out of context. However, we believe that it is precisely in the informal city and in its resources that the possibility of a new conception of urban space arises, a new way of dealing with the problems that the city of the third millennium will undoubtedly place in territorial disciplines.

Nairobi, Kibera slum: market along the railway line. Photo by Gloria Bazzoni.
Florianopolis: urban spaces in the favela. (following)

Teaching on the informal city

by
Carlo
Pozzi

If in recent years many spotlights have been lit on the degraded areas of the megacities of Latin America, Africa, India, few interventions have been carried out (see chapter 'Some architectures sing'). The state of the art of didactic experimentation on the topic, on the other hand, is extraordinarily wide, showing that a new interest is being applied by both teachers and students at various latitudes. The public space in the slum is often (almost always) a place of conflict, not being delimited and supervised as in the residential enclaves of the bourgeoisie, at least since the 1992 Los Angeles uprising, the so-called Los Angeles Riots or even Rodney King Uprising[1] or from the new configurations defined as 'non-places'.[2]
The low level of operational planning on the theme is underlined by the new roles assumed by the street artists, more or less famous, who apply street art on the chipped and unfinished walls of the illegal houses, which also fulfills the role of masking or even covering the design void .
A broad spectrum approach on the theme of public space was proposed in 2009 by Gian Paolo Torricelli's research carried out in the Academy of Architecture in Mendrisio – University of Italian Switzerland. The title was already quite explanatory, in its declared tendency, 'Power and urban public space. From the agorà to the slum', declining together political and urban themes, also in terms of historical-temporal progression.
The research starts from the affirmation of a possible dualism of a public space which, in the slums-favelas-villasmiserias-bidonvilles, historically tends to become increasingly rarefied due to new geographies of power, new roles and strategies of actors and mediators. A progression that begins from the genesis of the cities, then in the medieval city, in the Spanish-American colonial one, finally in the Fordist one. The current framework must deal with the innovations constituted on the one hand by Latin American cities that oscillate between 'privatization and heterotopia of public space', on the other by African cities, presented as 'a model to be invented.'
The conclusions of the discussion propose a possible rebirth of the public space, provided that its progressive characteristics and 'political' roles are clarified:

> The slum situation, rather, potentially creates the conditions for a new sinekism, that is, for the foundation of new and alternative models of urban public space. In the case of Buenos Aires, the clash between capital and the criminalized poor is at least partially channeled and limited by a strong territoriality, since it presumably has behind it generations of production of other

1. M. Davis, *La città di Quarzo*, Manifestolibri, Roma, 1993.
2. M. Augé, *Nonluoghi*, Elèuthera, Milano, 2018.

> public space, of heterotopias (which already made up an important part of the space colonial city public) and that we find today in social movements, in neighborhood associations, in collectives and in quarrelsome neighborhood coordinations. These organizations today are moving towards a certain professionalization, for example of the key figures of the animators and aid administrators. It is certainly not all rosy, the developments in drug trafficking are somewhat worrying and the social distance is always greater between recognized owners and renters, the latest arrivals. However, if the urban public space is in some way the mirror of the community, in the cities where most of the population lives or will live in slums, as in sub-Saharan Africa, the stakes it represents become the key to any urban future. Since without a place of aggregation, without spaces of representation of a specific identity, the city itself loses its meaning. It loses its memory and becomes insecure. It becomes the theater of confrontation and dystopia.[3]

The master's thesis of Marco Avanzo and Nadira Calevro, supervisor Paolo Ventura, discussed in Parma in 2014, has the rather ambitious title 'The informal city. The phenomenon of urban slums from 1950 to 2014' and equally the work program:

> Starting from the definition of slums and from the dynamics of growth of the phenomenon, a study is carried out on the slums of the world, and the main characteristics and the components of lack of essential services that identify these particular types of settlement are identified. [...] The slum was classified according to several factors: origins, age, location, size, legal aspect and development dynamics. Subsequently, the most representative cases and typologies of the informal environment are examined in more detail: the typology of the Brazilian favela, the African shanty town, the chawl of the Indian Subcontinent, the barrios of Latin America, the Turkish gecekondu and the occupied cemeteries. The spread of the phenomenon in developed countries is also considered: the degradation of public housing, a case that involves the transition from formal to informal cities.[4]

A fairly detailed catalog follows, accompanied by a good photographic apparatus, first of the most famous case studies, from Rocinha (Rio de Janeiro) to Kibera (Nairobi) to Dharavi (Mumbai), and then to go into the discussion of a more innovative theme, focusing on the degradation of

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3. G.P. Torricelli, *Potere e spazio pubblico urbano. Dall'agorà allo slum*, Accademia di Architettura di Mendrisio, 2009.

4. M. Avanzo and N. Calevro, *La città informale. Il fenomeno degli slum urbani dal 1950 al 2014*, Parma, 2014.

popular housing districts such as that of Begato (Genoa) and the presence of nomadic camps close to the Italian suburbs, with analysis of the characteristics of the various Gypsy communities present in Italy. As for the projects, the thesis starts from Hassan Fathy's Egyptian New Gourna, passing to the Pakistani Orangi Pilot Project, arriving at the projects for the carioca favelas Vidigal, Rio das Pedras, Fuba-Campinho and the Paulist one of Cabuçu de Baixo. And also Reimagining Rio, Redeveloping Dharavi, Quinta Monroy Housing, projects in Turkey. Too encyclopedic ambitions that deliver an anthological work, interesting in the list, insignificant in outlining a political-planning line, in the sense of participatory planning operations, without which it is impossible to operate in similar difficult contexts. In Italy, especially the Milan Polytechnic, in its architecture departments, has applied a more targeted exploratory lens on one of the 'special' issues of the informal city with a high residential density: the absence or in any case the strong reduction of areas of public space. Ester Chiara Maria Dedé presented – with supervisor Orsina Simona Pierini – in 2016 her doctoral thesis entitled 'The outsideroom. Public space in the informal inhabited area of Latin America as a matrix of regeneration':

> The criticism has been dealing for years with the architecture of the urban public space, its forms and its crisis but much less, and only for a relatively short time, the public space, which has no monumental forms and is lived by a population of excluded that, although almost invisible is at the same time indispensable for the survival of the metropolis, as a source of cheap labor for many of the activities of the consolidated city. We therefore intend to make a theoretical-critical reflection on the concept of urban public space understood in its two aspects of the physical sphere with its extensions, its limits, its measurability and drafting and of public realm that is the social, immaterial and non-measurable reality with Euclidean metrics; following a description of the settlement conditions of study samples considered significant, we intend to interpret the transformative possibilities of those areas, possibly present in them, which, perhaps thanks to their spatial and formal configuration, have been preserved by the processes of typical stratification of the informal inhabited area and which, invested with a social role by the sense of collective belonging, are configured as authentic forms of spontaneous public space. In the awareness that investments in informal and marginal areas are ever smaller, we intend to demonstrate how, in the face of reduced expenditure that is more sustainable for administrations, it is possible, also thanks to an active role of the population, to create a new type of regeneration of which a space lived in a truly public way – and capable of attracting new functions and of moving economic-social mechanisms – acts as a catalyst for self-regeneration phenomena that feed on

> themselves over time and that reverberate on the context at a wider scale.[5]

The research in this study has not been applied to a specific site, but has looked at a multiplicity of cases with similar characteristics. The strong interest in didactic analysis applied to individual contexts is therefore evident, capable of getting out of a certain generality of good intentions and delving into the particular, making targeted and sized proposals, instead of opening the usual 'dream book', sometimes consisting of research and educational projects. Take for example some degree theses that have affected individual Brazilian favelas. Before entering the detail of the paulist favelas, it should be specified that the large Brazilian city-state, now an unstoppable megacity, was analyzed through its infrastructural system in the 2006 doctoral thesis, prepared by Milton Braga, founder of the MMBB study which, in addition to produce his own significant architectures, he collaborated several times with the master Paulo Mendes da Rocha, recently creating the 'Sesc 24 de julho' in the center of the 1950s, degraded and almost 'favelized':

> This thesis is based on a hypothesis that attributes to the infrastructure a progressive importance in the structuring and qualification of increasingly interactive urban spaces, as it is the infrastructure that constitutes the physical structure and the urban and metropolitan functions of utmost importance lasted. The first part of the thesis evaluates the small-scale infrastructure consisting of the capillary sections of the urban networks, such as minor secondary roads, roads, squares and other minor elements that constitute the environment for public interaction through their structure and locally symbolic importance. The second part deals with the elements of large-scale infrastructure that provide the main flows of metropolitan life which, while performing functions articulated over greater distances, are generally in conflict with the urban spaces they pass through and for which they represent a destructive force. The thesis argues that large-scale infrastructure elements, when they become an object of urban concern and incorporate criteria beyond those purely functional or of specific interest for the respective systems, can acquire conditions similar to those of small-scale infrastructure, establish an intense relationship with the surrounding environment. In this sense, they can play a significant role in defining the urban spaces that surround them and contribute to the construction of living spaces of physical and symbolic adequacy both at urban and metropolitan level.[6]

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5. M. Braga de Almeida, *Infra-Estrutura e Projeto Urbano*, São Paulo, 2006; E. Dedé, *The outside room. Informal settlement's public space as core of regeneration in Latin America,* Milano, 2016.

6. M. Braga de Almeida, op. cit., 2006.

The thesis of Marialuisa Cichella and Chiara Coletta, applied to the favela 'Jardim Colombo', close to the large slum of Paraisópolis, whose transformation Escola da Cidade and Municipal Administration have been working on for a few years, really tries to renew a very low-level residential enclave quality with the city, both through a new system of relations with road infrastructures, and above all by providing it with an infrastructure capable of urban regeneration, as are the SESC, in this case a social structure for sport, which also owes roles and forms to the master Da Rocha. Another infrastructure, freed from the occupation of houses with a high hydrogeological risk of flooding, is the torrent that crosses the illegal settlement. The new system of residences rests on this renewed ceiling, reinterpreting Elemental's approach in the Chilean barrio Quinta da Monroy and proposing public-private cooperation: the state or in any case the municipal administration build the steel structures and the base parts of the residences that will then be completed, and eventually expanded according to the needs of a growing family, by the inhabitants themselves with light construction systems in wood and aluminum.

> The aim of the project is the establishment of a new centrality, given by the inclusion of a high quality technical-architectural SESC (social gathering space for sport), capable of acting as a bridge between formal and informal cities. [...] For the residences, innovative systems for the assembly of prototype houses with construction methods, partly state-owned, partly through self-construction, were designed along the lines of the 'Elemental' proposal by Alejandro Aravena, in Chile.[7]

In the same years, some degree theses, supported and scientifically corroborated by study days and international workshops, affected a context quite different from the Paulist metropolis, the island part of the city of Florianópolis (about one million inhabitants), famous for its beaches. and ignored for its favelas perched on the cordillera that cuts the island in two, in situations with high hydrogeological risk. Francesca Marinelli's graduation thesis and the workshop on the favelas of Florianópolis in 2012 addressed the infrastructural theme with the transformation of a military barracks and heliport attached to a cableway station also for tourism, proposing a new landmark of the Brazilian state capital of Santa Catarina. The thesis of Silvia Del Giudice and Piero Toscani deals with another type of infrastructure, the central presence in the favela of Mont Serrat of a large nineteenth-century cistern, whose water reserve was probably

7. M.L. Cichella and C. Coletta, master degree thesis in V. Fabietti and C. Pozzi, op. cit.

the 'conditio sine qua non' for the first illegal occupations with precarious wooden houses, now some become modest reinforced concrete houses.

> The project idea was born from the desire to preserve and enhance the historic cistern, central building in the genesis of the favela. The site is remarkable for its environmental and landscape quality, being in one of the strategic panoramic points. The goal is to create a collective place where the community can come together and socialize. Construction techniques are already present and consolidated, mainly using locally available woods, sheet metal and waste materials. Starting from these, we want to restore architectural dignity to local building traditions, through the use in the project of techniques and materials related to them, but integrated with safety, accessibility and functionality requirements. In the second instance, the regeneration of the places in a tourist key is central, through the insertion of a Samba school and Brazilian martial arts, linked to the traditions of the black populations, among the first to settle in the favela.[8]

Also following this thesis and some international design workshops, which were followed by local planning, in August 2019 the square with gardens on the roof of the large cistern was inaugurated. The same thesis was concerned with establishing a link with the nearby Federal University of Santa Catarina, creating a place for learning and cultural exchange at the edges of the favela. The inclusion of a library was motivated by the need to make up for the low level of schooling of the communities. Within the structure it would be possible to take secondary education courses for children and university start-up, primary education courses for adults and the elderly. There are also multimedia presentations and workshops for practical disciplines [carpentry, sculpture, painting], as well as a restaurant and a cafeteria. The purpose of this structure is also to attract external populations, creating a mix of flows, in relation to the formal city, breaking the isolation of Mont Serrat. Also in Latin America, the thesis 'A framework for empowerment' (carried out by Praveen Taj Ramanathan Mohanraj) dealt with the informal settlement Villa 31 in Buenos Aires: these are the conclusions of a Master in Urban Design carried out from 2016 to 2017 in the College of Environmental Design of the University of California of Berkeley, on very realistic and decidedly innovative themes:

> Villa 31 is an informal settlement that has fought for its existence for the past seven decades. The settlement of immigrants who resisted several 'eradication

8. S. Del Giudice and P. Toscani, op. cit., 2018.

> drives' will finally be revitalized and repaired by the public administration urbanization plan through the initiative called 'Treinta y Todos 2009'. The research project undertaken not only works in parallel with the vision of this initiative, but also strives to strengthen it, to create self-sufficient communities. The research project critically investigates the 'Top Down' urban design schemes generated through the urbanization plan. 'A structure for empowerment' tangentially proposes an 'urban repair' method that aims to create a balance between the 'Bottom up' design approaches led by the administration and those of the community. The proposed design framework also aims to capitalize on 'urban evacuation' and 'Cartoneros' recycling practices, as an impetus to drive the revitalization of the settlement. This would include the production of building materials, the strengthening of public spaces and the connection of the settlement to the formal city. The proposal aims to formalize and enhance the waste recycling industry as an economic generator to help the social development of the communities settled.[9]

The publication 'Rethinking Informality. Spatial Strategies for Comuna 8, Medellin' presents the results of an international seminar which saw the cooperation between the Department of Architecture of the MIT School of Architecture + Planning, the Planning School of the Universidad Nacional de Colombia and the planning council of Comuna 8. The aim was to imagine, plan and design prototype criteria and project alternatives as proposals for policy makers. As far as community involvement is concerned, the project envisaged raising awareness on various alternatives for the qualitative growth of informal settlements in the city of Medellin, in opposition to the new administrative choices, an educational method with political implications:

> The proposals contained in this report propose alternative urban planning strategies to tackle urban growth in informal areas. In particular, a critical attitude is proposed against the flagship project of the current municipal administration (2012-2015): the Jardin Circunvalar (also known as the green belt). This project is part of a new municipal program and is contained in the 12-year Territorial Ordinance Plan (POT). This project radically changed Medellin's record as a city that has driven urban redevelopment practices in Latin America over the past decade and that has brought the city to all newspapers in academic publications and international design awards. The new plan has diverted resources from improving slums to two large-scale urban projects. [...] The plan proposes to physically and socially control the expansion of informal

9. Praveen Taj Ramanathan Mohanraj, *A framework for empowerment*, Berkeley, 2017.

> settlements on the hills surrounding the city [...] with the intention to stop the poor populations arriving to settle in the city.[10]

In 2018, the Confronting Informality symposium took place at the Faculty of Architecture in Delft, involving European, North American, Latin American, North African, African and Indian universities, with the presentation of numerous case studies concerning informal cities in the world, with a sequence of proposals – cultural, productive, agricultural – for a realistic and sustainable regeneration of slums.

A ranking of the projects presented was also prepared, with the awarding of the first prize to the group of BRAC University of Bangladesh who presented the case of Dhaka:

> A city where rich and poor live side by side and serve one another is not a common phenomenon. This mix of people from different socioeconomic backgrounds has become the culture of the city and has transformed Dhaka into a cosmopolitan city. The interaction between the formal and informal segments of the city makes it an ecosystem in which one lives in harmony with the other and an interruption of the system can lead to dramatic effects. Recent impulses on urban development to get rid of informal settlements, however, are dividing the city into closed communities. Therefore, challenging the ecosystem of the city. Informal settlements are the gates of the city, they allow poor families to set foot in the city, build livelihoods and form strong networks of solidarity. The locals negotiate, work and even fight for a place in the city. This is spatially translated into vibrant areas with intense public life, where many activities and uses coexist, creating a related social fabric and a strong sense of belonging. The problem arises when the balance between formal and informal is lost.[11]

The project focused on the Korail area, on the shores of Lake Gulshan, one of the large water basins that line the immense megacity, proposing a design vision that aims to strengthen its role as the gateway to the city. The main idea is to convert Korail into an incubator of a new balance for the whole city: a space where poor citizens would have the opportunity to thrive in the urban area; families would have the opportunity to be trained for various skills. The professional training organized by the

10. AA.VV., *Rethinking Informality. Spatial Strategies for Comuna 8*, Medellin, MIT School of Architecture and Planning.

11. AA.VV., *Confronting Informality*, Simposium, Delft, 2018.

collaboration with some NGOs would allow to obtain jobs in the formal sector of the city. The initiative aims to reduce poverty with the aim of empowering the community. Some roads need to be rebuilt; this could be done through a community fund, collected by the inhabitants themselves with fund-raising methods. The interactive activity spaces would be positioned on important intersections of the road networks, giving greater visibility to the works, increasing their social acceptance and also attracting more people to join them. In addition, some platforms are proposed for community recreational activities on the edge of the river, with the aim of preserving it. Also in 2018, the book '10 schools for Dar Es Salaam' was published which presents a series of degree theses applied to the slums of the capital of Tanzania, limiting the theme to that of civil architecture for primary education as a driving force for the development of the peri-urban areas of the city characterized by an informal urban fabric.

> The students identified the existing schools, defined a functional program based on the real needs of the local populations and, through the non-profit experience in the field, tried as much as possible to deal with the availability of local materials and technologies . In some projects, in addition to the purely architectural aspect, the aspect of economic feasibility has been deepened, in others construction techniques have been chosen that can be achieved through self-construction. The ten theses in this case therefore serve not only to the graduating student and to the non-profit organization, which has 10 projects for the redevelopment and expansion of the existing schools managed by her, but they serve the children of the schools of MtoniKijichi, Buza, Mtambani and the communities that gravitate around these places. The schools are in fact designed and conceived as new spaces open to local communities, new polarities within informal fabrics without architectural and spatial quality. Spatialities that have the humble presumption of becoming models of development for the neighborhoods in which they arise. MtoniKijichi, Buza, Mtambani, the neighborhoods in which the school projects are located, fall into the districts of Kinondoni and Temeke, two of the three districts into which the city of Dar Es Saalam is divided. The Tanzanian capital, like all major cities, has a strong presence of great wealth and great poverty. The choice of the atelier was oriented towards that part of the city that silently claims the right to education shouted by more than 100 students per class.[12]

The theses show an aware attitude of African problems that takes into account the recent design experiences of European studies such as

12. L. Marino, S. Nucifora, A. Villari, *10 scuole per Dar Es Salaam*. EdA, Limena (PD), 2017.

Tamassociati or Emilio Caravatti and Africans (or of African origin) such as Francis Kéré or David Adjaye, using 'climatic' systems such as the double covers that they have the same role of natural cooling as the 'parasols' proposed by Le Corbusier for the houses in Chandigarh which are intended for the 'péons', unfortunately never built.
There is an evident need for architecture education today to look beyond national borders and to deal with seemingly extraneous themes that actually bring us closer to the deeper themes of the urban and architectural project, with yet another duty to put man back at the center of the project, avoiding the formalism of the arch-stars and closing in golden classrooms, characterized by high intellectual elaboration, but impenetrable from reality.
The latest fruits of this research, still immature but very original, are the works of the Kibera Workshop held in Pescara in June 2017, which was attended by various Italian universities, with students, PhD students and teachers, as well as the Scuola Permanente dell'Abitare, which has few years of life but already concrete experience in the field of reconstruction in Haiti. Just the meeting between these schools and the immense criticalities proposed by the Kibera slum, presented after an inspection of December 2016, through photographs and raw analysis material, produced the reflections and design drawings of the seminar.

> The five themes proposed for the project investigation concerned the railway axis, intended as an inhabited public space, the regeneration of some paths in the urban plot of the slum, a reconfiguration of the street-market, the environmental requalification of a branch of the Ngong torrent. The projects proposed in the few days of the workshop were characterized by realistic approaches characterized by a basic attitude directed towards a respectful and minimalist urban regeneration, in the redesign of the paths and the home-shop system; but also from some provocative choices: among these the idea of 'eroding' portions of the bases of the recently built linear Social Housing buildings to establish new relations between the parts of the slum and create structures for the market along the railway track. The more explicitly architectural approach has expressed the possibility of underlining the ongoing transformation of the project through a Landmark in the suburbs, an iconic architecture created by looking at local artisan traditions. The basic scenario is the priority of an ecological conversion, with particular reference to the recycling of waste that today dot the banks of the stream.[13]

13. C. Pozzi, *La inevitabile specificità di Kibera* in M. Manigrasso, edited by, *Regenerating KIBERA*, LetteraVentidue, Siracusa, 2018.

A publication and an international presentation conference followed, attended by professors from the University of Nairobi: two second phase start-ups that aim to propose projects shared with the slum population, but also to structure invariants, themes and urgencies valid in other contexts. Continuing to work on the relationship between formal city and slum, which has possible variations also in Italy, as in the case of the relationship between Borgo Mezzanone, built in the fascist era in the Foggia countryside, and the adjacent track of a small military airport, illegally occupied by African migrants participating in the tomato harvest in the surrounding rural area, the need arose to condense the reflections on the teaching of the project for the informal city in some guidelines, tentative and provisional:

1. Community participation: in situ open air lessons;
2. socio-political analysis written in several hands with community leaders;
3. establishment of an Urban Corner, where to set up exhibition of reference projects x theme proposed by the teaching;
4. presentation of the individual steps to the community concerned;
5. drafting of the final project (thesis, master) with explanatory macro-captions.

Considerations in conclusion

by
Valter
Fabietti,
Carlo
Pozzi

The actions that have historically been carried out in relation to informal settlements (from ignoring them to the creation of land settlements) can be interpreted according to some interpretative, evaluation and, in many cases, critical keys. In the practical guide to the redevelopment programs, Reinhard Skinner (2014) describes the redevelopment of poor neighborhoods as an economic and social primacy of public action. In particular, it defines the actions in a *slum upgrading* policy.[1] Basically, it is an approach oriented towards the consolidation of settlements and the attempt to bring them back into the form of formality and legality. Over time, particularly in national and international policies, we observe a greater orientation towards the reduction or complete elimination of the possibility of forming new settlements, in particular through an attitude addressed to the city as a whole, to its internal dynamics. Certainly the two roads (arrest of the birth or qualification of the existing slums) do not appear in contrast. However, in an approach with realism, it is necessary to consider the constraint of economic opportunities, as well as policies, to pursue the former (avoid new slums) and to assess whether, if the former is possible, the latter is negatively affected by this practice. In other words, will preventing the establishment of new settlements Improve living conditions in existing ones? Isn't preventing new settlements an objectively achievable goal? On the other hand, improving living conditions in existing settlements will not lead to a gentrification and a consequent expulsion of the 'poor of the poor', restarting the cycle of informality? It is probably a question of balancing the two roads according to an attitude of 'progressive implementation', which includes a mix of the two possibilities described. Skinner says in his Practical Guide the need for a global urban approach to the issue of slum redevelopment 'The Citywide approach to the upgrading of slums by UN-Habitat has the following advantages: slum upgrading at the level of the whole city provides greater opportunities for 'going to scale' with a slum upgrading strategy that is embedded into the overall planning and city development strategy rather than concentrating on piecemeal smaller project-based interventions in selected slums. [...] citywide slum upgrading connects slum improvement processes with activities and responsibilities cities have, for example urban planning, land management and land use ordinances.'

1. 'Historically governments have responded to the problem of slums in seven main ways: ignoring them; using slums for political purposes; eradication, eviction, and displacement; relocation; public housing; sites and services schemes and upgrading. [...] Slum upgrading remains the most financially and socially appropriate approach to addressing the challenge of existing slums. [...]Upgrading also includes enhancements in the economic and social processes that can bring about such physical improvements.' (Skinner, 2014).

The question underlying this consideration is, of course: does the political will exist today to implement this process? Responding, in the guidelines, to the question 'who will coordinate and guide the Citywide slum upgrading program', the need for local government involvement seems to emerge, in the absence of which it will be difficult if not impossible to implement a Citywide path.[2]

The conditions of conflict, the political and economic interests that characterize the territorial areas in which informal settlements are located make complicated the activation of a planning path necessary to govern the 'shadow areas' of the upgrading process. The reality of planning is difficult if conceived in a context of weak governability in which the state does not have a strong presence or, in any case, a recognized decision-making legitimacy. Some authors (Gonzales, Guzman, Cardozo, Villa, Osorio, 2014) affirm that 'planning must also have the fundamental objective of being a participatory process that is more than a legitimization process, but rather a negotiation among the territorial actors involved. This must be considered paralIel to official knowledge and institutional power.' Although the inhabitants of informal settlements may present varied socio-economic characteristics and although in some settlements informal economies may develop, the recurring theme, the authors affirm, is of poor economic conditions, informal economy and low sustainability. Some authors recognize, in the specific action a sort of urban acupuncture, the possibility of improving the conditions of the slums, of acting on small-scale projects to have results in the wider urban system (Sudan, Ekka, Tshering, Dua, 2015). This is a progressive strategy which, due to its characteristics, could be applied in many countries that are in similar conditions.[3]

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2. 'Slum upgrading interventions typically include the following: installation or improvement of basic infrastructure such as water reticulation, sanitation, waste collection, road networks, storm drainage and flood prevention, electricity, security lighting and public telephones; regularisation of security of tenure; relocation of and compensation for the residents (both men and women) dislocated by the improvements; housing improvement; construction or rehabilitation of community facilities such as nurseries, health posts and community open spaces; improvement of access to health care, education and social support programmes to address issues of security, violence, substance abuse, etc; removal or mitigation of environmental hazards; provision of incentives for community management and maintenance; enhancement of income-earning opportunities through training and micro-credits; building of social capital and the institutional framework to sustain improvements.' (Skinner, 2017).

3. 'Jaime Lerner, the former mayor of Curitiba, believes that urban acupuncture is the future solution to solve the problems of the contemporary city; relying on small pressure points in cities, we can create chain effects that affect large areas. Urban acupuncture emphasizes the need for public ownership of urban spaces and emphasizes the importance of solidarity through small projects [...] Urban acupuncture is an alternative to large-scale interventions, in which the decisions start from the top, interventions that typically require large investments of public funds (of which many cities are currently lacking) and bureaucratic delays before starting the construction phase.' (Hinchberger, 2006).

Describing the informal city in India, in an article in the Times of India, Brahmbhatt (2010) talks about the planners' difficulties in trying to 'free slums' from the city of Chennai in Tamil Nadu. 'Ambitious plans to make Chennai slum-free by 2013', he says, 'leaves many questions unanswered and few options for planners. Such a situation further perpetuates the selective erasure of certain parts of the city and has the potential for the large-scale displacement of many slum-dwellers.' In the description of the informal city and the evaluation of urban policies implemented, the author wonders if there is an incremental strategy capable of promoting 'fair growth and social equity' for an inclusive city. The provisional answer given is that, as some experiences in South America, in Africa or in India show, to walk the path of social equity it is necessary to pursue 'the virtue of preserving the social capital of slums as urban assets, towards a better city-building.'

So what is needed to start a real and effective policy of improvement in informal settlements? A definitive answer to this question appears difficult, nor is it the purpose of this volume. However the cases presented in the second part of the volume can help to identify some key points in public action. From the files made by colleagues from universities of various latitudes, we have tried to deduce singular themes within general issues, roughly identified by geographical areas.

In the analysis and project experience relating to the South American favelas (or villas miserias) it seems possible to identify that today's fundamental question is condensable in the hope of *transition to the urban* of artifacts that at the time of the first occupation were in cardboard or at most in wood of recovery and have been transformed to assume an 'individual' dignity in a community context of great degradation.

Here are some considerations relating to the Paulist and Mexican affairs.

The favelas of San Paolo today have brick masonry constructions with a minimal stiffening structure in reinforced concrete and precarious foundations. Wood is less and less used and generally connotes the most precarious parts of favelas, real 'favela inside the favela.'

In Mexico City, working class neighborhoods with informal origins are characterized by the mixité of residential, commercial and service uses, by the progressive densification of residential buildings, historically structured with neighborhood organizations. The main problems lie in the almost total absence of green areas and in the use of public spaces as an extension of private homes; all issues related to road and plant infrastructure (drinking water, electricity and drainage) remain to be resolved.

In the analysis and project experience relating to African slums, wanting to adopt a synthetic slogan, we should talk about the need for *transition to*

the human, given the settlement conditions ranging from the mud plateau of the Nairobi slums to the sandy bottom of the tombs of the Cairota cemetery the significant water supply problems of the community of Oridilu.
Kibera is certainly the largest and most problematic slum in Nairobi (Kenya), with problems related to the pollution of natural elements to which it has overlapped and to the intersection with infrastructures such as the railway to Mombasa and the road that is dividing it in two. Despite these problems, the informal city develops alternative systems here, for example on the issue of bank credit: where banks and loans are inaccessible, *chamas* flourish. A *chama* is an informal money saving and loan system at friendly rates and flexible conditions in which a self-organizing group of related individuals comes together to make regular money contributions. *Chamas* have become an alternative savings and loan system for informal settlements.
As regards the analysis of the Tigray refugee camps, their probable transformation into a slum can be read in perspective: in the light of the changed political relations between Ethiopia and Eritrea, the opening of the borders and the consequent increase in migrations of Eritrean populations are determining new critical issues. On the one hand, the need to achieve the social integration of refugees with local populations, on the other, the problem of urban and architectural management of the fields, now consolidated. Two central questions remain open: that of defining a settlement structure for existing fields or for new urban expansions. These, in turn, will have to adapt to a dizzying demographic increase following the transfer of substantial masses of people.
'20.000 Plots' is a pilot project proposed in Dar es Salaam in 2002 by the MLHHSD, with the aim of providing surveyed plots of land to meet growing demand and reduce the proliferation of unplanned settlements and uncontrolled urban sprawl. The project was structured with the municipalities of Kinondoni, Ilala and Temeke, areas where the population was growing at a high rate, and where there was land availability, environmental security and low acquisition and compensation costs. In Oridilu (Lagos) the central issue appears to be the water supply. To date, the inhabitants of the community are purchasing water from a privately owned well.

Twenty-five liters of water are sold for N10 but the price increases to N20 when there is no power and the owner pumps the water with the generator. Some people drink water from the well, others don't and use the so-called sack – popularly known as 'pure water' – because the water from the well is salty. Some people have dug into their homes to get a regular

supply of water. The other supplies are also irregular: the inhabitants pay the electricity in a non-proportional way to the consumption to turn the light on and off, sometimes remaining without energy for long periods. An even more paradoxical situation in some ways is the large slum located in the City of the Dead in Cairo, in an area of eight square kilometers. The techniques adopted for the burial of the corpses in this cemetery, the sandy soil, the aridity of the desert climate and the soil free of humidity, have always made this place healthy and without the presence of pollutants typical of the cemetery areas, favoring the urbanization and illegal occupation of the area. This incredible slum presents itself as the extreme synthesis of informal living, where the living and the dead coexist in the largest inhabited cemetery on the planet, with about six hundred thousand people. The experience of the Indian slums is still different: they are real parts of cities, obviously poor neighborhoods, born already with some form of informal production and/or commercial specialization: in these cases it could talk to you about the need to *transition to the lawyer,* thus also acquiring trade union rights.

Dharavi is the throbbing heart of Mumbai, a city born from the aggregation of islands: it is characterized by a lively internal economy born and based above all on artisanal production and the marketing of its products. Immigrants in the city have made progress thanks to their skills and businesses already developed in their place of origin and grown to become a niche sector within the slums. Leather craftsmanship, from tanning and leather processing to finished products for high-end labels, is quite famous as the work of potters and weavers. This type of thriving economy, however, has implications for lack of union protection which makes workers vulnerable to abuse and exploitation, with working methods full of safety risks and exposure to extreme toxicity.

The case of the informal settlements of Ahmedabad presents two different types: the *chawls* and the slums. The *chawls* originate as residences for low-income workers in the existing mills and have multi-storey reinforced concrete structures; the term slums instead defines the illegal occupation of land or buildings in marginal areas of the city by migrants or other vulnerable sections of the population. The *chawls* are mainly concentrated in the eastern part of Ahmedabad, outside the Old City; more than half of the residential settlements in this area are informal. The western area of the city is instead growing rapidly and has a significant number of more structured slums, temporary shelters and even tents.

Although the actions on informal settlements and the outcomes of these have often been ephemeral or provisional, creating a sense of community (Koster, de Vries, 2012) is fundamental for a real path of integration into

urban society. In their article Koster and de Vries affirm that 'we contend that we need to look at the logics of slum politics from the perspectives of slum dwellers [...] In order to obtain resources from the government, the poor have to negotiate and apply pressure in the right places, which 'would frequently mean the bending or stretching of rules, because existing procedures have historically worked to exclude or marginalize them.' In effect, therefore, a slum policy must cover the different aspects of life organization: health care, income production, the prospect of being able to create a better future for oneself and for one's children and more yet. This definition of slum policy goes, of course, beyond the simple political process. It assumes much wider aims and practices and the meaning of an informal city governance that represents 'the constitution of a social realm.' In other words, concepts such as civil society, modernization, human rights, although necessary to start such governance, appear to be heterotopies of current policies.

Saõ Paulo, the urban road system in the favela. Photo by L. Octavio de Faria e Silva.

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Case Studies

São Paulo

searching for cracks within a splintered city

by
Luis Octavio de Faria e Silva

> Landscape and Occupation in São Paulo until the 19th century

A valley imbedded in the so-called Atlantic Plateau, southeastern Brazil, in which human occupation resulted in the development of the megacity of São Paulo, belonging to the Tietê Hydrographic Basin. Running along its central axis, when the Tietê River reaches the now intensely urbanized region of São Paulo, it runs along an asymmetrical plain: its left bank is quite flat, while its right bank soon finds sierras to the north that saw little urban activity until the mid – twentieth century. It was on some hills of its left bank, in the 16th century, that urbanization in São Paulo began.

Until the mid-nineteenth century, the occupation of the region took place on hill tops and there was no clear spatial separation between the rich and the poor, whose daily lives were similar in terms of resource scarcity and austerity.

This picture changed by the end of the nineteenth century – with the abolition of slavery the newly emancipated population was segregated to live in places of little value. They were accompanied by other outcasts, many of whom were immigrants that came to the city due to socio-economic crises in their countries of origin and because their travel was eased by government incentives so that they could offer their workforce.

The infrastructure that was established for the coffee production in São Paulo, the agricultural product of the day, attracted immigrants searching for a new chance in life, far from the misery in which they found themselves, as well as new customs and dynamics. São Paulo was also a fertile land for industries and, consequently, their workers, who shared low levels of salaries and quality of life with their counterparts in the northern hemisphere.

Thus appears what we will refer to as the splintered city of São Paulo, where new neighborhoods are designed for the rich, while poor neighborhoods pop up next to factories and railroads. Throughout the intense development of the twentieth century the city witnessed a raging development along its prosperous sections, with technology and infrastructure, whereas for the other parts, negligence is the dominant rule.

> The place of the poor

Between the end of the nineteenth century and the beginning of the twentieth century in São Paulo, sparse constructions in an area understood as rural, sheltered dispossessed families, who also settled in urban environments in tenement housing, sets of rooms built by speculators who would profit from a population paying rent, without resources or legal protection. There was also a production of villas for rent, which represented the retirement of many elderly citizens who were owners as well as tenants, inhabited by families of limited income, who lived with

insecurity about their financial capacity and under the constant threat of eviction. Some industries held working-class villas, which meant a double condition for those living there, since bosses or their messengers did not hesitate to insinuate eviction as a possibility in case of insubordination. This was the setup in which the poor lived in São Paulo until the 1930s.
In the 1940s, some concentrations of precarious buildings became part of the city landscape. Vila Prudente, for instance, is considered by many as the first favela to be established in the city.

> In São Paulo, it is estimated that the first favelas appeared in the 40s. The newspaper Diário de São Paulo (Oct. 10th, 1950) reports a survey conducted by São Paulo City Hall's Statistics and Documentation Division (now extinct) on Oratorio favela, in Mooca, east side. At that time, 245 people were living in houses made of boards, with only 6 toilets for everyone to use. [...] Diário de São Paulo from Aug. 6th, 1950 had an article about the Ibirapuera favela (27 households, 144 people) that pointed out that the residents of this settlement were poor people, not vagrants or criminals strengthening empirical evidence that was recaptured in the 1970s. The Ordem e Progresso favela, in Barra Funda, central zone of the municipality (now eradicated), the favela of Vergueiro, in the southern zone (also eradicated) and the Vila Prudente, in the east, still existing, also go back to the 40s. (Pasternak, 2001:9)

These first favelas of São Paulo emerge in a context of population growth of the city, a new breath in its industrialization and removals resulting from urban transformations as well as a profound change in the rental system and the inability of the State to meet the growing demand to house families of few resources. In São Paulo, however, more than in the favelas, the poor settled in the so-called peripheral settlements that became a constant, associated with a 'do-it-yourself' construction, mostly resident-built. (Bonduki, 1998)

In the 1940s, housing projects were also built by the Retirement and Pension Institutes, an important production, although insufficient to meet the demand. In São Paulo, they were mainly built next to industrial districts, used to house the working class and those employed in services that developed throughout the final years of the Second World War and beyond.

> Although the favela phenomenon in São Paulo has been present for a long time, it only develops on a wider scale in the 1970s. The creation of a Favela Registry in the Secretariat of Social Well-Being in 1973 allowed a very accurate measurement of the number of favelas and households. [...] Giving the

> number of people per household, the number of the total favela population was estimated. In 1973/1974 the favela population of São Paulo did not reach 72 thousand people (71,840), about 1.1% of the municipal population. (Pasternak, 2001:10)

Even though the occupation of both public and private areas continued to occur in the 1950s and 1960s, new vertiginous growth and major favelas appear in the city during the Brazilian military regime, with the supposed 'Brazilian economic miracle', when the economy of the country grew vigorously. In the 1970s, many river floodplains saw their usual football fields and intermittently flooded agricultural production sites being occupied at a surprising rate. Ponds and swamps in the largest area of the Tietê riverbed, both naturally occurring as well pits dug from sand and clay extraction, were then landfilled and occupied initially by sheds and then developed into favelas.

Especially in the 1970s, many low-quality housing projects were built for the poor in the city, funded by the National Housing Bank (BNH), a reference in state's structure throughout the Brazilian military dictatorship, which also financed real estate projects for the city's middle class – it was a time of expansive real estate production. Projects intended for the poor were largely built beyond urban areas, without full public infrastructure, only the very basics. It was only from the first decade of this century that the State became effectively present in those projects, implementing public work and advanced infrastructure for public mobility. Housing demands for the underprivileged population, however, continued to grow and to be neglected by the market and the government. Precarious neighborhoods on the fringes, far from urban infrastructure, and favelas on increasingly unsafe land due to risks, continue to grow along the city's edge, that expand on all sides, often without urban continuity, more and more intensifying the negative environmental impact.

In the 1980s, as a result of real estate appreciation, along the floodplain regions of the Tietê watershed, tension began between favela expansion and their subsequent removals in favor of real estate projects. At the same time, pressure intensified to occupy areas of environmental protection, something that continues until the present day. The urban area of São Paulo, conurbated with neighboring municipalities, reached an impressive extent, having expanded significantly and with low density, with a disturbing impact in environmental and infrastructural terms.
In the late 1960s and throughout the 1970s, in Rio de Janeiro, attention

was drawn to the favelas as a collective effort with intense relationships, which should be understood and not neglected as was usual – in this sense, as an example, Carlos Nelson Ferreira do Santos' actions in favela Brás de Pina really set forward the paradigm shift in public action in favelas, with repercussions in São Paulo in the 1980s.

Social movements in the city of São Paulo began, generally speaking, from the Base Ecclesial Communities (CEB), communities that emerged in the 1970s and linked to the Catholic Church, strengthened by the country's re-democratization since the 1980s. The Movement in Defense of the Slummed (MDF), established in 1978, has been fighting for improvements in the favelas of São Paulo. UMM – Union of Housing Movements – was established in the late 1980s as an umbrella movement for a series of projects that sought better living conditions for the poor, with emphasis on the right to decent housing. Since the 2000s, housing movements have demanded housing for the poor in central areas, close to employment, whose distribution is deeply unequal in São Paulo. There are public policies for the provision of social housing in the center of São Paulo (retrofits of buildings are undertaken) and occupations of underused or empty buildings have become a constant in the urban landscape of the city, as a way to draw attention to housing movements, since the occupation of a building in the center of São Paulo has more impact and diffusion than the occupation of land on the edges of the city. The movements, however, generally originate in districts far from the center of São Paulo and their members mostly occupy lands far from the central districts.

Some housing projects have been undertaken or facilitated by the government in São Paulo since the BNH's demise in the late 1980s, which resulted in some housing projects of high architectural quality. Also, the Minha Casa Minha Vida – My Home My Life – Federal Program (PMCMV), in the Entity modality, produced some enterprises of good quality in the city, despite the difficulty of building in São Paulo due to the costs incurred there.

There is a continuous tension in São Paulo regarding the urban transformations regarding the place destined for the poor within the city limits. The either internal or external margins of the city were the only places allowed for the poor, from the period of freedmen and immigrant labor at the end of the nineteenth century to the internal migration in the country by those who left the countryside and set themselves to the adventure of the modern and alienating experience of the city in the twentieth century. Margins and interstices in areas of geological or environmentally fragile risk

have been occupied 'without State and without Market' (Maricato, 2003) and are called 'informal city', as if they did not have their own form.

Today we talk about the precarious occupation in the megalopolis of São Paulo, since the phenomenon of precarious occupations now has this scale, with the swelling of existing favelas and land occupations in several municipalities, in a pattern of substandard housing and urbanization.

> **Whose land?**

Until the Lei de Terras (Land Law) of 1850 in Brazil, the land was a concession – ultimately belonging to the Crown – first the Portuguese Crown and, after Independence, to the Brazilian Crown. In the early centuries of the colonial experience of Portuguese America, land donors, chosen by the Crown, could grant possession and had the right to establish villages.

The current model, derived from the transformations resulting from the Land Law, treats the land as a commodity and inviolable patrimony. However, other models of ownership persist: lands in the sea ranges and islands are still objects of concession, as well as public lands that have been granted to people with few resources that occupy them, thanks to instruments resulting from recent and socially committed regulations. Nevertheless, land is still the major obstacle in the pursuit of equality of conditions for the Brazilian population.

The Brazilian Federal Constitution of 1988 brought the notion of Social Function of Property. According to this concept, land has to serve society as a whole rather than being the privilege of few people. The concentration of land in Brazil in the hands of few is a paradox to be faced.

A procedure to deal with the housing issue in São Paulo has been land tenure, which is defended based on an urbanization project, which enlightens the need to grant security for the poor people who have lived there, sometimes for a couple of generations.

> **Characteristics of the favelas of São Paulo**

The favelas in São Paulo feature masonry constructions that use ceramic bricks settled with cement mortar as well as slabs, supported by precast beams made of reinforced concrete. The roof slabs usually do not have rooftops as they are commonly platforms for future enlargements. Concrete pillars are built but do not provide an independent structure, they have a stabilizing function. The constructions usually do not have

trimming concerns – sometimes only internally and on facades facing the road. Foundations are generally precarious.
Unlike buildings in the favelas developed until the 1980s, wood is little used. Wooden houses are seen in the most precarious parts of the favelas, in the 'favela within the favela', in the core of the aggregations.

The favelas in São Paulo are heterogeneous – there are different levels of income (similar to neighborhoods of the formal city) and people with diverse origins, although the majority of them have been in São Paulo for at least one generation.

Schools are present in almost all of São Paulo's urban area, with the exception of nurseries, which do not fully meet demand – the quality of teaching is a major issue, though educational equipment is within reach of the poor peripheral neighborhoods and close to the favelas.

Health centers and hospitals do not have the same incidence in poor neighborhoods of São Paulo, although efforts that have been made in the last decades. NGOs and religious institutions carry out social inclusion initiatives such as training for work, artistic and musical education, and school tutoring.

There are activists who have been trying to include food production and environmental care and education in these neighborhoods' agenda. Some vegetable gardens are seen on the outskirts, many under high-voltage transmission lines.

Waste is a latent problem since collection is not regular and sites for garbage disposal are often inadequate. There is intense discarding in the streets and rivers. The real challenge is to reduce the overall waste produce – which is not a prerogative of poor neighborhoods, though it must be noted that rich neighborhoods have structured cleaning logistics. Efforts within governmental scope have been made to broaden the collection and offering of public cleaning services, which tend to mismatch the occupation of the peripheral districts and are not effective considering the existing conditions.

The expectation is to repurpose waste as an available resource; reinserting materials in reusable cycles and using them more consciously: in poor neighborhoods and in favelas, the paradox of the unsustainable use of resources becomes evident. On the other hand, they teach an important

lesson when it comes to new ways of using materials and how to organize more compact human agglomerations.

Activities related to the so-called informal economy are frequent amongst favela dwellers and those who live within the central areas (where a large percentage of residents are street vendors), although there are also many unemployed people along with some with formal occupations.

The population of some favelas has increased considerably, along with the pressure for occupation of geologically fragile areas and also those providing environmental services.

> **Public space in precarious neighborhoods**

Generally, the paths inside the favelas are the public spaces. Just as in traditional Brazilian villages, sometimes there are areas where these paths broaden and are often used as meeting places, commonly with a commercial establishment. The great exception is the soccer field, an almost sacred space that remains free within the intense dispute over construction areas.

The spaces understood as public – paths, wide areas (largos) and soccer fields – are mostly used by children, who are observed and monitored by the residents, in a social control of their environment. Outsiders are thus quickly identified. There is sometimes a veiled ban on access to certain parts of the favela, dominated by organized crime or even by small offenders, but generally in São Paulo, the transition between these poor neighborhoods and the so-called formal city is fluid. There are, however, 'sociocultural walls', noted in the prejudice towards the favela resident, who often lives in similar buildings as their (supposed) formal city neighbors, built from peripheral, often irregular subdivisions, for their property is rarely of the construction companies that sell the land.

São Paulo's outskirts and favelas are a window for one to perceive Brazilian racial inequality. There is not, however, as in American cities, a marked ghetto condition.

The urban road system usually loses continuity when it reaches the favela – one of the guidelines of urbanization constructions in the favelas pursues a better road integration with its surroundings.

The infrastructure constructions in favelas also rely on consolidation of internal roads and the sorting networks related to public services – to allow rainwater management and pipe and wire system rationalization, a know-how is being developed on establishing construction sites and continuously improving circulation spaces, taking into account local constraints, in addition to turning an eye to everyday life that cannot be interrupted.
Another condition to build in favelas is to eliminate risk: geological, fires, overlapping due to the waters and concerning the health of the population.

There are few trees in the favelas' public spaces – afforestation is a great challenge. Urbanization constructions in the favelas build playgrounds and squares. Public lighting is not usual off the main roads. Sewage is habitually released *in natura* in rivers and streams.

In São Paulo, favelas are not sites for industrial production. More central neighborhoods have small workshops where production takes place, especially related to the textile industry, where workers (non-legalized immigrants who are treated as an unacceptable contemporary version of slave labor) sleep in unhealthy environments. However, this practice does not happen significantly in favelas and outskirt neighborhoods.

Equipment and infrastructure take time to arrive in the outskirts and favelas of São Paulo. There are more consolidated favelas where improvements are already taking place, while others still fail to attract government attention. Since the 1980s, when the paradigm of removal changed as a principle for urbanization, with removal only in extreme situations, the State has been more concerned with favelas. Public equipment has been installed, albeit often without sufficient resources to provide efficient services.

There is a Favela Culture, with rap, graffiti, dress and slang codes. Some community radios persist, although they were more popular some decades ago. There are some parties that are great events and demonstrate a vigorous potential.

> **Public policy**

In the 1980s, urbanization projects for favelas began to take place in São Paulo. There were a series of actions aimed at dealing with popular neighborhoods during the period of Mayor Luiza Erundina (1989-92), a graduated social worker who was aware of the difficulties endured by the poor in São Paulo. She supported housing movements, which were organized in groups and had technical assistance teams to rebuild occupied areas, resettlement sets and infrastructure.

This movement was interrupted by a change in local politics: housing complexes in a similar key to what was produced during the existence of the BNH were taken up as a model of how to deal with the social impasses the city was facing.

In 2000, through the federal law known as Estatuto da Cidade (City Statute), Special Zones of Social Interest (ZEIS) were created and the issue of popular neighborhoods reached the Master Plans in São Paulo. Areas demarcated as ZEIS represent perimeters where residents with fewer resources were somehow protected against removals (some ZEIS also demarcate areas destined to the construction of housing complexes of social interest).

In recent years, the Housing Secretariat (SEHAB) of the municipality of São Paulo has developed a series of actions aimed at rationalizing public assistance to precarious neighborhoods. Municipal Housing Plans (PMH) were designed to organize actions and constructions.

Similar constructions as those carried out under the BNH and PMCMV programs continue to be built by the Housing and Urban Development Company (CDHU) of the State of São Paulo, although with efforts towards higher quality construction and with some ecological principles. Curiously, the origin of the CDHU was CECAP (State Bank for Houses for the People), from which one of the most emblematic housing complexes of modern architecture in São Paulo, CECAP Guarulhos, was produced, a project coordinated by architect Vilanova Artigas.

The Housing Council of the Municipality of São Paulo was a result of the 2004 São Paulo Master Plan, ratified by the 2014 Plan, where leaders of housing movements, universities, civil society and public agencies were stakeholders. It is an important center for discussion on how to deal with the housing issue in what is one of the largest human agglomerations on the planet. The funds directed for the council, however, are insufficient for

the size of the housing deficit in São Paulo and we look forward to further consolidation of this important instrument.

> **Perspectives**

In popular neighborhoods in São Paulo, we currently see many collectives and activists, something that makes us think of bottom-up actions, which should be supported by legislation and public policies. These local actions with artistic bias, associated with permaculture and the pursuit of an ecological balance, among many others, must be valued. There are also actions of organizations linked to the Catholic Church, which maintain nurseries, community support sites, etc. The ZEIS, a guarantee that occupations will not be indiscriminately removed, are a landmark endorsed by the City Statute and present in the Master Plan of São Paulo. The idea is that the ZEIS should be object of a project, considering the maintenance of the population installed there, but the project culture directed towards these areas has not been effective. In these special zones, there is a prerogative to establish participatory councils formed by local leaderships – such councils did not develop as they were supposed to. It is a challenge to carry out these councils and also to make them truly representative and deliberative bodies, with decision-making power as to the allocation of funds and resources. In this sense, it is important to identify agents involved in the transformation of these popular neighborhoods and bring clarity to the debate and pursue ways to establish covenants regarding their future, which must be based on sustainable social, economic and environmental practices.

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Empty buildings in the urban landscape of the city.

Social Housing by SEHAB of São Paulo, with project by Biselli and Katchborian architects.

Jardim Paraná, popular neighborhood in the north of São Paulo.

Notes on working

Class urbanization in Mexico City

by
Héctor
Quiroz
Rothe

> Introduction: The Urban Environment

Mexico City is a metropolis that is home to over eight million people and a territory with its own government, as well as the core of an urban area of over 22 million people, distributed throughout dozens of municipalities in three states. Like other metropolitan areas of comparable size, it is difficult to synthesize its urban character without turning to generalizations and overlooking exceptions to the rule. In order to contextualize the working-class urbanization processes that are the subject of this article, we must first offer some basic historical and morphological references.

The territory of Mexico City is divided into 16 boroughs, 10 of which are fully urbanized.[1] Of these, the following two stand out: Iztapalapa, with 1.8 million residents and concentrating the social conflicts associated with urban poverty, and Benito Juárez, whose sociodemographic indicators are comparable to those of some European capitals. In the city's structure, we can see a mixture of middle and upper-class residential neighborhoods, working-class neighborhoods that began as irregular settlements, historically independent towns that have been swallowed up by the city, large public housing complexes, industrial parks, large-scale public infrastructure and green areas, all connected by urban highways, major thoroughfares, commercial corridors and underground, street-level and elevated train lines.[2] Historically, the most economically profitable activities and the population with the highest income levels have been concentrated to the west and south of the original urban core, in planned neighborhoods that have been supplied with all basic services since their founding. Working-class neighborhoods, on the other hand, have been generally located to the north and east of downtown. The north is the site of the city's primary industrial zones, mixed with major transportation infrastructure, which have historically been complemented by working-class neighborhoods. The areas east of the historic center are the product of the desiccation of the lakes on which the city was founded in the 14th century, an artificial process that culminated in the early 20th century. These areas have clayey, unstable soil and, starting in the second third of the 20th century,

1. In a strict sense, only two of these boroughs (Milpa Alta and Tlalpan) have a significant proportion of non-urbanized areas, with a population engaged in agricultural activities. That is, within Mexico City, there are rural areas and natural reserves.

2. Priscilla Connolly and Alejandro Suárez of the Centro de Vivienda y Estudios Urbanos (1990) argue that there are five basic types of settlements: historic centers, working-class neighborhoods, residential neighborhoods, housing developments and suburbs. In their book *Las reglas del desorden: habitar la metrópoli* (Mexico, Siglo XXI, 2008), Emilio Duhau and Angela Giglia describe six types of city or urban fragments that make up the metropolitan structure: historic centers, residential neighborhoods, housing developments, working-class neighborhoods (self-built), suburbs and gated communities.

were occupied by marginalized social groups that lacked access to both the formal real estate market and public housing programs. Informal urbanization processes lie at the origin of over 50% of the city's urban sprawl and are concentrated in this region, although all sectors contain working-class neighborhoods of irregular origin.[3] In the southwest, the city's most exclusive neighborhoods coexist with irregular settlements in an area with a highly uneven topography, while in the east, working-class neighborhoods constitute a homogeneous landscape, interrupted only by large functionalist public housing complexes, industrial parks and public infrastructure.[4]

It is worth emphasizing that many of these settlements have consolidated themselves over the years, reaching acceptable levels of habitability. Many working-class neighborhoods with informal origins that have a central or otherwise strategic location have even been incorporated into speculations of the formal real estate market, associated with densification and substitution of residential zoning for other more profitable land use patterns.

In general, working-class neighborhoods with informal origins share the following characteristics:

> Intensive mixture of residential, commercial and service uses.
> Progressive densification of residential buildings.[5]
> Presence of strong neighborhood organizations with deep historic roots.
> A strong sense of belonging and the appropriation of common areas as the result of the production not only of self-built housing, but also of common areas.
> Absence of green areas due to the pressing need to create living spaces during their founding.
> Intensive use of the street as an extension of one's dwelling and as a space for recreation and production.

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3. 54% of the urbanized surface of the Mexico City Metropolitan Area corresponds to working-class neighborhoods with an informal origin, according to a Cenvi study published in Garza, Gustavo, *La ciudad de México en el fin del segundo milenio*, El Colegio de México, Gobierno del Distrito Federal, Mexico, 2000, p. 392.

4. *Colonia* is the local term for a neighborhood, referred to as *barrios* in other Spanish-speaking countries. Mexican cities are composed of hundreds of *colonias*, independently of their socioeconomic level. The term *barrio* has a working-class connotation that may be pejorative. Functionalist housing complexes are known as *unidades habitacionales*. Recent Mexico City legislation has introduced the concept of *pueblo originario*, which refers to historically independent towns that have become part of the city.

5. Self-built housing can be up to four stories high and residential density can exceed 300 residents per hectare.

- Infrastructure issues, going back to their origins, leading to potable water, electricity and drainage problems in the present day.
- Transportation and accessibility problems due to their unplanned streets.

These conditions may vary in accordance with the age (level of consolidation) and location of each neighborhood.

> Periodization and Typology of Mexico City Working-Class Neighborhoods

Working-class urbanism is often considered to be a contemporary phenomenon that had its greatest period of growth during the second half of the 20th century. Tracing its historical antecedents sends us back to the early stages of the industrialization of Mexico – before 1910 – when the first working-class neighborhoods appeared. From a cultural perspective, however, this can be analyzed as a long-term phenomenon dating back to the Spanish Conquest in the 16th century, when a clear socio-spatial segregation was imposed between the European population, residing in the formal city, and the conquered indigenous population, living in unplanned peripheral neighborhoods, frequently located on the worst land. In this sense, if self-built housing is one of the characteristics of working-class urbanism, then we are faced with an ancestral practice with roots in indigenous and rural communities, which are often the place of origin of the migrants who came to the city to build these neighborhoods.[6]

In the case of Mexico City, we can delimit stages that correspond to specific conditions in terms of social history and local politics. In the early stage of industrialization and urban expansion (1880-1910), the urban proletariat resided in low-rent housing known as *vecindades*,[7] organized around a central patio with shared sanitary services, generally located within the historic downtown or in the formal working-class neighborhoods that had begun to appear at the time. Many housing complexes for workers were also built by philanthropic businessmen who wished to improve the living conditions of their employees. These experiences were given continuity in the social housing projects, inspired by experiments

6. The condition of informality in urbanism can be considered to be an expression of the 'México profundo' described by the anthropologist Guillermo Bonfil Batalla to explain the contradictions that characterize a national reality theoretically ruled by laws and official institutions. See *México profundo: una civilización negada* (1987).

7. Architectonically, there are variations on this typology, which include colonial and 19th century mansions subdivided into apartments. As a response to rising demand, real estate developers built rental housing complexes with similar characteristics, although designed for different types of users in accordance with their level of income.

built during the post-revolutionary period (1920-1940) in the Soviet Union and in Western European social democracies. Such was the case with the so-called worker and proletarian neighborhoods built during the Lázaro Cárdenas administration (1934-40).[8]

As the 20th century went on and the migratory flow to the capital increased as a consequence of the focus on industrialization as the axis of national development,[9] the housing supply represented by the city's *vecindades* was not enough to meet demand. This gap was filled by the construction of working-class neighborhoods of varying degrees of irregularity in terms of land ownership, but all characterized by the lack of basic services and by self-built housing.

One national peculiarity that explains the magnitude of the phenomenon of irregular urbanization over the following decades is the existence of the *ejido* land ownership system. The *ejido* is a form of collective, inalienable ownership based in the traditions of rural indigenous communities and institutionalized following the triumph of the Mexican Revolution in 1921. *Ejidos* were recognized in most rural settlements, including the rural areas of the Federal District, creating a sort of land reserve for informal urban expansion.[10] Another peculiarity of local history is the 1929 dissolution by decree of the municipal government, which was replaced by a regent named by the president, thus weakening the relationship between the city's residents and the local authorities in charge of meeting the needs of an expanding city. This power transfer opened the doors to the cooptation and clientelism that have marked working-class urbanization ever since.

It is important to emphasize that the generalized idea of the rural origins of the majority of residents of working-class neighborhoods should be given more nuance, as the people who participated in the occupation of

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8. See Guillermo Boils' article, 'Urbanización popular en la ciudad de México en los años cuarenta. Colonias proletarias en los márgenes del Gran Canal del Desagüe' and Georg Leidenberger's article 'La colonia obrera de Lomas de Becerra (1942-43) del arquitecto Hannes Meyer' in the Héctor Quiroz anthology *Aproximaciones a la historia del urbanismo popular* (2014).

9. One of the local effects of the Great Depression of 1929 was an import substitution policy, which favored the industrial processing of domestic raw materials that could not be sold on a depressed global market. Later, during the postwar period and under the influence of the economic growth of the United States, Mexico entered a process of open, accelerated industrialization, which was dependent on foreign technology and financing. Mexico City was the favored site for these investments, which led its accelerated, uncontrolled growth, culminating in the urban crisis of the 1980s.

10. Being inalienable, *ejido* land could not be incorporated into the formal real estate market, which did not prevent the appearance of a black market of lots for development at prices affordable to the lower classes. It should be emphasized that *ejido* land was also expropriated by the state for the construction of public infrastructure or public housing – and in some cases, for resale to private developers. See Schteingart (1989).

these lands were generally migrants who had already put down roots in the city, with a social network and a certain level of job stability, which allowed them to invest part of their income in payments on a lot of land. Many left the *vecindades* of the city center for the periphery with the dream of 'conquering' some property of their own and consolidating their family's assets. In this progressive housing scheme, it was relatively easy to add rooms for new members of the extended family or to rent them out to relatives or friends who had just come in from the countryside.

We can argue that working-class urbanization's greatest period of expansion occurred between 1945 and 1975, a period that corresponds with the consolidation of a centralized one-party state based around the Institutional Revolutionary Party (PRI) and the sustained economic growth known as the 'Mexican Miracle,' supported by a welfare state model financed by international development institutions.

In 1949, the first public housing development, locally known as *unidades habitacionales*, was inaugurated. This housing model was primarily directed towards the federal employees (bureaucrats, professors, soldiers) who made up a large part of the emerging middle class that was the primary beneficiary of the regime. At the beginning of the 1960s, Regent Ernesto P. Uruchurtu promoted the construction of two immense housing developments for the working class and marginalized populations.[11] Despite their magnitude, these projects were unable to either cover the demand for housing among low-income populations or to slow the proliferation of irregular settlements in the city's periphery.

The consolidation of informal working-class neighborhoods went through periods of tolerance, repression and conditional support by the authorities. Although it is possible to make generalizations about this process, each neighborhood has a particular history that depends on its land ownership pattern (private, *ejidal*, communal, expropriated, regularized), forms of community organization, location, leadership and the political ups and downs determined by the electoral cycle and the ability of local leaders to position themselves in power networks and thus facilitate the supply of basic services and the regularization of land ownership.

11. The *unidad habitacional* Santa Cruz Meyehualco (three thousand units), for housing the garbage scavengers living in the area, and the *unidad habitacional* San Juan de Aragón (ten thousand units).

Another model of working-class urbanism that thrived during this period was that of the 'lost cities' located on private plots of intraurban land, which were subdivided and rented out to individuals or families. They lacked basic services and were known for their shoddily-constructed housing. Unlike those living in irregular neighborhoods, residents of the lost cities, as renters, had no hope of improving their living conditions.

Meanwhile, downtown became a slum due to a rent control policy (decreed in 1942) that discouraged private investment in this housing model, leaving thousands of renters in the city center adrift. Starting in the 1960s, there were a series of urban renewal projects that meant the eviction of hundreds of families to new settlements in the periphery.[12]

In the 1970s, the cooptation of neighborhood organizations and demands for housing through the so-called 'people's sector' of the ruling party and the exchange of construction materials, technical support and basic services for votes and unconditional support at election time faced the resistance of dissident social organizations and opponents of the regime, grouped together in the Popular Urban Movement (MUP). At this time, there were innovative experiments such as housing cooperatives, which were institutional housing projects that incorporated self-built residences and self-managed urban planning, which have since become a reference in terms of the innovative potential of different forms of working-class urbanization. These practices were shaped by the ideological confrontation between different currents of the progressive left that were inspired by the Cuban Revolution and the achievements of Soviet planning. At the same time, the principles of liberation theology spread among the base communities that the Catholic Church had organized among marginalized populations in the urban periphery. We must also not forget that these were the most critical years of the Cold War, in which Latin America was one of the key battlefields.

In the government, the reaction to these self-management initiatives were centered around:

> The consolidation of the government agencies primarily responsible for the construction of public housing for unionized workers and bureaucrats.[13]

12. Nevertheless, according to the information provided by Mike Davis (2007) in chapter 5 of *City of Slums*, these mass evictions followed by resettlements were not of the magnitude of those documented in other megacities.

13. Infonavit and Fovissste were created in 1972 and continue to operate to the present day.

- The launch of institutional programs to support processes of self-management and self-built housing, financed by international development institutions.[14] Here, two features associated with informal urbanism became an alternate solution to the chronic deficit of land and housing during the historic high point of demographic growth and urban expansion.
- Land occupations encouraged by the authorities through leaders with ties to the ruling party, which became a mass phenomenon on a hitherto unknown level.[15]

The 1985 earthquakes revealed the serious deterioration of working-class housing in downtown Mexico City, the problems in maintaining public housing complexes and the inability of the authorities to offer solutions that were up to the seriousness of the problem. This was a time of consolidation for MUP member organizations. During the reconstruction period, a space opened up for experimental projects that sought to keep long-time residents downtown instead of resettling them in the periphery. The public financing for the People's Residential Renovation Program can be considered to represent a shift in operational procedures and an acknowledgement of the work that had been done by leaders and technical consultants.[16]

The indiscriminate application of the neoliberal model since 1988 put a sudden end to programs and institutional support for self-built housing. Parallel to this development, there was a mass regularization of property rights in working-class neighborhoods, carried out through subsidized property titles. The opposition took advantage of the vacuum left behind by the collapse of the welfare state and the social discontent this created in order to consolidate an electoral base. At this time, the demographics of Mexico City stabilized, with a population decline in its central zones. Mexico City was increasingly offering fewer opportunities for the construction of new working-class neighborhoods, and the supply of public

14. These actions were promoted by the group centered around John Turner, a British architect who, inspired by his experiences as a volunteer in the barrios of Lima, advertised the virtues of self-built housing, as practiced by the poor of Latin America, in the First World. He provided the theoretical groundwork for many programs financed by international development institutions, such as 'lots with services,' (progressive) foundations and mass regularizations.

15. The emblematic case is Colonia Pedregal de Santo Domingo, which arose in a few days after thousands of families invaded unproductive *ejido* lands covered in volcanic rocks in southern Mexico City.

16. See Anavel Monterrubio's text, *Factores actores para la renovación urbana del hábitat popular en barrios céntricos de la ciudad de México* (1985-2006), Centro de estudios sociales y de opinión pública, Cámara de Diputados, Mexico, 2014.

housing shifted to the periphery of the metropolitan area. It is worth remembering that, in 1992, the *ejido* system – in which property had been inalienable – was incorporated into the formal real estate market, ending with one stroke one of the most common reasons for the informal character of working-class neighborhoods. Consequently, the lots in the periphery with the best locations were bought up by developers, while those offering the worst conditions for urbanization have been gradually occupied by new precarious settlements.[17]

In 1997, the Mexico City government was democratized and, since then, has been led by leftist parties whose origins can largely be found in activists based in informal working-class neighborhoods. An alternative discourse has arisen that seeks to learn from the experiences accumulated by activists, NGOs and public housing agencies in terms of self-management and self-building, synthesized in the concept of the social production of housing, which incorporates urban sustainability criteria and a vision for the long term, of metropolitan scope.

Through the narrative we have presented, we can distinguish two major currents of working-class urbanization: an urbanism of the poor based around a city self-managed by its residents, using their own technical and economic resources, knowledge, skills and abilities; and an urbanism for the poor, with institutional initiatives aimed at resolving housing problems for the lower classes. Between these two currents, many variants can be found, with different degrees of participation by technicians or professionals representing the culture of institutional urbanism.

The following table summarizes different expressions of working-class urbanization in Mexico City:

17. Over the past two decades, housing policies have been centered around the promotion of enormous single-family housing developments located on the outer rim of the metropolitan area and built by private developers who utilize preexisting public housing credits. The uncontrolled growth of this type of development has given rise to enormous instability in the structure and functioning of the metropolis, not to mention imbalances arising from the oversupply of housing in a certain segment, which excludes low-income groups, who keep turning to informal urbanization.

Stage	Context	Formal expressions of urbanism for the poor	Formal expressions of urbanism of the poor
19th century to 1929	Budding industrialization, moderate urban growth	Working-class neighborhoods built by philanthropic businessmen *Vecindades* in downtown Mexico City Authorized working-class neighborhoods	Precarious settlements (sparsely documented)
1930-1945	Post-revolution, socialism-inspired nation-building project, the Lázaro Cárdenas administration	Proletarian neighborhoods Workers' housing complexes built by the government	Densification of working-class neighborhoods that had been authorized during the previous stage First generation of informal working-class neighborhoods
1945-1975	Developmentalism, welfare state, demographic explosion	First generation of functionalist housing complexes built by the state Authorized working-class neighborhoods, resettlements	Greatest period of growth for informal working-class neighborhoods Urban *ejidos* Lost cities Growth of slums downtown
1975-1988	Crisis of the welfare state Social architecture	Support for self-built housing (lots with services, foundations) Second generation of housing complexes built by the state	Informal working-class neighborhoods Mass invasions Housing cooperatives
1988-2018	Neoliberalism, demographic stability	Massive single-family housing developments in the periphery	Contraction of working-class neighborhoods Guerrilla settlements in natural reserves Persistence and emergence of new forms of precarious settlements in the periphery

> **Conclusion**

The evidence shows that a very large proportion of the urban fabric of Mexico City is the product of the dynamics of informal urbanization, which gives rise to a contradiction in those discourses that conceive of this phenomenon as a system failure that can be overcome. In Mexico City, informal urbanization goes back over 80 years and continues to this day. Although its presence in Mexico City proper has become uncommon, it continues to occur in the periphery of the metropolitan area in a variety of forms. Informal land occupations and self-built housing practices have deep roots in broad sectors of the population and are used time and time again to resolve problems in terms of access to land and housing, or adapting the latter to the needs of their families.

To fully understand the recent evolution of Mexico City, it's necessary to construct a history that incorporates the dynamics of working-class urbanism and to understand the condition of irregularity as an essential component of our sociocultural reality. We believe that, in working-class urbanization, we can find the social and spatial elements that explain the functioning of the contemporary city and are key to producing urban development projects that are in line with the social and cultural characteristics of the majority of the population. An empirical approach to the self-management practices that characterize working-class urbanism allows us to acknowledge their virtues and not only their defects. Among the former, there is the accumulation of collective experiences in participatory processes and in self-built housing projects, as well as the consolidation of a sense of citizenship based around community labor, which is fundamental for sustainable urban development. Recognizing these virtues allows us to consider working-class urbanization as an alternative urbanism practice, emphasizing its capacity to transform institutional procedures and generate social spaces that, in turn, shape more equitable built spaces.[18]

18. D. Harvey, *Rebel Cities: From the Right to the City to the Urban Revolution*, Verso, London, 2012.

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The public space of Kibera Slums

by
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> **Evolution of Kibera**

Kibera is a slum settlement located about five kilometers to the southwest of Nairobi city centre. According to Amis (1983), it was established by the British colonial government in 1912 as a settlement for Nubian soldiers from the neighbouring country of Sudan. The colonial government gave the soldiers land for their support of the British rule in the region. They named the forested area in which they settled 'kibra', which translates to 'forest' in Nubian. Over the years, Kibera continued to grow both in size and ethnic composition. Post-independence influx of large numbers of rural-urban migrants into the city resulted in skyrocketing of demand for cheap housing, and this in turn triggered a rapid growth of squatter settlements and the flourishing of a type of housing that could be mass produced at a moment's notice, yet cheap enough to demolish without incurring into major losses in case of eviction. In order to cope with the pressure of demand for cheap housing, the government permitted construction using temporal materials in Kibera and explicitly forbade building permanent structures, as it considered redevelopment plans for the area (Temple, 1974). Because the initial settlers were not granted ownership documents by the government, it became impossible for their dependents to prove ownership or their tenants to claim any rights legally. Lack of security of tenure plagued Kibera through the years. Over time, opportunistic developers capitalized on the contested ownership and continued to build temporary housing structures in Kibera, with little or no investment in the necessary support infrastructure or services.

> Types of informality

Informality of Kibera as a human settlement can be attributed to a number of factors such as dismal spatial standards, construction methods and materials, lack of security of tenure and marginalization in delivery of basic infrastructure and services, forcing residents to seek alternative finance, education and administration services. Dwellings in Kibera are characterized by spatial inadequacies. Entire families of two parents, about three to five children and occasional guests often live in a single room of about 9m^2 (Mukeku, 2018), which translates to less than 1.5m^2 of living space per inhabitant. This living arrangement is overcrowded and poses great health risk to the inhabitants. Charcoal and paraffin, which are highly polluting sources of energy, are the main sources of fuel in such households, further aggravating ventilation and congestion challenges in these dwellings.

The houses are constructed out of temporary and readily available materials. Earth is scooped on site for the mud walls, wattle sourced from nearby forests, recycled and salvaged wood and iron sheets are the common

construction materials. The construction process of the dwellings is informal; it does not follow any formal development application procedures. The chief or headman often approves the site location, access to site and construction process. Spatial specialization and designation of spaces for specific functions such as sitting space, cooking space and sleeping is untenable in these dwellings. Typically, a single space will have a changing pattern of use throughout day and night. What is the living and cooking space during daytime is converted into sleeping space at night when cooking utensils and furniture are stored away, usually in a corner of the room or under the beds to create space for sleeping. It is also common for dwellings to be used for commercial trading during the day and to revert to domestic living functions in the evenings (Mukeku, 2018). Privacy is severely compromised from within as well as from without the dwelling units, many of the units open directly to the narrow streets via a door, which is often the sole opening of the dwelling, serving lighting and ventilation purposes as well the access too.

Having grown incremental over the years with no planning intervention, Kibera lacks either a discernable plan or urban form. Here, growth is driven by necessity on the part of the slum dwellers and profits on the part of shack owners with no regulatory interventions from authorities. The structure owners invest in housing and often trade off their investments without any formal taxation or registration of contracts or sale agreements with the relevant government departments. Every available space is built, leaving just enough space to allow access to the houses. Minimal space is left for public space, infrastructure and other public amenities. Whatever little external space is available serves as the public space, recreation space and space for toilets and solid waste dumping sites.

Marginalization and exclusion of the Kibera especially challenges in accessing mainstream finance, education and administration functions, which has led to the development of alternative systems that serve the people where the formal facilities are absent or fail to meet the unique needs of slum dwellers. Where banks and bank facilities such as loans are inaccessible, *chamas* blossom. A *chama* is an informal (or semi-formal) system of saving and loaning money at friendly rates and flexible terms where a self-organizing group of related individuals pool together to make regular contributions of money. *Chamas* have become a alternative saving and loaning system for the informal settlements. They also work as powerful social units (Mukeku, 2018). Despite the high number of school-going age in Kibera, there are only two public primary schools in the slum (Sana and Okombo, 2012). Where formal schools are too far for children to walk, too expensive or lack the necessary social support programs, next-door

informal schools flourish. Informal schools are favored over mainstream school because they address challenges experienced in slums with subsidized feeding programs, flexible and affordable school fees payment plans and extra support programs such as counselling, orphan support and HIV support programs. In certain cases, informal schools provide education for children from single-parent families, where the mother/father is often working part time outside the settlement and prefers to send her/his children in such schools often located close to her/his dwelling house. Some schools offer extra social support and care for children whenever parents are not able to. Children depend on informal school grounds for sports and leisure activities, as these are largely absent in the rest of the settlement. Informal systems are also in play in security matters, where vigilante and militias groups fill the void left by absence governmental security agencies (*ibid*). These examples illustrate how alternative informal structures flourish in slums in the absence of formal ones.

> The role of public space in informal cities

Public space is an important resource in informal settlements. But, despite the numerous benefits of public open space to slum dwellers, it is not always given due consideration in slum upgrading schemes. In addition to serving recreation, socialization and gathering, living functions often spill from the dwelling into public open spaces in informal settlements. Kibera has an acute shortage of public open space, as one may observe from aerial images of the slum. The images show a compact organic arrangement of structures with little or no open space – public or otherwise – except for circulation arteries and the occasional space adjacent to schools, churches and other public institutions. Access to public space such as parks is relegated to a treat reserved for special occasions such as national celebrations, public holidays and birthdays. On these occasions, families make special trips to Uhuru Park in the city centre or Nairobi National Park.
According to Cantada (2015), literature from global think tanks on urban issues such as Project for Public Spaces and Archive Global strongly suggest public open space urban policies and design programs can act as catalysts for slum upgrading in developing countries. Public space has the power to bring many different stakeholders and activities together. Another unique aspect of public open spaces in informal settlements lies in the way they are inhabited; slum dwellers use public open spaces differently. In places like Kibera, streets are the truly public spaces. Here people live their lives in the streets, trading, socializing, and interacting, all day every day. For this reason, having adequate public open spaces is as crucial as other basic housing services for slum dwellers.

According to UN-Habitat (2015), the organization has used public open space as implementation and delivery strategy for projects on urban planning, housing, slum upgrading, governance, urban safety, basic services and even post-conflict reconstruction, making a strong case for the argument that public open space can be leveraged for slum improvement and upgrading. UN-Habitat advocates for taking advantage of streets as natural conduits between slums and the city and also proposes a fundamental shift towards opening of streets as the driving force for citywide slum upgrading. According to the organization, urban planning combined with a network of streets and public spaces provide a viable solution to the problems of slums.

Going by slum-upgrading projects by the Kenya Government in the recent past, it is clear that proper planning and design of public space is lacking if not absent from the schemes. However, Kounkuney Design Initiative (KDI), an American non-profit organization, has been at the forefront of promoting public open space development in Kibera. KDI has undertaken a number of projects, mainly focusing on restoration of riverfronts and dumpsites, reclaiming them for development of productive plans that combine sanitation facilities, communal gathering spaces, play spaces for children and community gardens. KDI uses a community participation approach that involves identifying land by consulting community groups, carrying out community design workshops and then working in collaboration with the community to realize the projects. Their aim is to create a mix of recreational and productive spaces for the community (Kuonkuey.org, 2019).

> Territorialization

Territoriorization in Kibera is attributed to the presence of criminal gangs, ethnic groups and 'access control' at different levels. The various villages of Kibera are actually ethnic enclaves in one capacity or another. In these villages, the majority group will have control over the communal resources, and have a say on the political and socio-economic welfare of the community. At a lesser level, territoriality is felt when outsiders go to Kibera, more often than not one is confronted by local youths demanding for 'access' or 'protection' fee, and threatened with robbery and all forms of harassment. Criminal gangs also control access to basic services through illegal water and electricity connections (Sana and Okombo, 2012).

Territoriorization is also felt sharply between the upgraded and un-upgraded parts of Kibera. In the complete phases of RAP, residents of the new developments erect gates to control access of the three-meter pedestrian walkway that runs along the entire length of the railway to allow residents only. This walkway was intended to serve as a public thoroughfare

by the planning and design team of the RAP. This exclusion is an interesting development for the designers and planners of the RAP who did not consider this outcome. Within the RAP, residents also resorted to utilizing their front in different ways, while some established vegetable patches, chicken coops and opened business at their door steps, others resorted to ornamental landscaping to mark their front yards.

> Simplicity/Complexity of Public Space

The road and street network and the railway form the largest continuous open space available in Kibera. Other types of public open space, i.e., parks, playgrounds, plazas, take the most diminutive form, if present at all. Being the sole open space in the slum, the street becomes a place for complex interactions. A keen study of the streets of Kibera reveals that, apart from being transit and commercial spaces, they also serve as the primary play space for children. Living also takes place in the street; activities such as cooking, washing and socialization and entertainment take place in street. Some women trading in the streets often run 'daycare services' for parents working outside the slum. These women feed and keep a watchful eye on the children as they play, even supervise their schoolwork till the parents return in the evenings. The *chamas* are also run in the streets alongside the businesses. Members of a *chama* would drop contributions or pick loans or savings at the treasurer of the group, who is usually a street trader or shopkeeper, for ease of access. This makes the street a place for complex interactions, rather than a simple transit space.

> Physical Treatment of Public Space

Public spaces in Kibera, mainly streets and playgrounds, lack any form design, physical treatment or furniture installation. The streets are not lined, turning them into a muddy mess during the rainy season and a dust menace in the dry season. Playgrounds are bare earth surfaces with little lawn cover. The spaces along the river where children play are heavily polluted by dumping of all sorts of liquid and solid waste. But, despite the material inadequacies, the slum residents still find a way of utilizing them for recreational, commercial, social activities in these spaces.

> Socio-economic characteristics

> Ethnicity

Kibera slum is made of thirteen villages, namely Kianda, Soweto West, Raila, Gatwekera, Kisumu Ndogo, Makina, Kambi Muru, Lindi, Silanga, Mashimoni, Kichinjio, Laini Saba and Soweto East. The villages display strong segregation along tribal lines, effectively making them ethnic enclaves. The naming of the villages hint to their ethnic composition. For example, Raila and Kisumu villages are named after a Luo politician and the City of Kisumu, and are predominantly inhabited by the Luo, Makina-Nubian, Kambi Muru-Kamba and Silanga-Luhya. Ethnic clashes are common in the slum, especially during national and local elections. Tribal clashes are known to cause internal displacement within the slum, when tenants of a particular tribe are kicked out because of association of their tribe with a particular political party or structures belonging to landlords of a certain tribe torched and vandalized for the same reasons (Sana and Okombo, 2012). According to Map Kibera Project, one of the leading causes of insecurity in Kianda village is land wrangles and disputes between the Luo and Nubian residents. A situation that is not unique to Kianda but symptomatic of the entire slum.

> Crime

Kibera tops the list of neighbourhoods with the highest number of organized crime gangs, according to the National Crime Research Centre (2012). The gangs engage in extortion, illegal tapping and supply of water and electricity to the residents while at the same time dabbling in providing security, conflict resolution, community mobilization. Some criminal gangs start as ethnic vigilante groups with the primary purpose of protecting interests of their own community. However, they evolve into militias and criminal gangs sooner or later (Sana and Okombo, 2014). According to the authors, *Mungiki* – a group with factions in informal settlements in Nairobi and most central Kenya towns – was established as a vigilante group but later evolved into a criminal gang that perpetrated unspeakable crimes, especially in informal settlements. Despite the fact that they maintain some level of law and order in the slums, vigilantes are a problem because they force unnecessary taxes on businesses, killing the spirit of entrepreneurship. Some vigilantes are also fronts for criminal gangs who hide behind the mask of community policing to loot, murder and extort the very citizens they are meant to protect.

The Kenya by Security Research and Information Centre (2014) profiled crime hotspots in Kibera in a study of crime in urban slums

in Kenya. According to the study, 17 crime hotspots were identified in Kibera. The profile revealed that most crime was reported to have occurred in unlit areas, deserted alleys, and areas close to hangouts of young delinquents and criminal gangs. Most reports also identified theft, robbery, muggings and break-ins, drug abuse, vandalism and sexual assault and gender-based violence as the most widespread forms of crime in Kibera.

> Waste Management

Scarcity of water and sanitation facilities is one the most pressing problems for the residents of Kibera. The waste problem manifests in form of heaps of uncollected waste especially along the railway, the river and any vacant lot and the stench of raw sewage openly flowing from the streets into the river. A study by UNHABITAT and the Kenya Government 2001 revealed the gravity of the sanitation situation in Kibera. According to the study, there was one toilet for every 50 to 150 people in Kibera, forcing many residents to resort to use of flying toilets – a highly unhygienic way of disposing human waste. The same study estimated City Council water supply in Kibera to be about 5%, leaving the rest of the residents to rely on either private water vendors or communal water taps. Water from such sources was sold at inflated cost of 20 liters at KES 20.

The sanitation situation in Kibera has ever since improved owing to the numerous joint efforts to improve sanitation in the slum by the Government, international organizations, NGOs and CBOs. In 2003, UN-Habitat launched Kibera Integrated Water, Sanitation and Waste Management Project (WATSAN). The project has overseen construction of storm water drains, communal sanitation facilities that incorporate toilets, showers and water points and small-scale door-to-door waste collection and recycling systems. Another significant water and sanitation initiative in Kibera is the WASH program that is implemented in collaboration with SHOFCO, a homegrown NGO. Through aerial borne water pipes, WASH solved the problem of contamination, vandalism and lack of space to run underground water pipes in Kibera. According to information on the SHOFCO website (2019), WASH has installed water kiosks and community-managed pit latrines throughout Kibera reaching over 31,073 residents.

> Economic conditions and subsistence

Entrepreneurship plays a crucial role in the economy of Kibera slum. The most common type of business is restaurants and food kiosks, general household goods shops, salons and barbershops, tailoring shops, second-hand clothes vendors and fruits and vegetable sellers. Most businesses are family owned and run out the home or in close proximity

to the place of dwelling. About 50% of Kibera residents are employed, with a majority falling in the15-24 age bracket (UN-HABIAT and GOK, 2001; APHRC, 2014). The employed engage in all kinds of skilled and unskilled labour jobs and businesses in the nearby industrial area and the city centre. Some, especially women, are employed as domestic workers in the adjacent affluent neighbourhoods. According to UNHABITAT and GOK (2001), about 75% of households in Kibera earn less than KES 10,000 per month, which roughly translates to less than KES 2,000 per person per month.
Subsistence through urban agriculture takes the form of gardening, mostly in sacks gardens and small-scale rearing of animals such as fowl, sheep, goats and pigs. Before sack gardening became popular in the slum residents grew vegetables along the banks of the highly polluted river, close to the dam or on small lots reclaimed from dumping of waste. Sack gardening gained popularity in Kibera because it is affordable, easy to maintain and above all water-efficient. Sack gardening, also known as vertical gardening, entails growing vegetables on top and on the sides of recycled sacks filled with soil. One sack (about 1m high and 1m wide) can hold between 20-30 kale plants, making it a much more efficient way of utilizing space compared to direct ground planting (Pascal and Mwende, 2009). Besides supplementing family food supply, this is also an important source of income for the farmers.

> **Public policies**

The past one and a half decade has seen concerted effort from the Kenyan government and other stakeholders aimed at slum improvement, rehabilitation and elimination. These efforts have yielded a number of key initiatives, legal and policy reforms. In 2004, the government in collaboration with UN-Habitat and other stakeholders established the Kenya Slum Upgrading Program (KENSUP) with the objective of improving the lives and livelihoods of slum dwellers. KENSUP's mandate was to oversee construction of low-cost housing, install and improve infrastructure and services in the slums, address environmental issues and waste management, spearhead capacity building and resource mobilization in the slum communities, facilitate security of tenure and also to address human challenges such as HIV and AIDs, drug and substance abuse, security among others.
Another initiative is the Kenya Informal Settlement Improvement Project (KISIP) that was launched in 2011 by the Government of Kenya with support of the World Bank, the Swedish International Development Cooperation Agency (SIDA) and the Agence Française de Dévéloppement (AFD). KISIP's mandate was to support the efforts of the State Department of Lands and Physical Planning in improving security of tenure, infrastructure support

and introducing planning in the informal settlements scattered across major towns in Kenya. This program is meant to complement KENSUP.

Slum upgrading in Kenya happens within a number of policy and legal frameworks: the National Housing Policy 2004, the National Land Policy 2009, the Constitution of Kenya 2010, Land Laws (Amendment) Act of 2016, the National Urban Development Policy (NUDP), National Slum Upgrading and Prevention Policy (NSUPP) 2016 and the Kenya Vision 2030 (Ministry of Housing, 2013). All these policy documents and legislations provide for and promote various slum prevention and slum upgrading interventions in Kenya.

Article 43 of the Constitution of Kenya 2010 guarantees all Kenyans the right to accessible and adequate housing, while Article 21 tasks the Government with ensuring appropriate policy, legislative measures up to standards to ensure that this right is exercised. The National Land Policy 2009 puts a major emphasis on the need for a slum upgrading policy. It recommends development of slum prevention and Resettlement Program for slum dwellers. NUDP proposes mapping of informal settlements coupled with harmonization of policies, legislation and administrative frameworks and establishment of inspectorate and enforcement mechanisms to monitor and regulate informal housing in Kenya. The National Slum Upgrading and Prevention Policy (NSUPP) 2016 looks into issues of security of tenure, social inclusion, infrastructure development and participatory approach as initiatives for upgrading existing slums and preventing proliferation of more slums. The Land Laws (Amendment) Act of 2016 aims at aligning the land laws of Kenya with the constitution. Such Act of Parliament outlines legal eviction procedures creating room for participatory approach in projects that cause displacements, particularly in informal settlements.

According to the Ministry of Housing (2013), Kenya is also a signatory to a number of international treaties and declarations that address the right to adequate housing, which boils down to need to address slums. These treaties include the African Charter on Human and Peoples Rights (ACHPR), the Universal Declaration on Human Rights (UDHR), the Convention on the Rights of the Child (CRC) and the International Covenant on Economic, the Global Strategy for Shelter to the Year 2000, the Social and Cultural Rights (ICESCR), the Vancouver Declaration on Human Settlement, Agenda 21 and the Millennium Development Goals.

> **Reflection on in-situ Slum upgrading in Kibera**

In developing the Relocation Action Plan, several stakeholders were involved in the entire process. Public participation and stakeholder engagement is considered an integral feature of planning and design. Literature has identified several related benefits, from more open and transparent decision-making to greater acceptance of plans and output by the affected population.

The RAP study public and stakeholder consultations were carried out in accordance to the legal framework spelled out in the EMCA 1999. Specifically, public and stakeholder engagement was carried out in order to: first, provide a more comprehensive understanding of the baseline environmental and individual and community issues to be integrated into the projects, secondly to enhance transparency in the decision-making process, third to obtain information about potential effects of the project at an early stage and lastly to promote understanding and acceptance of the proposed RAP thus avoiding unnecessary controversy and delays during implementation.

The actors and the actions they took to promote this project modified their traditional roles and birthed new roles and responsibilities. The planning and design team in Nairobi worked in collaboration with various international organizations, such as the World Bank (WB) and Slum Dwellers International (SDI). The WB not only provided the funding for the project but also provided the Relocation Action's planning standards and safeguards; the social and environmental team that reviewed all the project documents and the technical engineering team that supported the local planning and design team.

SDI provided and financed benchmarking opportunity for a case study visit in India and financial support for part of consultancy fees for the planning and design team in Nairobi. The benchmarking visit in India proved a turning point in the project conceptualization. As a result of the detailed site visits and observations by the integrated Government and planning and design team, the Government and Kenya Railways members of the delegation were able to change their mind and offer support for the urban design strategy that was at inception stage. Upon return from the benchmarking visit, this team proved to be a critical core support team in government and henceforth promoted the urban design strategy. The SDI also supported local NGOs and CBOs throughout the project conceptualization, design and implementation.

In this section we attempt to summarize the key lessons learnt from a planning and design perspective. These lessons are changing the role of traditional planning and architectural practice, the emergence of

innovative practices, paraprofessionals or intermediate professions and community as a resource for design and planning knowledge.

> Changing role of traditional planning and design

Project conceptualization involved mediation between different interests in government, community and development partners over a period of 5 years. Over time, the structure of the government and the community changed, the planning and design team and the development partners remained the custodians of the concepts, planning and design standards. The design team with support from SDI organized a successful benchmarking visit to India. Further, the development approval process required innovations to enable the project progress. The planning and design team engaged the City Council of Nairobi – Planning Department in a pre-submission conference, where all the project components were discussed prior to a formal submission. The planning and design team mediated and organized several stakeholder meetings in the community, government offices and NCC. In all these meetings, the planning and design team presented project details in a language and graphic that could be understood by the audience. This participatory process was developed long before the constitution of Kenya 2010 that later mainstreamed public consultation and stakeholder engagement in our policy development. These, among other activities, extended the role of planning and design team from traditional practice into that of project trustees and custodians and also underscores the role of urban design as mediation among different interests.

> Emergence of innovative practices

During the planning and design phases of the project, several students and young professionals from Northern Universities joined the planning and design team. These professionals have since organized themselves into knowledge platforms that continue the discourse online, sometimes working as individual teams or collectively developing new knowledge in slum upgrading and sharing. These groups present innovative practices and promote application of global knowledge and knowledge platforms in solving local problems. These groups are developing knowledge on slum upgrading at a wider scale that may be applied to a wide range of slum conditions not only in Kibera but elsewhere in Nairobi and worldwide. Their analysis and design solutions for Kibera are derived from this global perspective. A good example of such knowledge platform is the collaborative workshops and studies on Kibera, carried out in Nairobi and Pescara, which have opened new avenues for sharing practical experiences amongst academics and practitioners.

> Emergence of paraprofessionals

During both pre-contract and post-contract phases of the project non-professionals working in the project acquired technical skills that have been useful for the project's execution and extended to other projects in the area, especially in KENSUP and other infrastructure projects in Kibera. The para professionals working with the planning and design team were in three distinct groups: those from the community, those from the planning and design team and those from the NCC. In all these groups, paraprofessionals were inducted in the knowledge and techniques of planning and design. The participatory methods and techniques were applied at a general standard accessible to paraprofessionals; this consequently promoted subsequent application the knowledge. A unique outcome of this process is that some technical assistants in the project, especially in the planning and design team and NCC, have proceeded to develop their skills and knowledge at university level to become fully independent professionals.

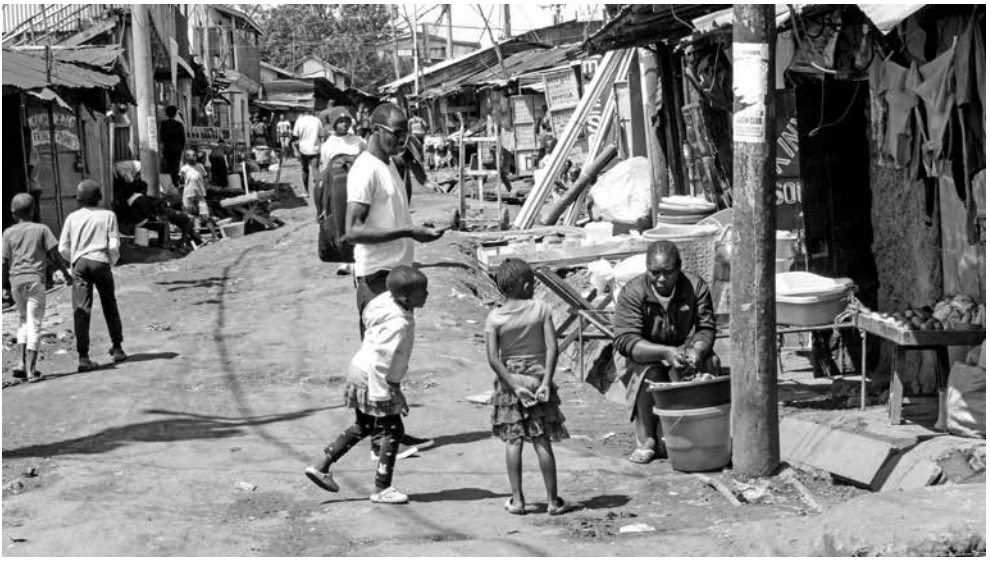
> Community as a resource for planning and design knowledge

The Kibera railway dwellers, a Community Based Organization (CBO), emerged from the process of conceptualization, planning and design of this project. This group was instrumental in lobbying members to participate in the design reviews and during consultative meetings. Further the CBO supported the project implementation team and is currently supporting resettlement and management of the RAP area. Members of the CBO learnt project techniques such as mobilization, enumeration, planning, design, project implementation and are sharing these knowledge and skills in other projects in Kibera. Their residual planning and design knowledge has become a useful resource in later projects. By the very nature of participatory planning and design, we argue that the content of this process is a shared resource, to which community members contributed and from which they can benefit. These skills and knowledge are a common resource that this group has deployed in the just concluded National Census and the ongoing ring road project.

> **Conclusion**

These four areas of change – changing roles of traditional planning and design and practice, emergence of innovative practice, emergence of paraprofessionals and community as a resource for planning and design knowledge – have implications on training of planning and design team professionals. The curriculum for training architects and planners must include an understanding of changes occurring in the practice environment

and include knowledge at both global and local level and provide opportunities for the emergence of innovative practices. In practice, public open space seems to be lagging behind as upgrading of buildings and other of infrastructure continues across Kenya. Cases of slum upgrading both at home and elsewhere in the world have many lessons to offer about the role of public space in ensuring upgrading solutions are sustainable and acceptable to the people. The time is right to conduct in-depth studies of public open spaces in Kibera, and the lessons they hold for future slum upgrading projects not only in Nairobi and the Nation, but also in the African region and the rest of the world.



A view of a street in Kibera where showing domestic, social and commercial activities taking place alongside each other.

One of the spaces built by KDI in Lindi village provides water and sanitation facilities in addition to communal gathering space and play areas.

The City of Slums

Johannesburg's inner-city informality

by
Denver
Hendricks

> Introduction

The appropriation of slum is not unfamiliar to Johannesburg. Inequality, poverty and overcrowding are synonymous with this city since its inception as a gold mining town. Johannesburg, a young city, just a little over one hundred and thirty years old, grew exponentially since 1886. Although slumming is found worldwide, what makes Johannesburg's slums different? Firstly, by definition, the inner-city is a slum and secondly, the slums of inner-city Johannesburg are based on the marginalization of the colour of people's skin.

Johannesburg and larger South Africa's precarious urban form is based on the agenda of the minority white Afrikaans control over non-white bodies appropriating urban space. Apartheid drove and maintained the urban form for over one century. The non-mixing of social groups was later formalized as legislative legal acts to permanently marginalize non-whites by creating intelligent and substantial buffers between places of dwelling which was subsequently substituted for modernist highways, ecological water bodies and rivers. Johannesburg inner-city center is synonymous with informality, a century of absorbing both local and international immigrants seeking access to economic opportunities. In the urban poor debate, according to Hari Srinivast (https://www.gdrc.org/uem/define-squatter.html), one criterion of a slum is the absence of tenure or living in a place which is not legally occupied or consented to. Furthermore, it is defined as housing with little or no infrastructure, owner-built shelters made of recycled material. Therefore, inner-city Johannesburg is furthermore distinct from the classic definition of slum because many of the occupations occur within an existing infrastructure and the definition of 'slum' is not well defined.

Therefore, the basis of how Johannesburg's came into its existence is unethical by today's values because a syndicate of wealthy European and Australian colonialists (Beavon, 2004) built it on the exploitation of the poor local black. Today, that gap between the poor and rich has widened exponentially by the reinforcement of globalization and neoliberalism. How did Johannesburg inner-city become a slum? In the evolution of the city's administrative power, through decades of power struggles between the British, Afrikaners and the local Blacks, the Afrikaner government finally gave up its power after the first democratic elections in 1994. This has produced a radically new reinterpretation of the city which was originally built by white people – for white people. Today it is a slum (Beavon, 2004; Tomlinson *et al.*, 2014). This antagonistic relationship between

white colonialists and black locals, which is firmly rooted into master and servant, dates back to the inception of the city when entrepreneurial gold diggers from around the world arrived and recruited hundreds and eventually thousands of poor labourers to dig large pits for the mining of gold. The demand of this cheap workforce created a lack of housing for the area, and so, the white European callous view of 'good enough to work but not good enough to be seen' originated and shaped the city to what it is today. Tented camps sites of the late 19th became timber structure and corrugated metal cladded shacks in the inner city of Vrededorp and Doornfontein. These areas became undesirable spaces for white rich colonialists who then began building large estates on the north facing cliffs of Parktown. The 1923 Native urban Act was the one of the first measures of slum control and a prelude to apartheid's urban segregation act in the 1950s. There was also the Demolition of Slum Act of 1934,[1] which allows the council to control the formation of slums.

What caused the condition of slum since the city's establishment? Not only is it the imbalance in housing supply and demand, but also the low wage dwellers, and scrupulous landlords (Beavon, 2004). Some 10,000 labourers not only ended up in pick and shovel jobs, but also became cleaners and house maintenance helpers called 'house boys'. It is interesting to note that the contemporary slum condition is based on the same racial prejudice at the turn of the 20th century. The city is located along the gold mining belt, known as the Witwatersrand, 56km east to west – a geological phenomenon, or a watershed which runs in opposite directions into two different rivers and two different oceans (Beavon, 2004). In the late 18th century entrepreneurs from all over the world descended onto South Africa during the gold rush, which subsequently generated the demand for a large cohort of cheap black migrant labour for the gold mines from the rural outskirts of South Africa as well as cross-border. The beginning of Johannesburg's social politics began here, when mining bosses were seen distinctly different to labour. Luxurious colonial homes built up on the hill, on cheap agricultural land north of the mining belt known as Westcliff and Parktown, sharply contrasted with the overcrowded squalor of hostels for labourers in Newtown.
However, a large contingent of rural black people started moving into the city around the post-apartheid era, which abolished the apartheid regime and gave people of colour wider access to the city. Simultaneously, white

1. This Act is aimed at improving conditions in locations, but actually expropriates Indian property. Under the pretext of Sanitation, the Act is enforced to demolish and expropriate with the ultimate aim of segregation.

fear drove the white population out of the inner city and led to the establishment of a new city north of Johannesburg, called Sandton, leaving the inner city up for grabs. Black rural dwellers moved into the inner city seeking economic sustenance and occupying both residential and non-residential buildings, sometimes through squatting.

The city of Johannesburg doubled in size after the democratic election in 1996 (Harrison et al) with a growth rate twice as high as that of the reset of the country into urban areas. The influx of population came from both domestic and international locations (Harrison et al, 2010).
The two most significant observations by Harrison et al (8) between 1996 and 2011 is that there is a large expansion of middle income black but also an influx of urban poor, the result of which was a quadruplication of non-South African citizens. Today, like many countries we face a large amount of undocumented illegal immigrants (Beal, 11).

Therefore, the city of Johannesburg was designed by and for white colonialists (Simone, 2004). It was intended for Europeans to enjoy living in, working and having a good social life. Johannesburg was declared a city in 1928. It was a pristine well-kept middle-class urban society. However, due to the socio-political pressures from the black majority, through decades of resistance and fighting, the Afrikaans nationalist government could not hold on to power any longer in the 1990s. Today the city belongs to the ordered chaos of over-crowded sidewalks of bustling street traders, rivers of mini-bus taxis hooting their way through the packed streets of downtown Johannesburg. The paraphernalia of homeware, travel goods and beauty products clad the facades of retail shops sometimes complemented by broken windows to over-crowded apartments to hijacked buildings on the upper floors. (Beavon, 2004; Journal et al., 2017)

The extent and complexity of urban poverty, inequality and social exclusion in Johannesburg have been habitually underestimated and inadequately accounted for by those trying to understand and intervene in the urban experience (Beall et al., 2014).

> **Physical Realm: Nature of Public and Private Space**

Unlike many other cities, however, Johannesburg was provided with the extraordinary opportunity of reinventing itself (Beall et al., 2014). Johannesburg was at its transitional peak within the first thirty years of its inception. Spaces like the first trade space, called Market Square, the train station and Pritchard Street were the initial structuring catalysts

which justified it as a potential designation. It rapidly developed into a formal city with a series of high-rise buildings (Chipkin, 2008) – faster than Cape Town, which had been established two-hundred and fifty years before. It experienced its boom time during the 1960s and 1970s but quickly declined into ruins. Today, the decentralization of the city (Tomlinson, et al., 2014) earmarked a period of uncertainty and fear by white people. As the Apartheid regime ended formally in the 1990s, the city was deprived of the white minority that subsequently moved into the northern suburbs (Beavon, 2004; Simone, 2004). As the inner city is the most accessible part of the urban system, it was therefore natural for the rural poor to inhabit it. It is an environment where opportunities for livelihood can be pursued. The result is an accumulation of rural dwellers and cross – border immigrants, resulting in an uncontrolled explosion of the informal economy that is geared to physical survival and poverty alleviation. The inner city is also a local node and offers a diverse range of goods, services and amenities to the surrounding community. It represents a complex dynamic system of disparate although strongly interwoven worlds, driven by their own social and economic dimensions, focused on specific income groups, integrating diverse cultural identities and led by creative entrepreneurship. This rich and intricate network forms the platform to further strengthen and develop the city into a strategic destination and gateway at the local and regional level and at an international scale.

> Precincts and Public Space

The inner core of the city attracted new business headquarters early on in the development of the city, while dense high-rise residential locations like Hillbrow and Yeoville were originally lively streets for the bourgeois. Solid tarred roads and robust sidewalks was standard infrastructure for the inner-city. The city extended over 1,644Km by the end of the year 2000 (Beavon, 2004) with a growing population of 3.2 million. Stone and redbrick buildings erected in the 1920s and 1930s by architects P. E. Treeby; Stucke and Harrison; Cook and Sir Herbert Baker dominated the developing city (Chipkin, 2008). Public spaces like Joubert Mark, End Street Park, Beyers Naude Square were some of the largest public spaces in the city designated for European people only. The parks were social and leisure places originally with a glass house, large art gallery, fountain, large chess board and floral clock. Lovers use to meet up and take leisurely strolls. Today the parks are mostly used by black unemployed urban dwellers residing in the immediate vicinity passing the time.

The city is anchored by Park Station, which dates back to the laying of the rail at the turn of the 20th century. Park Station is the main interchange of rail, bus and taxi. Joubert Park is situated behind Park station and is fed by the area of Hillbrow and Yeoville immediately to the north. Joubert Park, which sits generously and symmetrically on the axis of the Johannesburg Art gallery, forms a large green 'lung' for the city. Transport facilities are well located in and around the city to collect and funnel people in and out of the city for both short and longer cross-border distances.

The public green and hardscaped areas function as isolated spaces. They are either insufficiently or not integrated within a broader network which limits their contribution to the overall public realm. The character and use of the spaces have been changing to respond to its mutating socio-economic context. Lack of upkeep, security and management have resulted in certain spaces being overtaken by other functions such as informal parking and lost the essence of their existence. Challenges include: lack of sidewalks, sidewalks used for holding purposes by minibus taxis, informal trading obstructs flow of pedestrian movement, lack of pedestrian signage to navigate the area, lack of legibility of pedestrian facilities within the urban context, lack of access to public transport, poor accommodation for movement of pedestrians with special needs and commuters.
Aspects such as surface treatment or the design of curbs can hinder mobility; sustainable design will allow for the movement of intended users of facilities. For example, people pushing trolleys or carts need free movement on designated routes. Such routes have not been identified for a review of design of surfaces, curbs and street furniture. Anything that hinders pedestrian movement will also have a negative impact on public transport.

> Park Station & Transport

The Park Station Precinct plays a critical role in the context of a rapidly urbanizing African environment, in terms of movement of people and goods. It is the first point of entry into the City of Johannesburg with public transport; for migrants entering the country, for people migrating from rural areas and smaller towns within the country and, further commuters and workers from the surrounding city townships. According to Simone (2004), the new urban space is codified and requires retrieval as opposed to analysis and planning. Unlike the classic colonial practice and articulation of urban criteria, inner Johannesburg requires embodied knowledge. You need to live it and understand it in order to navigate, experience and access the most out of the social realm. There is a wide variety of travel markets in the inner city. It consists of regular daily commuters; weekly

travellers; occasional long-distance visitors from other countries (usually low-income); low – to middle-income travellers to other provinces (bus, taxi and rail); and tourists. These present their own requirements and potential design responses. Currently there is not a good balance between transfer distance and efficiency. Transfers between services create inconvenience as well as opportunity for commerce.
Pedestrian routes have arisen organically in response to demand, but are not formally planned as such, and in a number of locations are inadequate, resulting in lack of clarity for those unfamiliar with the area, and conflict between pedestrians and motorized vehicles. The general street grid is fine enough for pedestrian movement but is interrupted by barriers such as railway lines, vehicles and informal trading.

The land uses within the inner city consist predominately out of transport or associated functions. Key facilities include Park City (Wanderers) Taxi rank, the Gautrain Station, the Park Station Long Distance bus facility, the Shosholoza Meyl Rail Facility and the Park Station Parking facility. Bus, taxi and train interchanges, ranks or stations are opportunities for economic activity. The inner city incorporates various transport modes such as rail, bus, taxi and vehicles that form the heart of an intricate network of linkages, connecting with a wide range of local, national and international origins and destinations.
Informal trade has flourished as a result of this and has spread to such an extent that the traders' activity interferes with other transport precinct demands. On the other hand, the integration between transport infrastructure and other formal land uses is minimal as transport facilities are planned and operated as separate entities and not as multi-modal mixed-use environments. The inner-city transport networks are predominantly taxis and private vehicles. These two dominant types of transport congest and compact the inner city.

The lack of integration is a major catalyst for the informality and degradation of the city. The emerging improvements to public transport such as the introduction of the Gautrain and Rea Vaya BRT, have started to provide opportunities to strengthen the trend towards more sustainable high-density and mixed-use development, both of which support policies of various government sectors. The aim of these major government investment projects was to strengthen the multi modal transport offer of the inner city and ultimately attract the medium and higher income groups to public transport as a mode of choice. However, these key projects have failed to present the right proposition for these user groups

whilst providing an inclusive solution for the most vulnerable communities within the city.

> Formality and Informal

There is an interaction between these informal activities and other formal activities, and the degree of integration of the system as a whole is affected by such interaction. Informal operations present challenges for planning, all while providing an indicator of real demand that may not be accommodated by formal facilities. One of the challenges in documenting the inner city is that the current surveys do not adequately account for informal and illegal activity. Potential conflict between public and private transport causes drivers to avoid certain roads, resulting in the creation of de facto public transport corridors with virtually no private transport. Conflict between pedestrians and vehicles at certain intersections reduces available capacity and reduces safety levels.
When travelling through the inner city it is evident that there are two key aspects to informality in the minibus taxi industry as it operates in this area:

- On-street boarding and alighting takes place in various informal locations, where drivers respond to demand from passengers for more convenient service, and prefer not to enter formal facilities in order to reduce delays.
- Certain services have no formal facilities at all but are 'tolerated' in various locations in the CBD.

The Park Station Precinct within the inner city is deemed to be the logistic heart of the Johannesburg trading activities. It is a centre of freight, a centre of movement of goods (from large bulk to retail commodities) and a place of movement of finance (from physical money to barter goods). It enables the inner-city environment to be the continental shopping destination of choice for retailers and shoppers from other African countries. As a transport hub, the Park Station sub-precinct is at the heart of both formal and informal economic linkages and performs a key role supporting the Inner City as a significant retail node for township and Inner-City residents as well as cross-border shoppers. Other significant retail activities can be found spread across the Braamfontein area. Historically the Inner City represented the centre of department stores and restaurants. Over the years, it has changed form and character towards spots niche retail, wholesale, personal services, restaurants, fast food outlets, small-scale and micro shops as well as large informal trade.
The wholesale and retail sectors are significant to Johannesburg's economy with 20% of the City's gross geographical product, second to the

financial and business services with 22%. Johannesburg's cross-border shopping phenomenon is significant with an estimated 1 million shoppers annually contributing an estimated R17 billion to the City's economy and another estimated R800 million spent on formal accommodation.
As a local socio-economic node, the Inner City contains (besides informal activities) a wide range of formal shops and a diverse offer of services and community amenities. It is of significance to note that the highest concentration of formal retail corresponds with the highest concentration of informal trading. The majority of retail shopping and services are located in the vicinity of major taxi ranks and inner-city Shopping Centres.
In 2009, there were an estimated 1,749 informal traders active in the greater Park Station precinct, especially along De Villiers, King George, Noord, Plein, Wanderers, Hoek and Twist Streets.[2]

> Trading Patterns

Conglomerations of similar trade and product types have been identified, specifically in concentrated trade of clothing, shoes, fresh produce, bags, sweet and snacks, fish as well as in services related to hair dressing and cooking.
It appears that these conglomerations have grown organically. On one hand, it appears to reinforce a sense of destination and identity as the potential customer knows where to go for specific goods and has a bigger choice, and on the other hand the traders themselves are interested in attracting a larger audience and pool of people, and potential buyers and shoppers. This trend appears to be reinforced by operational impacts and spin-offs, such as shared storage facilities and locations, in creating an offer in itself.

Although the patterns within the configuration of formal retail are not as tangible as within the informal trade sector, there are two patterns worthy noting. Firstly, there appears to be an interdependency between a number of offers, being the liquor store, the tavern, the 'buy and braai' shop and the butcher, as these outlets are always positioned in close proximity to each other. Secondly, an unusual however frequently observed combination of goods retail is the sale of linen and cell phones by the same shop and retailer.

2. Joburg inner-city urban design implementation plan, 2009.

> Integration of formal and informal trading

Both formal and informal trading streams demonstrate a great level of inventiveness and entrepreneurship to capture and maximize the commercial opportunities related to the pedestrian footfall to and from the various transport modes. In certain locations, there appears to be a symbiotic relationship between how the informal trade activates and inhabits edges of retail hubs that are dormant.

> Illegal trading activities

The illegal trading activities identified are: Trading of goods that are illegal i.e., foreign cigarettes, pirate goods, stolen goods, counterfeit goods. It was noted that the Metro Police Officers' street trading units do not have the mandate to enforce the Counterfeit Act. Illegal gambling often associated with taxi holding. Infringement of by-laws in terms of health and safety where cooking and selling of prepared food occurs. Health and safety of people is at risk around areas where food is prepared. Often waste provision is not sufficient and where provided, drains get blocked. Contamination of areas poses a risk. It was stated that food sellers need to show certificate of acceptability to health inspectors but that this is not currently controlled.

> Land Use and Built Form – A sense of place

A sense of place is informed by a number of aspects such as the grain and permeability of the urban fabric, the architecture, the height of buildings, open spaces and the natural features of the land. However, it is also informed by the local community and its visitors, the vibrancy, sense of unity and culture specific to the area. The site analysis highlighted the richness and diversity of the inner city. Certain areas have a very clear and defined role, such as being mainly a conduit for transport, a vibrant retail hub, a community node or civic centre. Other parts are less defined in terms of identity and sense of place as they currently form the transition between areas, such as the area south of Braamfontein or the elongated land strip bordering the south of railways. The heart of the Inner City plays a significant role in connecting the various Inner-City precincts with their own distinct identity, land uses, socio-economic profile and role within Johannesburg. Location, mix and density of uses have an impact on movement and potential synergies. The complexity of the Inner City is one of competing trends, fragmentation of functions, continuous tensions between formal and informal activities and a wide variety of socio-economic factors. Therefore, a more inclusive understanding of the dynamic and rich mix of the uses on this site.

> Architectural typology and associated densities

The differences in grain and structure of the urban fabric surrounding the Inner City reveal the different time periods in which the various areas were developed. Towards the south of Park Station, the 'Working City Grid Typology' refers to the typical rational Johannesburg Grid, densely filled in and with a perimeter facade with an average height of 6 storeys. Towards the Newtown Area, West of the Precinct, the grid has been used as an underlying reference framework. However, it has been built up with much bigger city blocks of distinct shape and configuration of a medium height of 6 to 8 storeys. The urban fabric in the Hillbrow area also follows the grid arrangement, although with significantly higher densities and development heights of predominantly residential towers between 10 and 28 levels. The fabric immediately north of Rissik Street underwent transformation between the 1950s and 1960s as a result of the new station development. Urban development principles of the Modern Movement were adopted and created a grain of distinct building objects with higher allocation for public space within the cityscape. The Braamfontein area, North-West from the Sub-Precinct, transformed into a high-density, high-rise (6 to 8 storeys) business area during the Park Station redevelopment. However, recently the area has gone through a process of transformation and regeneration and smaller grain and more fragmented infill activities are changing the image of the area.

> Legibility

A string of volumetric buildings reinforces the north-south axis centred on Loveday Street to the north. Two detached administration blocks, the eleven-storey South African Airways building on the west, and the sixteen-storey Paul Kruger Building on the east establish the counter-movements of the east-west axis. The Rotunda building – an airways arrival point in the past – neatly occupies indeterminate space in front of the Airways Building, introducing spherical geometry into the overall layout. At the time of construction, the station complex reintroduced the third dimension into Johannesburg's townscape: buildings became visible as geometric entities that occupy space and not as infill facades in corridor streets – the Johannesburg norm. The planning theory was based on creating unity in design; small and large contrasting masses; and pedestrian precincts that restricted motor vehicles to the periphery or to overpasses. The urban form has not changed much since its conception. In reality, the buildings are too scattered, read as separate entities and fail to balance their surroundings. The architecture is not designed to handle and contain the vast open space. Due to its topographic location within the lower area

of the city and due to the open vistas across the railway land, the station precinct is one of the most exposed locations within the city. In spite of its strategic location, the station precinct does not appear to contribute to the urban morphology as it fails to become fully anchored within its context.

> Land use mix

The existing land use activity pattern demonstrates an increased land use mix. This refers to both the horizontal mix in plan as well as the vertical configuration of uses. Various mixed-use typologies have been identified with the majority providing retail at grade.

There is a significant lack of social amenities to support the substantial growth in residential accommodation. This includes a wide variety of land uses such as public space, recreation, childcare and education, gathering spaces. Existing community facilities are predominantly located on the south–east side of the study area with linkages to the northern residential hub of Hillbrow. A significant number of buildings is currently unoccupied or underutilised, gravitating towards the southern part of Braamfontein, along the railway corridor. Some of these buildings have been 'hijacked' by slum lords and illegal squatters. Once a building has been hijacked, it can be a lengthy and costly process to get these squatters to vacate the building. Many owners choose to abandon the building to the slum lords as there is no resale value to these buildings once squatters have moved in.

> **Social Realm**

Johannesburg was built on inequality and has 'much to be ashamed of' (Beavon, 2004:6). Due to the influx of black rural people in the early 1990s, the city is a mix of well-kept and serviced and 'hijacked' run down dilapidated non-serviced buildings. Due to this, the inner-city is heterogenous by nature. Pockets of contrasting and contradictory rich and poor precincts and streets thrive parallel to each other. The South African black poor to middle-income inhabitants intersect with West-African asylum-seeker communities. Xenophobia is rife and is often the cause of violent attacks on foreign African nationals.

Largely Christian faith is practiced in the inner-city with an assembly of Zion Christian Church (ZCC); Baptists and other evangelical sub-denominations faiths practiced in re-appropriated Jewish synagogues, offices, industrial buildings and open-air fields practices are in this area. The attraction and advertising of new faith sub-groups, faith leaders and churches are often presented on large billboards, lamp-posts and electrical boxes.

Faith is an ever-growing economy which is well organized and anchored to inner-city communities.
Due to the lack of governmental social working support, many faith groups and other NGO's step in to make a difference in societies. Groups like abused women, HIV positive children, art projects and rooftop gardens are assisted mostly by volunteers and community leaders and serve as a life-line for these groups. Poverty and decay generally proliferate and the efforts of these individuals re-strengthens the community and creates a sense of solidarity (Simone, 2004). Simone (2004) goes on to state that living in this African metropolis requires a different set of rules to live by. People have learnt to negotiate, own and take responsibilities in ways that are very complex and difficult to read for an outsider. Public safety and emprises are home manufactures, municipal and urban issues are often taken into the strong-willed self-appointed hands with very little or no financial support from the state.

> Employment

The City of Johannesburg's economy is driven by four economic sectors – Finance and business services; Community services; Manufacturing; Trade. These four economic sectors collectively account for more than 82% of economic activity within the City. These sectors also account for the highest levels of formal and informal employment. The inner city mainly consists of 4 dominant income group categories, being Households with an average annual income between R19,201 and R 38,400, which counts for approximately 25% of the local population and forms the majority group. R 9,601-R19,200 approximately 20%; R 38,401-R76,800 approximately 20% and then 'no income' approximately 15%. It is to be noted that due to the transient nature of the population of the area and its increased levels of illegal immigrants, the numbers are to be considered as an indication of trends only.

> Crime

It appears that the criminal activity in general is not violent, which is potentially a result of the visibility and tangibility of security and police in keeping violent crime under control. The type of crime in the area was referred to as 'common robberies', such as pick pocketing (targeting local South Africans); luggage theft (foreigners are targeted); leading foreigner passengers astray and robbing them; selling of counterfeit goods. Incidents of crime occur where the main significant accumulations of people occur, creating areas of congestion as these areas are hard to monitor and patrol.

Crime 'hot spots' are spread throughout the inner city. Taxi ranks create an ideal breeding ground for illegal gambling and drinking. Such taxi holding facilities are associated with crime and a current location for criminals to conceal and hide stolen goods. Liquor outlets are associated with criminal activity. Stolen goods are often found around these areas and the outlets are considered to be the rendezvous areas for criminals where potential crime victims are identified and targeted. At night-time, all areas are perceived as unsafe, in particular areas where lighting levels are either insufficient or not working or absent. Further, the areas below the Queen Elizabeth Bridge and the Nelson Mandela Bridge are often locations for the further concealment of stolen goods by criminals.

> **Urban Governance**

The Inner City is a domain that few want to belong to or establish roots in. But it keeps residents' hopes for stability somewhere else alive, even as it cultivates within them a seemingly permanent restlessness and capacity to make something out of the city. (Simone, 2004). The new black government which came into power in 1994 recognised that the inner-city is still a resource and that it is still responsibility of the State to provide for the urban poor despite the lack of taxpayers. The Joburg 2040 Growth and Development Strategy (CoJ, 2011) focus is on sustainable population and economic growth, fostering community, health facilities, housing, good educational and transport networks. Many new strategies were implemented, including a special department of the State known as the Johannesburg Development Agency (JDA). This department drives the new public space, facilities and transport projects in the city to continually upgrade the precinct. It also intends to draw investment into and ignite the local economy.

The State is proactively attempting to curb slums. One of the factors increasing the complexity of overcrowding within the urban poor areas of the inner-city is the prolific influx of illegal aliens. Caroline Kihato (Edjabe and Pieterse, 2011) describes the relationship between the police force and immigrants, especially women as sole breadwinners based in Johannesburg, as a game of cat and mouse. She articulates the human behaviour and patterns of migrant women by the use of coding to communicate to fellow migrant informal traders in spaces like informal markets. She goes on to mention that the state's inability to catch illegal migrants poses a challenge for the state, and that they are invisible to the state. This challenges the mandate of the police force and the legal system to control the immigrants. She states that 'women's lives collapse the dichotomy of

the official and unofficial city in ways that overturn the conventional understandings of the nature of the state and state power in the city.'

> Conclusion

Johannesburg has always been an eclectic arrangement of projects for economic gain. It 'was anything but homogenous with regards to race, class or creed...' (Beavon, 2004:8). It was inevitable that the city of Johannesburg would fall into the hands of the predominantly black population and therefore gave the urban poor an opportunity to occupy the city. It is unique that the central business district of a large city is reflective of the true economic and cultural status of its country and has flushed its European colonizers. The definition of 'slum' in this case is challenged because most urban poor of inner-Johannesburg live above ground in a structure made of concrete, mortar, bricks and sometimes windows. Tenure statuses are often blurry.

The inner-city of Johannesburg is the most accessible of all the urban systems. It is one of the places to access South Africa for economic opportunity. New arrivals take advantage of the infrastructure, urban network and the economic systems which have been so creatively re-interpreted and harvested on a daily basis. The social network facilitates the comfort of finding a safe home, a place to practice their religion, have a warm meal and earn a living. Johannesburg is a schizophrenic urban metropolis. It has endured many evolutions and it still appeals to many. The socio-political landscape has hardened the city and its people. It is not easy to look down on inner-city urban dwellers, but rather to empathically understand and learn what the city means to all types of people over a long period of time.

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Urban Market.

Street vendors.

Refugee camps in Ethiopia's Tigray region

from a transitional settlement to a permanent urban system

by
Alisia Tognon
Marco Bovati
Emilia Corradi

> Introduction

About sixty-five million people (2015) worldwide have left their homes due to wars, conflicts, and natural disasters and 16 million of them live in refugee camps. In Africa, there are 7.5 million refugees. Ethiopia is one of the most advanced countries in responding to this crisis and hosts the second-largest refugee population of 990,000 people. About 72 per cent of refugees live in 26 camps scattered though-out the country's different regions (Tigray, Afar, Benishangul-Gumuz, Gambella and Somalia).

Because of the current trends in global migratory movements, it is urgent to investigate the dynamics and scenarios that this situation creates in terms of infrastructure, anthropological landscape and urban and territorial relations, to identify a sustainable transformation strategy for socially, culturally, environmentally, economically fragile areas.

Experience working with Italian and local non-governmental organisations (NGOs), supported by a network involving research centres and Ethiopian universities,[1] has allowed some investigations on the themes, objects and spatial relations that represent the Ethiopian refugee camps. As the international debate shows, the issues related to these fields are complex and expressed at an architectural, spatial social and political level. These places are established to be temporary centres and transit spaces, but they often become waiting areas where people stay for many years and become semi-permanent or permanent settlements.

In recent years the international regulation obliged host countries to allow the free settlement of migrants, creating a condition of further uncertainty for facilities and for the social, cultural and economic relations that their presence implies. This new scenario will inevitably have repercussions such as the incorporation of refugees into the population of the host countries and the consequent need to understand how they can become an integral part of local communities. It will be strategic to understand the fate of the existing camps, in light of this change in government strategies. A complex scenario is outlined that must be faced through correct reasoning regarding social integration, respect for the identity of the original culture and the protection of scarce resources, for local populations and naturalised refugees. Rethinking urban spaces of the surrounding landscape can represent a useful action to allow the transition to a more stable situation and the reuse of existing infrastructure. It is possible to identify

1. Among the various activities, we highlight the Politecnico di Milano's participation in the Polisocial Award 2018 with its research proposal entitled 'REFUGEE POWER [Re_P+]. Defining a Participatory Methodology to Facilitate the Promotion and the Management of Refugee Camps Transition Towards Integration, Stability, Self-Sustainment & Safety' work team: Renzo Rosso, Marco Bovati, Paola Caputo, Emilia Corradi, Giuliana Costa, Giancarlo Giudici, Monica Lavagna, Ilaria Valente, AlisiaTognon, Fabio Parigi, Alessandro Raffa.

some features in camps resulting from the sedimentation of the cultural identity of those who occupy them.

> The geopolitical context

By the end of 2015, more than 65 million people worldwide were forced to leave their homes as a result of wars, conflicts, natural disasters, and 26 per cent of these (16 million), live in precarious conditions in the 'fragile' refugee camp environment.[2]

To date, there are about 7.5 million refugees in Africa: Ethiopia has more than 900,000 refugees, of whom 55 per cent (485,500) come from South Sudan, 26 per cent (232,000) Somalia, 15 per cent (131,000) Eritrea, seven per cent (62,000) Sudan and about one per cent (9,000) from other 15 countries; 72 per cent live in camps.[3] In 2017, 110,000 fleeing people entered Ethiopian territory. If this trend is confirmed, soon the refugee population in Ethiopia will exceed one million.[4]

In Ethiopia, refugees are hosted in 26 different camps, mainly distributed among the regional states of Tigray, Afar, Benishangul-Gumuz, Gambella and the Somalia Regional State.

Since November 2017, through the Comprehensive Refugee Response Framework (CRRF), the government has started a process to achieve nine objectives agreed in the Memorandum of the Leaders' Summit on Refugees, held on September 2016, in New York.[5] As a result, social and economic paths have been initiated to integrate refugees into Ethiopian society. The 'Out-of-Camp' Policy is being launched. This will allow refugees' free movement so that they can live outside the camps, obtain work permits and increase the labour supply for local industry.[6]

This welcoming policy makes Ethiopia one of the most interesting countries in East Africa and among the most advanced in facing the integration challenge.[7]

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2. 'Global trends', *UNHCR* website, 2018, https://www.unhcr.org/statistics/unhcrstats/5d08d7ee7/unhcr-global-trends-2018.html.

3. *Institute for Security Studies Africa* website, https://issafrica.org/media-resources/videos-and-infographics/migrants-and-refugees-in-africa.

4. 'Ethiopia Country Refugee Response Plan', *UNHCR*, 2019-20, https://data2.unhcr.org/en/documents/details/67744.

5. 'Comprehensive Refugee Response Framework: from the New York Declaration to a global compact on refugees', *UNHCR* website, https://www.unhcr.org/comprehensive-refugee-response-framework-crrf.html; 'Roadmap for the implementation of the pledges of the Government of Ethiopia for the application of the CRRF', 28 November 2017, http://www.globalcrrf.org/wp-content/uploads/2018/04/fodd7e3ac884a63e0026e16bf442caa430781de1.pdf.

6. https://reliefweb.int/report/ethiopia/mutual-benefits-ethiopia-s-refugee-policy-investing-migrants-means-investing

7. See *Federal Negarit Gazette of the Federal Democratic Republic of Ethiopia*, 25th year, n. 38, Addis Ababa, 27th February 2019.

> Phenomenology of refugee camps

> From a temporary phenomenon to a permanent urban system

The refugee camp is associated with the idea of material precariousness, temporariness and the absence of a settlement structure. This happens because the initially defined spatial organisation breaks down through accumulation and stratification of many later spontaneous building works. Refugee camps in the 21th century are complex and follow organisational models which lead to informal settlement systems with a unique component that must be understood taking into account the processes which generated the camps and related environment.

It is necessary to start from a question related to duration to understand the problem. Considering that camps are situations which are destined to last, how can we tackle stabilisation processes on an economic, social and settlement point of view?

According to Michel Agier,[8] time is critical when these camps, which were created based on an exceptional, emergency and temporary situation, tend to remain for decades as if time stopped. For those who live there, waiting becomes an eternity, an endless present, and the camp is associated with this waiting. Faced with this condition, camp internees develop two different cultural attitudes.

There is the attitude of those who await repatriation – for them, time is conceived as 'waiting for return' to the birthplace which is preserved in their memory.[9] This waiting and homeland nostalgia is a political and social glue. Despite this projection to the future, it is possible to detect adaptation strategies that determine an, albeit partial, responsibility of the spatial aspects linked to the management of daily life.

A pragmatic concept of time prevails, so the exiled person interprets and actively organises their life in the camp. It is a time without past or future, where the emergency represents the camp's existence outside space-time. This gives rise to a phenomenon of 'presentism' which is taken to an extreme. Even the temporary and emergency architecture reflects this attitude, along with economic, health, medical activities, etc. which are considered ephemeral.

Regardless of the coexistence of these different time concepts, the transition of the camps from temporary to permanent determines the inevitable need to structure social and spatial relationships that consolidate over

8. M. Agier, *L'esistenza stessa dei campi. Tempo, spazio e politica del presente*, in B. Albrecht, (ed), 2104, pp. 246-249.

9. An example is Palestinian refugees who are exiled in their own land, waiting for a return. For more details, see Agier, 2014.

time and shape the type of settlement.
The theme of time assumes an increasingly broad relevance. The refugee camps constitute one of the main components of world society and the place of daily life for millions of people. Their existence and duration produce effects implying global social and cultural changes.

> Fragile anthropogeographic systems in the Ethiopian context

Because of its geographical and political position, Ethiopia has seen an increase in recent years in the number of people who have been forced to flee and seek security within its borders due to wars, natural disasters or other reasons.[10]
Today, however, the already fragile living conditions of the host communities and the precarious environmental conditions of the regions with the most significant number of refugees do not allow sufficient resources (energy, infrastructure, food, economy, safety) for either the indigenous populations or the refugees.
These factors bring out three primary thematic macro-areas related to accommodation issues:

A. Social issues

The refugee camps are located mainly in the most impoverished areas of the country, with the region's harshest climate, the lowest level of development, income generation, infrastructure coverage, sanitation facilities and water supply indicators.[11]
This location generates a series of critical issues related to the management of daily life and duties, which are often left to women. This results in a lot of time wasted in the supply of energy and food, on which the survival of refugee communities depends, but which directly results in the depletion of local environmental resources.
From a social point of view, this leads to a serious safety problem, outside and inside the camps – women, leave the camp to get wood for cooking food, and this causes an increase in sexual and gender-based violence (SGBV).The shelter's quality level does not guarantee adequate living comfort, pushing refugees to live mostly outdoors, with a further safety reduction. This is due to the absence of a proper urban structure that guarantees the protection of the domestic space. This generates a situation of real danger, caused even

10. UNHCR *Situation Update*, Ethiopia, March, 2018. There are more than a million refugees.
11. 'Ethiopia Country Refugee Response Plan', *UNHCR* [website], 2019-20, https://data2.unhcr.org/en/documents/details/67744.

by the simple use of primary services such as toilets or water supply points which, when located in unsafe positions, are a source of risk for women. A further aggravating factor is the threat of epidemics, which is high due to the low overall hygiene level.

B. Environmental issues
The already fragile ecosystem is intensely worn down by the massive collection of firewood for cooking; its inefficient combustion causes CO2 and carbon black emissions, with significant health[12] and environmental impacts. The reduction of the planted areas results in soil erosion and loss of fertility. It should be noted that the energy issue in humanitarian contexts is substantially underestimated; other problems are considered more important such as the food supply and medical treatment. Deforestation causes accelerated soil degradation.[13]
The main reason for this seems to be attributable to the rapid population growth and refugee settlements. This generates a timber supply (as a building material and fuel) issue and a demand for agricultural expansion[14], as a result of the need to produce more food, generated by the demand increase. These must be added to the long-standing and constant problem for the supply and management of the water cycle.

C. Economic issues
The UN refugee management allocation is limited and insufficient, considering, for example, that most urban refugees cannot meet their basic needs with an income which is inadequate to the cost of living. According to UNHCR, the necessary funds for Ethiopia should amount to € 334.8 million, while only 16 per cent (€ 53.5 million) is financed. The breakdown of the budget by sector shows: Food and nutrition 31 per cent; Health seven per cent; Education six per cent; Housing modules four per cent; Energy four per cent; Child

12. This is one of the significant issues related to women's health. The daily practice of cooking food with wood or kerosene, brings a high risk of poisoning. The international community is facing this issue by introducing innovative and experimental methods for reducing environmental impact in camps. Among the various projects see the *Shell Foundation*.

13. At the beginning of the 20th century, forests exceeded 40 per cent of the country's landmass, while in 2000 they were reduced to 2.36 per cent. TigabuDinkayohGebru, *Deforestation in Ethiopia: Causes, Impacts and Remedy* in *International Journal of Engineering Development and Research* (IJEDR), ISSN:2321-9939, vol. 4, Issue 2, pp. 204-209, April 2016, Available at: http://www.ijedr.org/papers/IJEDR1602035.pdf.

14. Fikirte Asrat, Temesgen Gashaw and Damena Edae, 'Forest Degradation in Ethiopia: Extent And Conservation Efforts', *Pi Palgo Journal Of Agriculture*, vol. 2, Issue 2, pp. 49-56, May, 2015.

protection two per cent, other sectors 37 per cent.[15]
Refugees have more difficulty in accessing credit and financial support than host communities. This has a negative impact on already fragile business initiatives and is exacerbated by the fact that UN agencies tend to prioritise interventions in the financial and technology sector.[16]
Furthermore, the scarcity of natural and economic resources around the camps generates conflict between host communities and refugees, as they fight for the same resources.

> Architectural and environmental features of camps

The principle behind the creation of refugee camps has been their temporary and transitory aspect, while they must be capable of responding quickly to an emergency situation. The socio-political situation has meant that these conditions have dragged on for decades and made the camps semi-permanent or permanent settlements.[17]
UNHCR regulations[18] require the establishment of a camp only in places where it is strictly necessary. This is in line with the demands of the host countries, which in many cases find it difficult to manage a large number of arriving refugees There are cases where refugees join in groups and create informal settlements that end up being similar to a camp.[19]
The settlement of a camp in a region has a considerable environmental and social impact. Although its location can occur in territories bordering existing cities or isolated areas, it is structured like an island, a 'neutral city', with a functional closure, where contact with the outside world is reduced to a minimum and filtered by 'fences' and 'gates.'[20] It assumes the connotation of a 'prison' in many respects.
The presence of 'material and immaterial barriers' creates physical, cultural and socio-economic isolation. The camp should be conceived as a self-sustaining centre, but in reality, the NGOs provide the camp's internees with food. This defines the camp's extra-territorial nature within the host area. The camp has limitations, such as those about carrying out work activities outside the camps and the reduction of movement freedom for

15. 'Operational Portal, Refugee Situation', *UNHCR,* website, https://data2.unhcr.org/en/country/eth.

16. 'Ethiopia Country Refugee Response Plan 2019-2020', *UNHCR,* website, 29 January, 2019, https://data2.unhcr.org/en/documents/details/67744.

17. It is estimated that the average stay of a refugee in a camp is 17 years. UNHCR.

18. 'Handbook for emergencies', *UNHCR,* website, 2007, https://www.ifrc.org/PageFiles/95884/D.01.03.%20Handbook%20for%20Emergencies_UNHCR.pdf.

19. 'Operational Portal, Refugee Situation', *UNHCR,* website, https://data2.unhcr.org/en/situations.

20. Herz, 2013.

migrants. These are often a consequence of the attempt, by the host governments, to limit the environmental and economic impact that their presence has on indigenous peoples and the local environment.[21]
Analysing the settlement-formal aspects of camps, we underlined how they tend to develop in a way that is detached from their context, reducing in most cases the settlement structure to a grid layout. This approach is useful in emergencies, for swift planning and implementation and for humanitarian emergency agencies to control crisis situations easily. However, like any *a priori* principle, it is not always effective as a system to allow the formation of identity and the belonging of the settlement to the local environment. Optional conditions for a camp which is designed to be temporary, become necessary if it becomes a permanent settlement. The road grid defines the perimeters of the plots on which there are temporary emergency constructions (tents or other construction types). While investigating the relationships between public and private spaces, communities and individuals, it emerged that the housing structures of the individual 'family' nuclei, that overlook the plots, alternate with areas and structures used for community services.
There are cases where there is a hierarchical structure, with connections defining a 'tree' organisation made from primary and secondary roads, plots of different sizes which are represented by housing clusters and communal spaces. Topographically, this organisation responds better to a more irregular orography.
There are cases where the topography imposes itself on the camp's spatial and urban geography, and other situations where an emergency settlement's spontaneous formation creates a structure capable of evoking the original villages' collective shape.
Architecturally, the type of housing varies. The factors that define these aspects are many: human (ethnic groups, number of internees), environmental (proximity of resources, geographical features), organisational (a pre-built product which is imported on-site, self-construction). In emergency situations, UNHCR supplies tents with a wooden structure, covered with plasticised fabrics, which have a short life cycle and must be quickly replaced. There are shelters with concrete or corrugated metal sheet, obtained from the recycling of disused barrels, which present significant hygrothermal and acoustic comfort issues.

21. There are issues involving deforestation and the drying up of territories where the camps are located, creating famines and conflicts with local populations. 'Operational Portal, Refugee Situation', *UNHCR*, website, https://data2.unhcr.org/en/situations.

Environmental comfort is a significant problem. Research on the topic suggests the cost-effectiveness of using local materials and traditional techniques, such as the insulation given by clay bricks, with the advantages of more innovative solutions. Prolonged use over the years and the need to respond to daily life needs causes spontaneous changes to the housing units. For this reason, the original shelters, supplied by UNHCR, undergo numerous modifications, substitutions of parts with local materials,[22] the addition of volumes, demolitions and informal and self-built reconstructions, settling down and sometimes becoming structurally more durable.

> The Tigray case[23]

The Northern Ethiopian refugee camps in the mountainous Tigray region, in the area on the border with Eritrea, deserve special attention. In Ethiopia, there are 26 camps in six regional states, within different urban areas. In the Tigray region, there are four active camps, where refugees fleeing the Eritrean dictatorship or the Ethiopian citizens who found themselves in an Eritrean territory because of border changes have poured in over the past 20 years. The fields were created in response to the needs and peculiarities deriving from the different cultures, ethnicities, and backgrounds, among them, we can identify common characteristics, geographical similarities and partially comparable resources.

The four camps in the Tigray region are Shimelba and Hitsats, located in the areas west of the cities of Shire, Mai Aini and AdiHarush south of the city along the road to Addis Ababa. Each of these has peculiarities based on their geographical environment and the types of shelters.Shimelba, which is the oldest (founded in 2004, 5,953 refugees[24]), is developed within a flat area that is partly cultivated and is composed mostly of self-built shelters made of adobe bricks and thatched roofs. Hitsats, established in 2013 (15,017 refugees[25]), inside a river network, presents shelters made with concrete blocks and corrugated metal sheet roofs, Adi-Harush (founded in 2010, 10,599 refugees[26]) and Mai Aini (founded in 2008, 11,718 refugees[27]).

22. Thatched roofs or simple corrugated metal sheet, etc.

23. The images (figs. 1 and 3) and some useful data for the preparation of this chapter are taken from the dissertation entitled *Sense of Home. Da campi a citta', da shelter a home* (*Sense of Home. From camps to cities, from shelters to home*), author Chiara Catani, supervisor Prof. Marco Bovati, co-writer Prof. Alisia Tognon, School of Architecture, Urban Planning, Construction Engineering, Politecnico di Milano, academic year 2018-19.

24. UNHCR, ARRA, *Camp profile: Shimelba Refugee Camp*, 31 January, 2018.

25. UNHCR, ARRA, *Camp profile: Hitsats Refugee Camp,* 31 October, 2018.

26. UNHCR, ARRA, *Camp profile: Adi-Harush Refugee Camp*, 31 January, 2018.

27. UNHCR, ARRA, *Camp profile: Mai-Aini Refugee Camp*, 31 January, 2018.

Focusing on Shimelba[28] and trying to reconstruct the changes over time through satellite images,[29] it is clear the white plastic tents provided by UNHCR were still visible two years after its foundation. In the following images (2014), the centre expanded, the urban grid became more structured, the infrastructure system strengthened, and we can see the disappearance of the tents and their transformation/replacement with buildings made of local materials and a relationship between private and public space.[30] According to UNHCR estimates, there are 1901 homes to date.[31] In its planimetric definition, it is interesting to see the link with the area's orography in terms of infrastructure and environment.

A main north/south axis, which encloses the inhabited area, connects Shimelba to the border and the nearby Shire (which is 60 km away, about two hours by jeep). Along this axis there is the UNHCR administrative centre, an area of photovoltaic panels[32] and further south, detached and decentralised from the town, there is a school centre for primary education and a kindergarten.

A small network of pedestrian paths is connected to a secondary internal axis parallel to the previous one, where there are services and a commercial area, called 'Little Asmara.' Small businesses and shops are concentrated in this area, including a barber, café, restaurant, grocery store and cinema.

Environmentally, it is essential to note that there is a UNHCR compensation project to plant 685,000 trees to create a small wooded area. To the north-east, a green strip of agricultural fields which delimits the field. Focus on environmental mitigation, and the attempt to reduce deforestation has led to the introduction of 3,500 biogas stoves. The water is taken from three wells distributed in the field and, subsequently, in the absence of a water distribution network, is brought manually to homes, usually, a task carried out by women and children.

As there is no running water, the toilets are relocated to specific points in the camp and shared by a large number of people.

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28. Shimelba was the first official camp to be opened in this region, after the relocation of the Waalanhibi temporary camp, which was considered too close to the border and established by refugees between the late 1990s and 2000s. 'Eritrean Refugees in Shimelba camp, Tigray Region, Ethiopia', *EHREA*, website, ottobre 2007, http://www.ehrea.org/refa.pdf.

29. Satellite images: Year 2006, 2014, 2016: https://earth.google.com/web/.

30. According to agency reports, the refugees built their own shelters and established a practice of mutual aid within the camp and the self-construction of shelters for new arrivals. See the documentary *Home Across Land*, https://vimeo.com/312563065.

31. Data refer to 31 January 2018, https://data2.unhcr.org/en/documents/download/62695.

32. The photovoltaic panels were installed in 2016 and provide solar energy for the offices SHELL Foundation, 'An Ethanol-fueled Household Energy Initiative in Shimelba Refugee Camp', *UNHCR*, website, Project GAIA, January 2006.

The presence of NGOs has determined, in recent years, the attempt to develop some basic services: there are projects at Mai Aini in which different shelters are designed with attached latrines; at AdiHarush from 2014 to 2017, 'Alianza Shire' conducted a pilot project to extend the camp's electricity grid, introduce street lighting and solar photovoltaic.

> **Current issues**

In light of the changed political relations between Ethiopia and Eritrea,[33] the future of Tigray camps has altered. The opening of the borders and the consequent increase in migrations of Eritrean populations, combined with the obligation to fulfil the International Community's requests regarding the reception of migrants, is causing new critical issues. There is a need to achieve the social integration of refugees with local populations and the urban and architectural management of camps, which have strengthened their settlement-relational functions. Whether we investigate the issue of integrating refugees into existing urban areas, which will have to accommodate them through an integration process, or the practice for consolidating camps and transforming them into real urban entities, two central issues remain open – the definition of a settlement structure for existing camps and new urban expansions. These will have to adapt to a dizzying demographic increase, following the transfer of substantial masses of people. At the same time, there must be a dialogue between local identities and those of the new arrivals. Moreover, the shelters, which are caught between the option of a renewal of the housing, to be implemented quickly and at low cost, and converting existing dwellings into permanent housing equipped with minimum services for comfort.

The forecast of the arrival of about 850,000 refugees by 2020[34] creates a series of critical environmental issues – water resources and the water cycle, agricultural land consumption, the need for funds for primary and secondary infrastructure. To this we must add economic issues i.e the difficult transition that the Ethiopian government must manage and for which financial cover is yet undefined. This situation requires an initial phase of understanding the severe conditions, formulation of operating methods for spatial and settlement strategies considering the complexity of the factors involved.

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33. Between July and September 2018 the two countries formed a historic peace agreement that put an end to a conflict that lasted more than 20 years.

34. https://reliefweb.int/report/ethiopia/ethiopia-country-refugee-response-plan-integrated-response-plan-refugees-eritrea-0.

As a result of international policies involving the opening of camps and the possibility for migrants to move within Ethiopian territory, there is a risk of increasing the numbers of informal settlements on the borders or within urbanised areas.
These are places traditionally neglected by governmental development projects, although the analysis of the situation shows that most of the Ethiopian urban centres suffer from a series of problems, including the growth of unemployment, increase in poverty and governance shortage. This is particularly evident in a city like Addis Ababa, where two-thirds of families live below subsistence levels or the poverty line.
Access to suitable housing for refugees and the low-income Ethiopian population is a limit which results in the growth of informal settlements and is further aggravated by the divestment policies of refugee camps.

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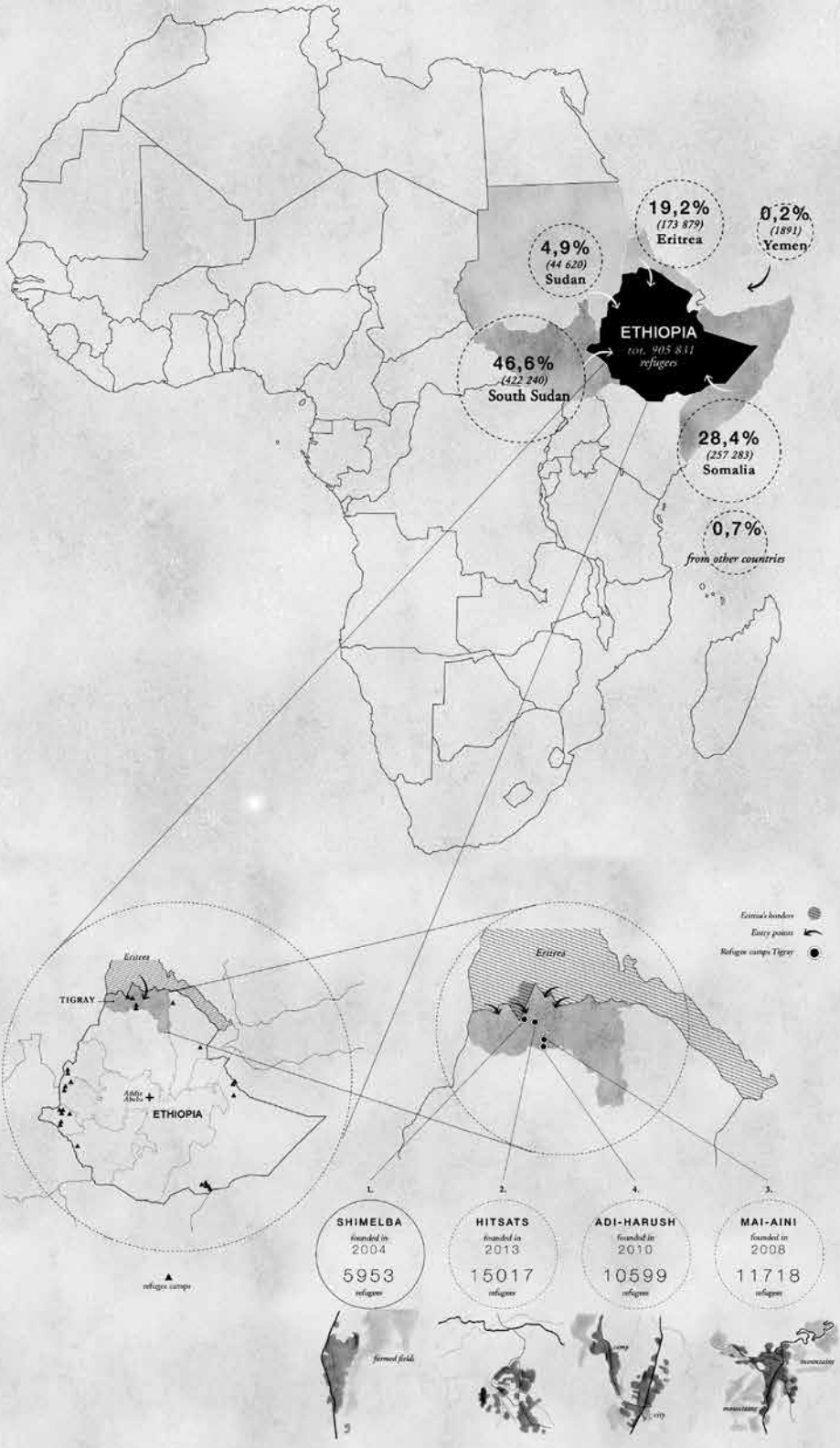
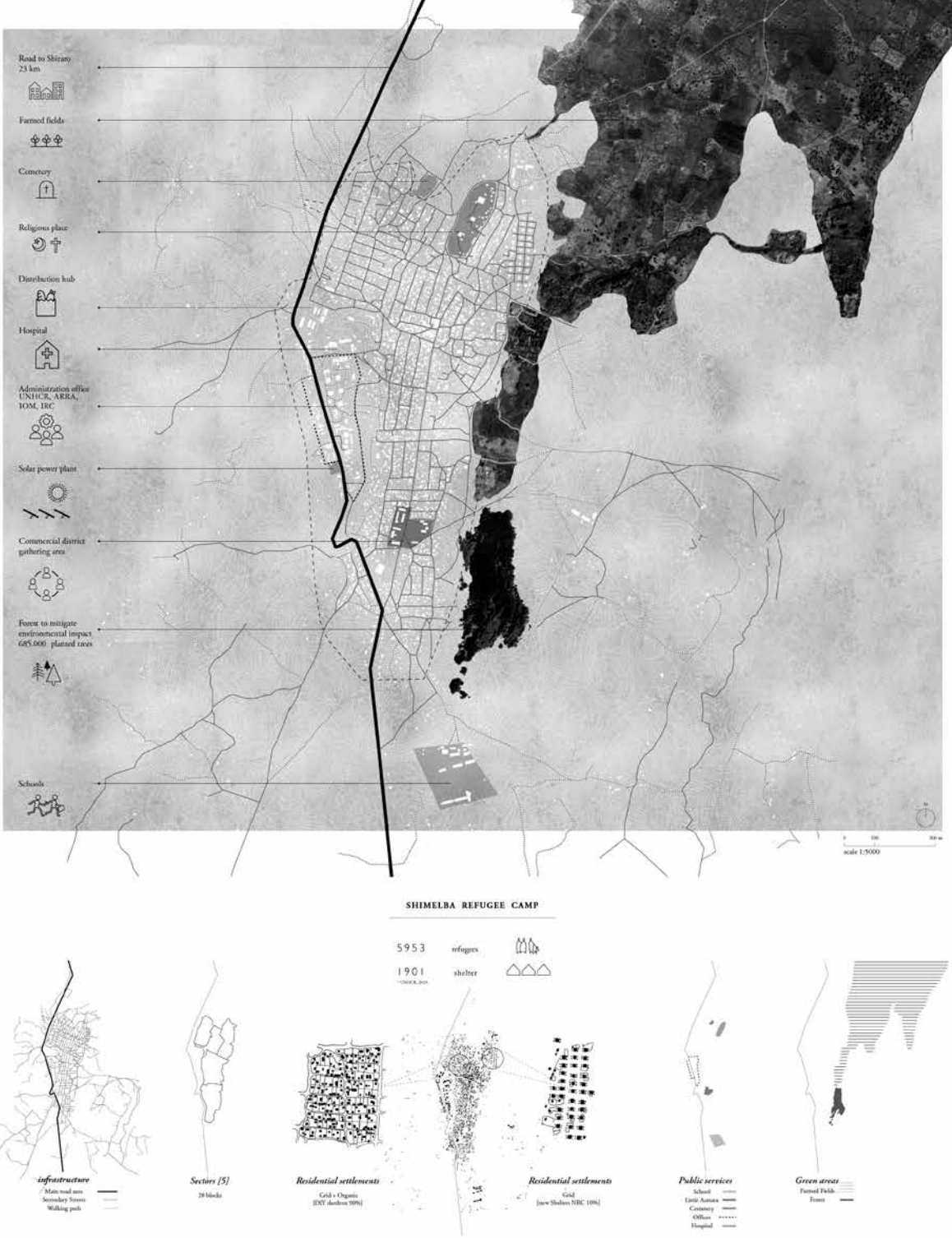
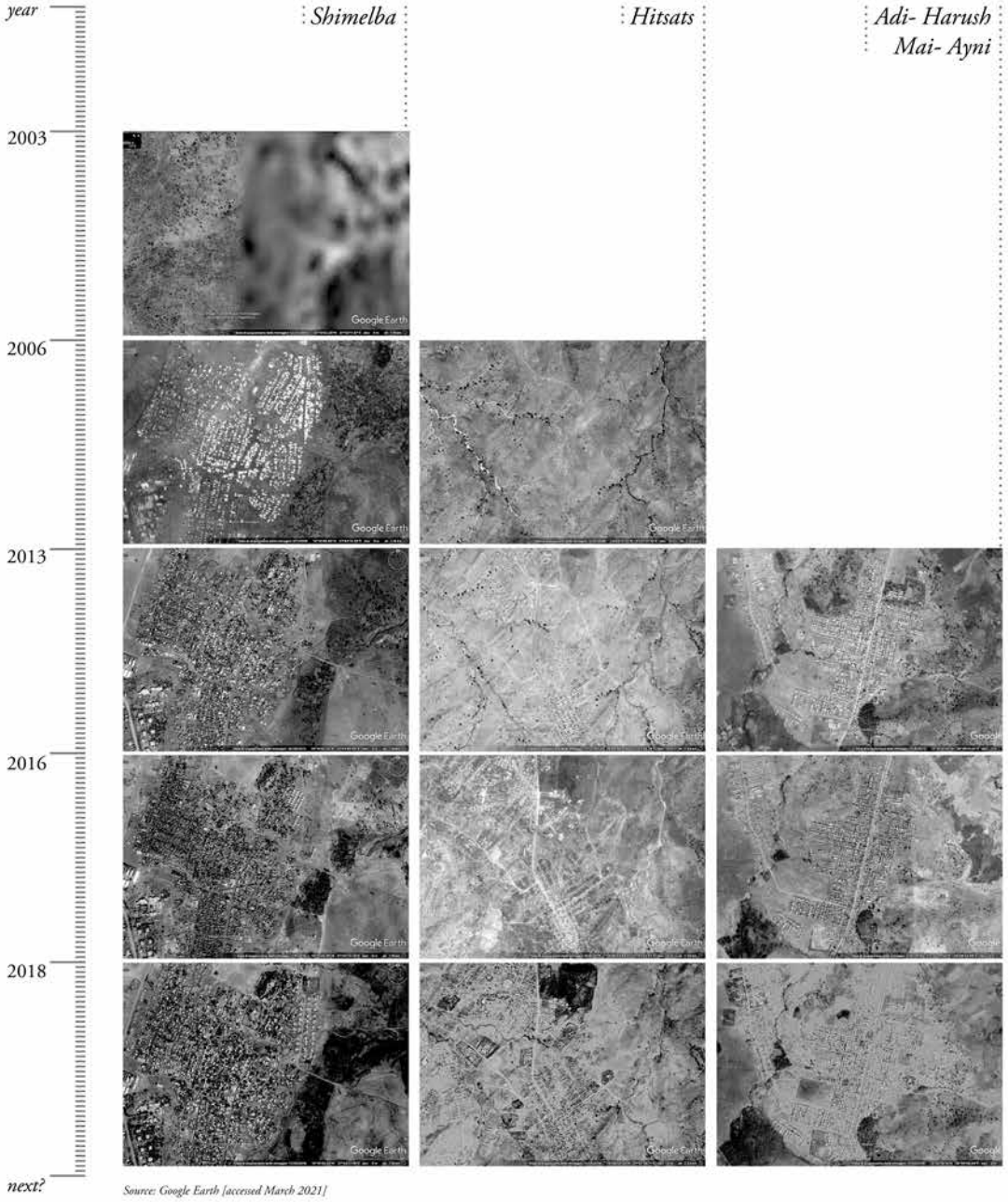


The geographical location of camps in Ethiopia and in the Tigray region (data processed by C. Catani).



Mapping of the Shimelba camp (data processed by C. Catani).



Source: Google Earth [accessed March 2021]

Land metamorphosis, chronological evolution of Tigray refugee camps settlements.

Formal or Informal?

The analysis of Dar es Salaam, Tanzania, an African metropolis

by
Maria
Chiara
Pastore

> The African Metropolis

African cities are overwhelmed by rapid transformations. They evolve and undergo structural changes, they continuously adjust their boundaries through expansion and vertical growth, they redefine their relations with land uses, and they host new populations attracted by the numerous opportunities the urban environment can provide. As urban environments experience this rapid development, new issues arise, such as the foundation of the urban management, the supply of infrastructure to both new and existing urban settlements, the shape of new neighbourhoods along with their ability to comply with the imperatives of the new urban agenda (low carbon economy, inclusive and sustainable environments) (Parnell and Pieterse, 2014), and the upgrading of the informal settlements, which represent the 48% of all the current housing stock (Tusting et al, 2019).

In order to link the evolution of African cities to the current status of their informal settlements, it is necessary to understand the transformations occurring in African urban environments. A initial classification is found in Pieterse and Parnell's book, Africa's Urban Revolution (Parnell and Pieterse, 2014), where the authors recognize that African cities have 'several distinctive features: they are integrally connected to rural areas through the practice of circular migration, a strategy for maintaining multiple bases so as to optimise livelihoods and mitigate the risks of settling permanently in economically, environmentally, socially or politically precarious African towns (Potts, 2012). There is the sponge of the urban fringe or peri-urban fringe; this is often a porous settlement boundary which is neither urban nor rural in its character or governance (Gough and Yankson, 2000).There is the urban primacy, which in many African country is a direct hangover from the colonial era (Myers, 2011; O'Connor, 1983) [...] Another distinctive feature is the predominance of informal modes of urbanisation in terms of both social and economic reproduction.' (Parnell and Pieterse, 2014:9-10).

Moreover, cities that show high urbanization rates host new spatial configurations that 'result from the physical and functional interconnection of metropolitan cores and the settlements in their proximity. The spatial outcome of this first stage of continued urban development is usually referred to as the metropolitan area. [...]. The clustering of people and economic activities, along major logistical arteries (especially roads) radiating from and connecting separate metropolitan areas, leads to the gradual building-up of the urban fabric along these infrastructure connections.' (UN-Habitat, 2014:23-25).

Today, despite significant growth, 'poverty, informality and the absence of a strong local state with a clear and unchallenged mandate to manage

the city are arguably the leitmotifs of African urbanism today'(Parnell and Pieterse, 2014:10). The leading factors promoting slum proliferation can be found in the significant shortfalls of urban institutional capacities, poor urban land management systems and outdated codes of practice for land use control (Parnell and Pieterse, 2014). While it is already difficult to manage existing informal areas, it is necessary to consider that new informal areas will arise through the process of urban transition. Moreover, urban redevelopments, such as the new towns and satellite cities already mentioned above, may also enhance further urban slum proliferation, 'because these new towns almost exclusively cater for the residential needs of higher-income groups. Consequently, there is near certainty that these new towns will soon be surrounded by the informal accommodations of the low-income labour needed to service these new cities.' (UN-Habitat, 2014:7).

It is exactly the complexity of this relation among different and emerging typologies and morphologies that builds up the new African metropolis, and Dar es Salaam, with its archipelago of complex parts may highlight and explore some new relationships.

> Dar es Salaam, Tanzania – between formal and informal settlements

Dar es Salaam is Tanzania's most populous city, with 4,881,795 residents recorded in 2014 by the National Bureau of Statistics (NBS, 2015). The city's population constitutes about 36 per cent of the country's urban population[1]. Dar es Salaam is one of the fastest-growing cities in sub-Saharan Africa, with a population growth rate of 5.6 per cent in the last census period (NBS, 2014), compared to about 2.7 per cent for sub-Saharan Africa overall (UNDESA, 2015).

Founded at the end of the nineteenth century with small port activities and fisheries, Dar es Salaam has become a major urban region that covers an area of 1,400 Km^2, and it is by far the most important economic centre for Tanzania, with industries, port activities and services activities.

The city is crossed by a system of rivers, small streams and a deep natural bay that together have contributed to its radial expansion.

The city's development is concentrated along the coastline and the four main radial roads (Bagamoyo, Morogoro, Nyerere/Pugu and Kilwa). It mainly consists of single-storey construction, and city expansion occurs primarily in peri-urban areas, first along the main roads and then in the

1. Author's statistics based on National Bureau of Statistics (2014). Basic Demographic and Socio-Economic Profile, Dar es Salaam.

areas between them, thus increasing the urban sprawl, while infilling densification occurs in more central areas (Nawangwe and Vestbro, 2003). The city's relatively young age, remarkably rapid population growth, lack of investment in infrastructure, difficult governance, lack of coordination among different institutions and poor financial means have all severely impacted the environment, resulting in increasing ecological degradation and a shortage of housing and basic services such as water and sanitation, health facilities, waste management, and road and transport facilities. Additionally, there has been an increase in unplanned settlements and overcrowded conditions: roughly 80 per cent of Dar es Salaam's developed area consists of unplanned settlements (United Nations Human Settlements Programme, 2010).

The planning history of the city comprises three master plans, related first of all to the attempt to direct the city's development, and as Armstrong points out (Alexander, 1983) (Brennan et al, 2007) (See Messer, V. in Calas, 2010) (Armstrong, 1987) representative of three important transitional phases in Tanzania. The 1949 master plan was prepared towards the end of the Colonial era, the 1968 master plan after the independence of the country, and the 1979 master plan in an attempt to address the economic crisis arising from the villagization policy enacted by the government and a war against Uganda. During this thirty-year period (1960-1990) the city boomed, and its growth rate reached 10 per cent per year (National Bureau of Statistic – NBS, 2002).

Today, the city is regulated y a new masterplan, that was designed in 2011 but it was adopted only in 2018, where the city is still 70% unplanned and subjected to uncontrollable growth.

Among the many projects developed by the Government, particularly during the two most recent masterplans, I would like to introduce three programs which are relevant to the discussion on the relation between formal and informal settlements.

> The Community Infrastructure Upgrading Programme a main effort towards the improvement of the informal settlements

As 70% of the city of Dar es Salaam consisted of unplanned settlements in 2002, (UN-Habitat, 2010), one of the main efforts in operating programmes and projects in the informal sector is the Community Infrastructure Upgrading Programme (CIUP). Its target was to upgrade the basic infrastructure in informal settlements. The programme was coordinated by the Dar es Salaam City Council, together with the three municipalities (Kinondoni, Ilala and Temeke), with selected wards and sub-wards to be upgraded.

Financially, the programme is part of the Local Government Support

Program (LGSP), funded by the World Bank through the International Development Association (IDA).
The overall objectives of the project are:

- to improve the productivity and well-being of low-income urban residents in Dar es Salaam by upgrading infrastructure and services in unplanned and under-serviced settlements
- to strengthen municipal systems for the upgrading of infrastructure and services
- to build community capacity to participate in planning and maintaining infrastructure in cooperation with municipalities. (Dar es Salaam City Council, 2010).

The CIUP was divided into two main phases: phase 1 (2005-2010) involved 16 communities, covers 450 hectares and was of benefit to 200,000 residents. Phase II (2007-2012) involved 15 communities, covers 550 hectares and was of benefit to 220,000 residents (Dar es Salaam City Council, 2010).
At the time of the preparatory process in 2001, there were a total of 310 unplanned sub-ward settlements within the city of Dar es Salaam (UCLAS, 2002). Among these 310 settlements, 156 of them were not considered suitable for the programme due to the presence of hazard lands, planning restrictions, size of the sub-ward (too small) or geographic and structural characteristics (too sparsely built, rural environment) (UCLAS, 2002).
The other 154 sub-wards were visited with specific surveys, and the inhabitants were interviewed, with a focus on the existence of the infrastructure service and the extent of the provision of services, such as land form and use; proximity to electricity; proximity to water main; proximity to roads; proximity to wastewater system; access to solid waste services; CBO/NGO presence; upgrading status; power connection to households; liquid waste and excreta disposal; quality of houses; housing densities; and ongoing and completed projects.
A score was assigned for each of the above-mentioned criteria during the field work, and based on these scores, an initial list of the sub-wards eligible for the programme was created.
It was found that Temeke had the majority of sub-wards with the poorest infrastructure conditions, while Kinondoni had none. After careful consideration, the chosen areas were chosen that covered almost equally distributed across the three municipalities,[2] and the work was divided into

2. Phase 1: Manzese Uzuri; Kilimani, Mnazi Mmoja, Muungano, Midizini, Mvuleni (Manzese ward, Kinondoni); Mnyamani, Malapa, Madenge (Buguruni Ward – Ilala); Mtambani (Vingunguti – Ilala); Chang'ombe A, Chang'ombe B, Toroli (Chang'ombe Ward, Temeke); Sandali, Mpogo, Mwembeladu (Sandali ward, Temeke).

the aforementioned two phases. The different areas were divided into the two phases with the aim to start the process in the less densely built areas and then progressing to more densely built areas. This strategy recognizes the inherent challenge posed by a greater population and allows the key players to learn from their earlier experiences as well as affords them the opportunity to immediately begin the negotiation process for projects in densely populated areas that may require more discussion and even the relocation of some inhabitants.
Roads, footpaths, storm water drainage systems, solid waste management, basic sanitation and water supply, electricity and streetlights have been generally upgraded in all the areas selected by the programme, which has resulted in reaching more than 20% of the population living in the underserviced areas of the city.

> Planning the urban growth
The '20.000 plots' project

In 2002, the city was already expanding rapidly to occupy underdeveloped land. As previously stated, traffic to the city, soil consumption and the incapability of the utilities to cope with this extensive growth were among the concerns of the public planning authorities. Moreover, the informal land use and the inadequacy of land title provision were creating a backlog in the system. Statistics show that between 1990 and 2001, the Dar es Salaam City Council and the MLHHSD received 243,473 applications. Of these applications, only 3.5% were fulfilled. In fact, during the same period, 8,029 plots were surveyed and allocated[3].
The '20,000 Plots' was a pilot project proposed in 2002 by the MLHHSD, whose main objective was to provide surveyed plots, in order to cope with the growing demand for surveyed land, reduce the proliferation of unplanned settlements and urban sprawl, guide the provision of basic infrastructures services, and promote land access to people across different income levels. The project, led by the MLHHSD, was carried out together with the Kinondoni, Ilala and Temeke municipalities.
The main purpose of the project was to survey 20,000 plots in the three municipalities. In the year 2002, the government issued a loan to guarantee TSHS 9.6 billion (USD 4.3 million) to the MLHHSD in order to cover the costs of the feasibility studies, including the analysis of the different locations,

Phase 2: Kigogo Kati, Kigogo Mbuyuni, Kigogo Mkwajuni (Kigogo ward, Kinondoni); Kwa Kopa (M'nyamala Ward, Kinondoni); Mtakuja, Miembeni, Kombo (Vingunguti Ward, Ilala); Keko Mwanga A, Keko Mwanga B, Magurumbasi (Keko A ward, Temeke); Mtongani, Azimio Kaskazini, Tambukareli, Kichangani, Azimio Kusini (Azimio ward, Temeke).

3. http://www.ardhi.go.tz/20000-plots-project-dar-es-salaam-city.html last accessed 1/12/2011.

the design projects including layouts, the survey of the plots, compensation, construction of infrastructure, and the process of plot allocation.
The choice of areas considered several factors: areas in which the population was growing at a high rate, availability of land, environmental safety, and low costs for land acquisition and for compensation.
As the project was launched to meet the demand for residential plots, the design layouts included different functions related to the housing spaces. Related functions include hotels, petrol stations, nursery, primary and secondary schools, public institutions, small commercial areas, service trades and offices.
In order to meet the different demands of the plots and ensure accessibility to the lands for different income groups, three main plot sizes were distributed in the different locations: low-density plots up to 1500 square metres, medium-density plots up to 1000 square metres and high-density plots with a minimum area of 600 square metres.
The results of the project, closed in the year 2010, were the survey of all the areas chosen as project sites, granting of titles in all the areas spread across the city, and allocation of a total of 37,653 plots (Mwiga, 2011).
The project, piloted in Dar es Salaam in an eight-year span, was able to repay the loan to the central government and start the same process in other regions of the country such as Mbeya, Morogoro and Mwanza, where the projects are currently being implemented.
Although the project was successful in terms of the acquisition of lands and surveying the plots, the locations failed to be reached by basic infrastructure systems. Only the construction of roads succeeded. The lack of services such as water provision and electricity are slowing down the process of settlement. Another issue that still remains is housing availability. Even though the plots were surveyed, the need for housing, particularly at low income levels, did not decrease, due to the growing population rate, the slowing down of the building process in the surveyed areas, and the costs, which were not affordable.

> The 'Redevelopment Plans' for the city. Dealing with the city's growth in the consolidated built environment.

The continuous growth of the population not only affected the peri-urban environment of informal settlement areas, but enormously changed the existing consolidated urban areas.
In the decade from 2000-2010, another interesting wave of plans, carried out by the MLHHSD in cooperation with the municipalities, called 'Redevelopment Plans', attempted to establish rules for the growing demand

for new residential, commercial and office spaces, to bridge the gap between the existing infrastructure system and the necessity to upgrade and provide new services, and to improve the overall quality of the living conditions. Only central areas are subjected to the redevelopment plans, consisting of the Central Area (with Kivukoni Waterfront); Kariakoo, Upanga, Magomeni, Oysterbay and Masaki; and Kurasini. Central Area, Kariakoo, and Upanga will be analysed in detail within this article.

In 2002, the Central Area of the city was already congested by traffic, with high demand for office and commercial spaces, and the construction of high-rise structures to replace the existing low-storey structures in the area already underway, without proper consideration of the relation to infrastructure and services or a comprehensive plan. The Central Area includes many institutional functions (ministries in particular), a significant area devoted to identified and recognized open space (23%) and a number of mixed-use buildings. In 2002, most buildings were still three to five storeys high (75% of the total construction).
The main goal of the redevelopment plan, created by the MLHHSD together with Ilala Municipality, was to solve these issues by building a new metropolitan city image by meeting the rising demand for housing, offices and commercial spaces and by providing adequate infrastructure services. In particular, the plan not only aimed to create a pleasant environment for those who reside in the area, but it needed to consider the remarkable number of people who spend daily time in the area. Statistics revealed that 156,280 people enter the area every day, accounting for 75% of its population. Moreover, the redevelopment plan aims to strengthen private-public partnerships and to preserve the historic and heritage sites that are particularly prevalent in the area, hosting late nineteenth century buildings (the 'Old Boma' and the 'White Fathers House'), buildings from the German period, and many building built in the colonial era.

The proposed plan considers four parameters:
a. Allocating maximum space for commercial and business activities while ensuring that adequate space is reserved for administrative functions, social services and cultural activities;
b. Maintaining the present unique character of the city centre that is structured into distinct activity areas;
c. Enhanced vitality of the city centre to ensure it remains active all hours of the day;
d. Balanced distribution of the city centre traffic in space and time (MLHHSD, 2002:30).

The plan divided the area into three main zones, low rise, medium rise and high rise, in order to provide morphological and also favourable environmental conditions (such as the air circulation) to the whole area.
The city centre struggles at maintaining the 'unique character' of the city, given by the pre-colonial and colonial constructions. The mushrooming of buildings and progressive substitution of the historic built environment is a sign of the small implementation of the plan.
During the same period, the MLHHSD together with Ilala municipality was also engaged in the production of the Kariakoo redevelopment plan. Since Kariakoo is adjacent to the Central Area and the redevelopment plans were created during the same period by the same team, the two plans share many objectives and characteristics, one of which is the same proportion of resident population (25%) compared to the population of daily workers or visitors in the area (75%, or 210,000).
The grid system designed during the German colonial period (up to 1915) creates a packed and dense environment, even if the redevelopment plan reports that in 2002, 87% if the buildings were still single or double storey, and 13% were three storeys high (only eleven buildings were eight storeys or higher).
The continuous growth, eventually uncontrolled, has led to a deterioration in living conditions, with particular lack of public spaces, infrastructure and services for its citizens, and the demand for space and substitution of the existing structures with high-rise buildings impacts the plot sizes, which are too small to accommodate the new construction.
The whole plan tries to provide new rules for building height, proposing four different zones (zero to two storeys; two to four storeys; five to seven storeys; eight or more storeys) and significantly increasing density. In order to cope with the new building heights, the plan also redefines the plot size according to height, advising developers to combine plots. The other main effort is to improve the infrastructure sectors (storm water, sewerage and water provision; road system and public transport).
The plan provided solutions in relation to water and sanitation systems, with partial upgrading within the settlement, but the improvements have not been comprehensive enough to cope with the redevelopment of the area. Today, almost all the low-rise buildings have been replaced by high-storey construction. Generally, the overall quality of the public spaces has declined, and the space for pedestrians is limited.

> Some Remarks

African cities are continually reshaping themselves, both within and outside administrative boundaries. In order to try to analyse the relation between formal and informal systems within the city, we can classify the transformations occurring nowadays into three main typologies: the redevelopment of consolidated parts of the city, the gradual yet continuous occupation of underdeveloped areas enhancing urban sprawl, and temporary occupation of lands.

Consolidated areas of the city, both formal and informal, are typically subjected to redevelopment through densification and upgrading. In particular, densification may occur as vertical growth in strategically located areas and particularly city centres, with progressive replacement of the existing building stock, usually one-storey height, with multi-storey buildings. Consolidated informal settlements may undergo upgrading or building replacement, with surveying of the land and basic infrastructure provision. Upgrading usually results in general improvement in the quality of life through service provision, although it is not assured that the settlements are reached by all services. Upgrading and redevelopment usually attract an increasing number of households to reside within the settlement.

In response to urban growth, new settlements are being planned within city limits. These settlements, which may be residential communities or larger projects that host residential-directional and commercial functions in areas mainly located on unexploited lands, are accompanied by a sudden increase in population and water demand and the consequent necessity for new infrastructure. This condition enhances urban sprawl, and the different utility authorities involved may have difficulty coordinating the planning of service provision in accordance with the planning of these settlements, resulting in planned areas being unserved by the water and sanitation sectors, or on the contrary, providing new infrastructure to remote lands, and not investing in the existing urban environment. Informal settlements, which typically house 60 to 70 per cent of the African urban population (UN HABITAT, 2010), are spread throughout the city, both in central and peri-urban areas, also enhancing urban sprawl.

Temporary occupation of hazard lands or land destined for other uses, coupled with the difficult issue of land ownership, all affect decision-making surrounding water and sanitation systems. In particular, if the system is not defined, but rather considered transitory because of the natural condition of the land (i.e. river beds or areas prone to flooding, hills subjected to landslides) or by new land designations that changes the current uses and occupation of the lands, both the inhabitants and institutions fail to

invest in the built environment, with a huge impact on health conditions. These areas are generally not served by any service providers. The temporary conditions of these sites create a sort of suspension in the decision-making system, which may last decades, until a natural hazard takes place, or a decision about the lands causes evictions. In the meantime, water and sanitation systems are a major challenge for the inhabitants of the areas.

Although three main different categories of analysis have been identified, it is necessary to remember that these typologies are concurrent, and their various influences over each other, particularly in their relation to water, are integral to creating the complex urban environment (Pastore, 2018).

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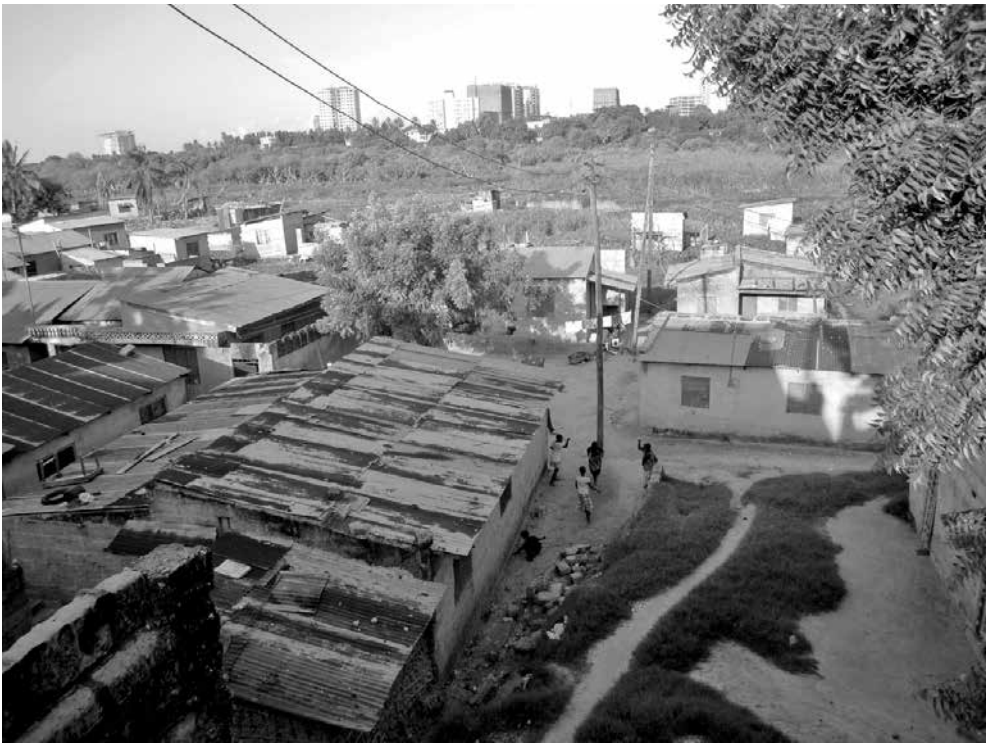

River Msibazi, Hanna Nassif Neighborhood, 2011.

Oxidation pond, Vingunguti Neighborhood, 2011.

Urban Slum

A Case study of the Oridilu Community in the Ajeromi – Ifelodun Local Government Area of Lagos State

by
Obiageli Christiana Okoye

> Introduction

Informal settlements or slums are common characteristics of urban centers all over the world. According to Lucci et al, slums are formed as a result of a number of factors, which include rapid increase in urban population, lack of affordable housing as well as poor governance. He added that in some situations, the rate of urban growth exceeds the government capability to provide the framework for housing (land, infrastructure, and access to utilities) for the teeming urban population (Lucci et al, 2015). Slums are the areas or pockets within or outside municipal limits where poverty-stricken rural migrants find shelter and search for their work and livelihood, make necessary adjustment with urban life and get minimum life-supporting conditions at affordable rate (UN-Habitat, 2002 cited in Singh and Raj, 2014). In the same vein, the UN-Habitat 2005 describes a slum household as a group of individuals living under the same roof who lack one of the following;

1. Durable housing of a permanent nature that protects against extreme climate conditions.
2. Sufficient living space, which means maximum three people sharing the same room.
3. Easy access to safe water in sufficient amount at an affordable price.
4. Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people.
5. Security of tenure that prevents forced eviction (UN-Habitat, 2005).

Sticzay and Koch (2019) see informal settlements as unplanned, densely populated and neglected part of the cities with poor living conditions. In the same vein, Goswami and Manna (2013) refer to these settlements as the depressing feature of urbanization. A third of the world's urban population, about 1 billion people, presently live within slum settlements, and it could increase to 3 billion by 2050 (UNDESA, 2013). The sub-Saharan region has the highest proportion of the urban population living in slums – over 50%, compared to figures ranging between 20% and 31% for other world regions (Lucci et al, 2015). The Lagos Master Plan 1980-2000 identified and grouped 42 slums or informal settlements in Lagos. Currently, there are more than 100 such communities in this city (Olajide, 2010). These slums led to environmental degradation and the distortion of the urban landscape as well as its aesthetics (Pat-Mbano and Nwadiaro, 2012). On the other hand, slum dwellers, according to Singh and Raj Karuna, are the essential part of urban society and contribute immensely to its economy through both their labor and their informal productive activities (Singh and Raj, 2014). Slum settlements in Lagos

are referred to as Kpakoo, and Ghettos and they include Badia, Ajegunle, Amukoko, Makoko Oridilu among others. This study focuses on the informal settlement in the urban centers by using Oridilu community in Ajeromi-Ifelodun Local Area as a case. This chapter investigates the characteristics that made this community an urban slum and assesses how effective the government policies or programs put in place to alleviate urban poverty are in this community as well as suggests practical ways of reducing urban slums by the government.

> Ethnographic Setting

Lagos was the capital territory of Nigeria between 1967-1991. It is the major economic hub of the country, a port city and serves as head office to many corporate organizations. People from within and outside Nigeria move into Lagos in search of greener pastures and this contributes to the rapid urbanization of the state. The state is divided according to social and economic status. The planned locations are the Victoria Island, Ikoyi, Victoria Garden City (VGC), Ikeja GRA, Dolphin Estate, FESTAC Town, Maryland and Aja Estate among others. The unplanned locations are Sari Iganmu, Ijora Badia, Ilaje Bariga, Ebutte-Meta, Iwaya, Mushin, Ajegunle, Oridilu and other slums situated in various parts of Lagos (Ololajulo, 2011). Oridilu is a community under the Ifelodun Local Council Development Area (LCDA) in the Ajeromi-Ifelodun Local Government Area of Lagos State. The community is surrounded by Amukoko, Layeni, Ajegunle, Badia, and Alabiagba communities among others. The canal separates Oridilu from other communities. The land belongs to the Ojora Royal Family who leased it to the current settlers. The Baale, the traditional royal father of the community, has the responsibility of protecting the interest of the people. Alhaji Latif Alade Olatunji is the Baale of Oridilu community and His Royal Majesty Oba Addul Fatai Aromire Ojora of Ijora is the consenting authority. The current Baale is the third Baale in Oridilu. The first Baale was Alhaji Fatokun Anifaola followed by the father of the present Baale Chief Ibrahim Atanda Olatunji. According to my informants, being a Baale in Oridilu community is not by inheritance. The current Baale became the traditional leader after his father because of the late Baale's contribution towards the progress of the community. Therefore, they made his son Baale as a form of posthumous appreciation. The system of choosing a Baale from Oridilu community is by election. The criteria for the selection of candidates for the position are that the prospective candidate(s) must be of good character and must contribute selflessly to the well-being of the community. The Iyaloja (in charge of the market and women affairs) and the honorary chiefs selected by the Baale helped the traditional leader in

piloting the affairs of the community. There are Christians, Moslems and adherents of the Yoruba Traditional Religion in Oridilu. The community has no government-owned primary schools. Individuals who could not afford private primary school fees in the community send their children to private schools in the neighboring communities. The two government secondary schools in the community are Gaskiya and Cardoso.

> Methods

I used observation, key informant and in-depth interview for collecting data for this study. Oridilu community is my main study site. But I and my research assistant, Mr Hakeem Oshuntoku, walked through its neighboring communities namely Layeni, Ajegunle, Oke-ira and Amukoko observing their environment as most of the communities under Ajeromi-Ifelodun are slums. I observed the residents in this communities going about their daily activities. I visited the Baale's home, the market, the community health centre and private owned primary schools as well as the residential areas among others. We equally walked around the areas close to the canal, entered people's houses and interviewed the residents. This helped in observing their living condition.

I conducted key informant interview with the Baale, the youth leader of the community, and the president who is among the first settlers in the community. I interviewed them on the history of the community, their political system, their challenges in the community as well as on if there are any government, NGO or religious intervention programs in the community among other questions. Snowballing method was also utilized as the Baale referred us to the youth leader and he in turn referred us to the president of the community. The informants for the in-depth interviews were selected at random. There are no specific criteria for selecting the informants. Only individuals that gave their consent were interviewed. The in-depth interview was conducted with fifteen residents who have lived in the community for at least five years. I equally conducted in-depth interviews with two residents of the Oke-ira community, three from Amukoko, three from Layeni and two from Ajegunle. I interviewed them on the research questions for this study. From what I observed, they have similar challenges although at different degrees.

> Case Study

The informal settlement Oridilu was formed in the 1960s in response to the need to expand Lagos territory as a result of the rapid urbanization. Due to urbanization pressure, people resorted to migrating and building settlements in swampy areas close to their places of work and businesses.

Oridilu is one of such communities built during this period. Most parts of the community were formerly swampy and covered by bushes. There was no proper planning before building this settlement. It was built based on the individual effort of the residents of the community. The first settlers were mandated to donate at least two tippers of sand to sand-fill the roads. They built plank bridges to enable them to get to their houses. The roads within some streets are narrow and in a poor state. There is no single tarred road in the community. The houses are built with no space in between them, no provision is made for children's playgrounds. Some children converted the veranda of Baale's house into their playground. Indeed, space is a serious challenge in the Oridilu Community. There was a situation whereby the community lost the chance of having an additional converter brought in to improve the light situation in the area but it was returned because there was no space for it. The situation was aptly captured in Ali and Muhammad's submission about the informal settlement, and the fact that is neither a layout plan nor a regulatory device in building such settlements. Consequently, residents tend to build their plot size almost entirely (Ali and Muhammad, 2006 cited in Olajide, 2010).

Fadawoshe, the community's market, is also poorly planned. It is not tarred and is usually unsightly after it rains. Most stalls in the market are made of wood, which increases the occurrence of fire outbreak. The houses in the community were built with bricks (not standard), planks, aluminum, sacks and zinc depending on the owners' financial means. During the time of this fieldwork, it was observed that some of their residential houses are still built with zinc, wood and bricks. Most of the houses made of bricks look old. The roofs in some of the houses are open. As a matter of fact, most houses need to be renovated. Some houses were abandoned probably as a result of incessant flooding during the rainy season. It was observed that the foundations of these houses were poorly made and are usually flooded whenever it rains. The floors of these houses are covered with water at the time of this fieldwork. Most houses were built in two long stretches with each room facing each other, popularly known as 'Face me, I face you', and each of these rooms is most often occupied by a family of eight or nine. In some cases, unmarried individuals have friends or relations squatting with them. As a result of this, the area is densely populated, which is one of the target areas for political campaign. Unsurprisingly, one of my informants reported that politicians only remember them during election time. According to my informants, most houses in the community are inherited by the present owners from their parents. Therefore, they are more interested in collecting rent than in refurbishing the houses. The fact is that most landlords are mainly low-income

earners, underemployed or even unemployed. They need the money for their own upkeep. People live in this area because of the cheap house rent and its proximity to their place of work. The Oridilu community is close to Lagos Island, where there are big markets and corporate offices and the Apapa Wharf. Most settlers in Oridilu are low-income earners. They are menial workers, construction workers, bus drivers, artisans, traders, hawkers among others.

People from different parts of Nigeria reside in this community and live together. There is no territorialization of space by any ethnic groups. Although, gangsters were observed in some buildings and in open spaces close to the canal smoking Indian hemp and jedi (a kind of local weed which is equally soaked in hot water and taken for backache as well as for recreational purposes). There are Hausas from the northern part of Nigeria, Igbos from the eastern part, Yorubas from the western part and even Ghanaians from one of the neighboring African countries. Yorubas form the prevailing group. All these groups live together. Few landlords are selective in giving out their houses. They may refuse to give their house to individuals from a particular ethnic group. For instance, when Mrs. Ibru, an informant, from the Delta State, was asked if any space is dominated by a particular ethnic group, she admitted,

'It depend the landlord, some landlords go say, I no go take Igbo for my house. Some landlords go say, I no take Yoruba for my house. Some landlords go say, I no take Ijaw for my compound but some landlords go take everybody mix. Like here, I be only Delta person wey dey the compound, all the others na Yoruba.' (Personal Communication, May, 2019).

This means, 'It depends on the landlord. Some landlords will say I will not accept an Igbo person as tenant in my house. Some will say I will not accept Yoruba. Some will say, I will not give out my house to an Ijaw person. But some landlords accept everybody mixed. For instance, in my compound, I am the only one from Delta State, the others are Yoruba.'

This statement implies that some landlords are selective in accepting tenants who will reside in their houses. Following this, some compounds are dominated by people from a particular ethnic group but not the area.
The rent ranges from N1,000 to N3,000 per month, which is very low compared to house rents in most parts of Lagos State. The houses closer to the canal are the cheapest but they are mainly made of zinc and planks and the environment is covered with dirt. An informant, a member of

the Landlords Association, attributes such low price of accommodation to the unavailability of basic social facilities in the community. Indeed, the quality of buildings, availability of the basic infrastructure such as good roads, good water supply, and ultimately clean environment, determine the rates of rent in Lagos State. But this community lacks all these basic amenities. Space is a serious challenge in the community. According to my informants, apart from the churches and market, there is no public space. The only space collectively owned by the community is where the health center is built. When asked where they organize their social events, they admitted that all social activities take place in a very large privately owned hall or, in some cases, the Yorubas collect a written permission from their local government council and hold their events in the street. They do this because it is cheaper and closer to their houses. For the town hall owned by an individual, people pay to use it and the price depends on the duration of the event. Flood is a major challenge for people living in this area because part of the land is swampy and was not properly sand-filled. As a result, water seeps out from the ground whenever it rains. Their drainage systems are completely blocked.

Some of the gutters are filled with waste such as plastic containers and nylon water sachets. The blocked canal is also a contributing factor as it is filled with waste, so that water does not flow through the canal. Hence, the community becomes flooded whenever it rains.
There may also be the danger of drowning when it rains because the bridges across the canal connecting Oridilu community to other communities were burnt down by gangsters during their incessant conflicts among conflicting gangs. An informant notes that one of such bridges was rebuilt by the Catholic Church in the area but those boys burnt it down again during one of their repeated clashes. Hence, people walk in the canal and this may be dangerous in the rainy season. Also, the dirty environment may facilitate the spread of diseases. Water is essential for survival and therefore considered in choosing a residential area. Residents do not get water supply from the water board owned by the government. The residents of the Oridilu community buy their water from a private-owned borehole. Twenty-five liters of water is sold for N10 but the price increases to N20 when there is no power supply and the owner pumps water with a generator. Some people drink the water from the borehole, while others do not. One of my informants admits that she and members of her family take the sachet water popularly known as 'pure water' because water from the borehole is salty. Some people dug wells in their houses in order to obtain a regular supply of water. Power supply in

this community is erratic. An informant reports that they pay for light on and light off. In other words, the bill they pay is not proportional to their power consumption. At the time of this fieldwork, a section of the community had been without light for over one month.
Waste management is a serious challenge to this community especially for those individuals living close to the canal. Heaps of dirt were observed around the houses close to the canal. LAWMA (Lagos State Waste Management Authority), the government waste management agency in charge of packing up domestic waste from the residential areas, come around once in a while and even when they come, they do not enter the streets due to poor road network but only service those living by the roadside. As a result, some members of the community employ the services of private waste carriers popularly known as the 'Mallams' or 'Abokis', who are from the northern part of Nigeria. These people move around the community with their carts, and are paid for collecting waste. Some of these 'Mallams' dump the waste they collect in the canal. It was reported that the situation deteriorated during the last four years as a result of administration change in the Lagos State. Informants note that the former governor of Lagos State, His Excellency Raji Fashola, was efficient in maintaining a clean healthy environment. Indeed, proper waste management was one of his priorities. The canal was cleared from time to time, and waste management agents were efficient during his tenure. They further admit that the governor that assumed office after Governor Raji Fashola dismissed most of the staff of the state waste management agency and this contributed to their dirty environment.

The residents of the Oridilu community formed the Landlords Association and the Community Development Association (CDA) to help and facilitate the development of their community. Regrettably, the informants report that the CDA is not effective as most of its members have joined politics and, as a result, discuss politics during their meetings instead of the progress of Oridilu community. They are now more interested in serving their personal interest than the community interest. These associations meet politicians and other stakeholders of their community and present the challenges of their community.
Concerning security of their community, the informants reported that presently they take care of their security themselves by using a local vigilante team known as OPC (Oodua Peoples' Club). Local security is effective, although in the past residents sometimes had to invite the police to arrest some hoodlums that used their community as hideouts. The police came and took them away. They further admitted that some of the criminals

had their parents in the community and some had people from the community who benefitted from their booty.

From observation and according to my informants, people living in this community do not cultivate crops due to space constraints. Few members of this community that have space in their living areas engage in animal husbandry at a subsistence level. They rear animals such as cows, turkeys, goats, fowls, and sheep. They build cages for their hens and sheds for their sheep and goats. Early in the morning, they feed their animals, then allow them to move around their surroundings during the day searching for food. The essence of giving them food in the morning is to make them always come back to their owners in the evening after scavenging for food. The sale of these animals provides their owners with an additional source of income.

There are various policies put in place by the Nigerian government to alleviate poverty and housing problems in Nigeria. Examples of such policies include the Housing and Urban Development Policy designed to meet the quantitative housing needs of Nigerians through mortgage finance (Jiboye, 2011); the Structural Adjustment Program (SAP), which was intended to put the economy back on the path of recovery; the National Directorate of Employment (NDE), designed to train and give financial guidance to unemployed youths. The main aim is to provide employment with much focus on self-reliance and entrepreneurship. The National Poverty Eradication Program (NAPEP) emphasizes the provision of strategies for the eradication of absolute poverty in Nigeria (Taiwo and Agwu, 2016). They equally opined that certain policies such as trade and payment liberalization and deregulation and greater reliance on market forces particularly in the downstream activities of the crude oil industry among others were adopted in poverty alleviation program. However, they reported that the institutions and schemes established by the Nigerian government to reduce poverty failed to produce the desired result. Unfortunately, residents of the Oridilu community interviewed during this study admitted they had not benefitted from any of the poverty alleviation programs in Nigeria or any Non-Governmental Organizations. They reported that members of the Catholic Church come around sometimes to share foodstuffs in their community. They attributed their inability to benefit from the various government policies to not having a voice in the government. That is, not having a member of their community in government. They believe that one day a member of their community will be in government to protect their interests.

> Conclusion and recommendation

It has been established in this study that Oridilu community is one of

the informal settlements in Lagos. The residents live in a deplorable condition. The area is unplanned, most of their buildings are substandard and old. There are no tarred roads and the roads in some of the streets are narrow and inaccessible to waste management agents. The environment is dirty. They have poor drainage system, substandard health facilities, erratic power supply, as well as inadequate clean water supply. Looking at the environment during fieldwork, one could not help wondering why people live in that kind of environment. The people interviewed kept saying that there is no help. Indeed, there are many policies and programs in Nigeria put in place to help alleviate poverty but generally these policies achieved little or no success. In most cases, the target population does not benefit from such policies and programs as a result of poor planning, corruption and lack of continuity in governance. For instance, the Baale of the Oridilu community reports that no member of his community has benefitted from any poverty alleviation or NGO programs. He reported that people only come to take pictures and make promises and they will never see them again. Most informants admitted that Catholic Church members come around to give them 'small small rice' and encourage them to visit their health centre when they are sick. The informants asked why government could not do that for them. That is, to help them with food. Indeed, Oridilu community like most informal settlements in Lagos is densely populated. Providing the necessary health facilities for residents would result in most of them losing their accommodation because of lack of space. Suggesting the demolition of the settlement and building portable houses for them will be expensive and unrealistic. Since most residents migrated from rural areas, I suggest that the urban environment should be made less attractive by the government by providing basic social amenities in rural areas and equally by encouraging some companies to move their head offices to these areas. The government, in turn, should relocate some of its agencies in various rural communities in Nigeria. In consonance with this, Ijeoma et al. admit that making information and sustainable practices more widespread and bringing new technologies to rural areas would allow people to improve their access to information and employment without relocating to the city (Ijeoma et al., 2011). These will make development even and people would be discouraged from trooping to the city.

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Showing the Surroundings of some Residential Areas in Oridilu.

Cairo, City of the Dead

Cultivate the future

by
Elisabetta
Bianchessi

> The history of the city and the territory, of any city and any territory, can obviously be told in different ways: as the history of its architecture and its settlement forms, of the ways of occupation and use of the territory, of the different techniques that have helped and conditioned its construction and modification; or as the history of its inhabitants, their culture and its conflicts.[1]

There are cities where physical fitness is not enough to tell the transformations that go through them, as if their incessant metabolism ran too fast to stop: Cairo belongs to this category of metropolises where the action surpasses the image and the constant, daily invention finds in partial and imperfect the tools of a construction process that renders every possible formal definition obsolete, archetypal, crystallized over time. The daily phenomena that affect the city of Cairo and the life of its inhabitants become an urban rule due to the powerful catalyst that is the extraordinary density of the Egyptian capital, inhabited by eighteen million people and self-built for forty percent of its territorial extension. In Cairo, the accumulation of houses, things, people, noises, heat, takes on the same role of active agent in the self-construction of the city that lives in a continuous reuse of itself, becoming an incessant process. The most vivid image and the first story that every visitor retains of this megalopolis is that every material, every commodity, is sold and exchanged, recycled, reassembled into products that are born for a new life, with another name, creating a unstoppable market of neighborhood microeconomies that revolves around the Zaballen Village, the ghetto of the goods, in the heart of the popular Mansheya district, inhabited by fifty thousand Coptic Orthodox citizens entirely devoted to the collection and recycling of waste. Zaballen Village is a lawless religious and political enclave[2], where you can only live if you are Coptic and handle waste.

> Here we want to verify the possibility that the project may think differently, absorb the dynamics of time, developing strategies capable of annexing, selecting, abandoning when necessary, basically to dialogue with waste rather than excluding it a priori as a material that is not its own.[3]

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1. B. Secchi, *La città dei ricchi e la città dei poveri*, Laterza, Rome, 2018, p. 25

2. About the meaning of lawlessness: 'It is the law that brings lawlessness into being by drawing the line dividing the inside from the outside [...] The law's bid to universality would sound hollow, were it not for the law's inclusion of the exempted through its own withdrawal. Law would never reach universality without its right to draw the limit to its application, creating by the same token a universal category of the exempted/excluded, and the right to lay out an 'out of bounds', providing thereby creating the dumping ground for the one who are excluded, recycled into human waste.' Z. Bauman, *Vite di scarto*, Laterza, Roma, 2004, pp. 40-41; Z. Bauman, *Wasted Lives. Modernity and its Outcasts*, Polity Press, Cambridge, 2004.

3. S. Marini, *Nuove Terre. Architetture e paesaggi dello scarto*, Quodlibet, Macerata, 2010

And if waste becomes raw material, the city is involved in a continuous migratory flow of people who arrive in the Egyptian capital in search of fortune, coming from villages of very poor peasants who work by the piece and live around the Nile delta or in more uninhabited and marginal fringes than Egypt, north Africa. Rural masses that have become urban since the 1960s, with the failure of government housing policies, physically build the illegal expansion of the Egyptian capital, where the existing slums are expanding dramatically.

Another city composed of a dusty and perennially unfinished building fabric. Low buildings that reach a maximum of three or four floors spread like wildfire, with exposed armed pillars or walls without facade plaster in order not to pay the end-of-construction fees in the Egyptian state, the only formal and architectural law everyone respects in Cairo.
Such self-built constructions stand in contact with the desert, on the frayed perimeters of the city, obstinately resisting an inhospitable, hard nature, with a fierce temperature range. Cairo is an environmental madness, a city of poor concrete unsuitable for life in the desert that invades it, with air conditioning constantly on and immense energy consumption, where water, the most precious asset, manages to keep the very few parks alive, as the residual symbol of a colonial past never forgotten and overcrowded by citizens in the warm Kary evenings.
The City of the Dead is one of the four slums of Cairo (the third by extension and population density, and nineteenth on the list of the largest slums in the world). A cemetery and silent counterpoint to the vortex of the flows that build the megalopolis, it covers an area of eight square kilometers where Liveinslums ONG[4] worked for ten years. The techniques adopted for the burial of corpses in the City of the Dead, the amount of sandy soil, the aridity of the desert climate and the absence of humidity have always made this place healthy and saved it from the pollutants typical of cemetery areas, thereby favoring urbanization and the illegal occupation of the area.

4. Liveinslums is an NGO and research agency, based in Milan and Nairobi. For ten years it has focused its efforts on informal settlements and critical urban areas in third and fourth world countries, by carrying out cooperation projects and financing development programs aimed at enhancing local resources. In such contexts, Liveinslums operates by recognizing the established communities as relevant actors of the transformation processes, bearers of useful knowledge for the definition of the local context, of the logic of action, of the resources available to the resident communities. In the cities where it operates, it counts on the direct support of local collaborators and on a network of contacts with private institutions, residents' committees, local associations and government authorities. Liveinslums brings together individual professionals with disciplinary experience in different fields (environmental engineers, architects, sociologists, photographers, directors, agronomists, landscape architects, artists, designers) who have brought a number of skills to the NGO in recent years, thereby contributing to the qualitative development of projects. Reference web page: https://www.liveinslums.org.

In the paradox of Cairo's climate, the City of the Dead presents itself as the extreme synthesis of informal living, where the living and the dead share the largest inhabited cemetery on the planet, and six hundred thousand people (according to the latest UN data of 2015) occupy an area as large as the center of Milan. A monumental cemetery with a dreamlike beauty of high historical and artistic value (the settlement of the cemetery area dates back to the 14th century), designed with the alternation of majestic mausoleums belonging to Kary noble families and open spaces where small wooden funeral chapels or punctual tombs, now abandoned, are scattered and the tomb-houses, *hosh*, with a regular patio structure, form a dense matrix of different sizes furrowed by main asphalt access routes and secondary sand paths, and concur to build an urban mesh marked by an orderly and recognizable orthogonal plan, based on a *cardus* and *decumanus* pattern, defined in its perimeter by the fast ring roads that surround the entire cemetery. Tangential enclosures of the sacred enclave and unsurpassed limits for any pedestrian who wants to access the City of the Dead, an extended piece of city lying softly on the ground in a wide and light topographic depression. An isolated urban fragment cemetery and reference always visible from the center of the megalopolis, to which it is close.

The population of the City of the Dead includes permanent illegal residents, the poorest of the poor, families residing in tomb-patio houses, mainly made up of four to five people where high unemployment rate, general malnutrition, and permanent indigence involve everyone, young and old, women and men who disobey the laws of the Koran because they live with the dead. Illegally occupying mortuary chambers and small rooms originally built to house pilgrims, guardians of mausoleums and families of the deceased during the night of Friday, is considered a sacrilegious act: those who do so agree to live on the margins of Islamic society, or to isolate themselves from the rest of the city, to be outcasts who live on expedients with no possibility of future because they are stigmatized.

In this context the only people who take on a social role are gravediggers, the guardians of the chapels, who reside in the tombs with a small salary provided by the owners of the niches themselves. These caretakers take care of the grave: they prepare visits for relatives, clean up, avoid looting. The owner of the funeral chapel generally bears the costs of extraordinary maintenance and those for water and electricity in the form of alms. Within this social framework, the degree of illiteracy is very high, many children do not have access to education

beyond the fifth grade and most young people are forced to work in the informal market, to obtain forms of occasional, highly precarious income, which fail to guarantee any kind of future for their families. In addition, the role of women remains marginal. Since they are relegated to the care of children, parents or siblings, they have no possibility of looking for or finding work and spend their lives in hosh, grave houses, preparing food and tending to household chores.

In the City of the Dead, surviving is the only obligation of a day marked by small activities that take place in the neighborhood. There are no deadlines and time is an indistinct factor, enclosed by the silence that dominates the entire cemetery area, only broken by the song of the muezzin or by neighbors sitting under small shady areas to smoke a shared hookah, during the slow evenings spent in the traffic-free streets and by the dim, almost non-existent light, which increases the isolation of the cemetery. A black spot in Cairo's night.
Liveinslums ONG has been working within the context of the City of the Dead since 2007 with a series of research-action projects carried out in collaboration with experts, professionals, universities and research centers, students, coming from different faculties and specializations from Italy and other countries. Such documentary, visual and design activities, carried out in punctual workshops or long-term missions, established a solid relationship with the City of the Dead, based on the slow creation of mutual knowledge, made up of continuous, daily meetings, capable of creating an operational fabric based on mutual trust, which successfully addressed urgent and immediate needs to be transformed into feasible projects in the present-future life of the inhabitants of the cemetery. All the actions of Liveinslums ONG in the City of the Dead resulted from this slow and active listening, constantly renewed over the years. From the beginning, individual projects were carried out through self-construction processes that involved the community in every development phase, in the discussion of the problems that had to be addressed (the definition of the program), as in the operational phase, on the construction site, through a concrete and direct training of the inhabitants on the adopted techniques, on the role of the operators involved, on the developing design choices, in a unitary and collective vision easily identifiable in its development and its purposes by all the inhabitants of the City of the Dead.

> It is in fact artificial that the wishes of bureaucracy, politics, finance, institutional information systems, etc., are decisive elements for the organization of physical space, while the will of the poorest and most underprivileged social

> classes (the majority of the population) is an element that counts for nothing. If a counter-image of the organization of physical space, without omitting any of the forces acting in the context and taking into account not only their current energies but also their potential energies, upsets the image that derives from this artificial situation, then that counter-image is a realistic utopia. It is a utopia that will become reality when all the latent energies have been liberated to subvert the overwhelming condition that currently oppresses them.[5]

In particular, Orti senza Terra[6] was created by Liveinslums in 2010 in order to respond to a series of specific environmental and agricultural problems resulting from the requests of women in the City of the Dead, to become an operational model of extraordinary collective wealth. A project created by a dual need expressed in active listening meetings created with the community of reference: farming the soil, without contaminating the sacred and inviolable tomb area by definition; producing a micro-economy based on a network of techniques and knowledge to be shared among families, women, and creating a source of subsistence and income capable of building an unprecedented urban zero-kilometer agricultural community.[7]

If, on the one hand, in the City of the Dead, any type of farming was prohibited, on the other hand the nutritional needs were very strong. The lack of fresh vegetables in the diet of the inhabitants of the cemetery (who were not able to purchase them because they were too expensive even in the informal market) was a factor of chronic malnutrition, a physical need to be addressed. Through the creation of the project Orti

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5. S. Marini, *Giancarlo de Carlo. L'architettura della partecipazione*, Quodlibet, Macerata, 2013, p. 62

6. Orti senza Terra was created by the ngo Liveinslums in 2010 to promote the first urban agriculture project in the City of the Dead in Cairo, together with the Master of Extraordinary Landscapes (Politecnico di Milano – Naba Milano), University of Milan with the Department of Agricultural Sciences and Environmental. Production, Territory, Agroenergy and with the Department of Food Sciences, Nutrition and the Environment, as well as with local research bodies (through ministerial agreements already in place between Italian and Egyptian universities, due to the FIRB International Project on 'New strategies to increase the productivity of plants in conditions of water stress' created with the University of Ain Shams Faculty of Agriculture Cairo). In its development the project 'Sustainable Urban Agriculture. Orti senza Terra Cairo Egypt', was the winner of the 2012-2013 Call for Food Security of the Municipality of Milan taking advantage of the contributions in favor of solidarity and international cooperation – Expo 2015, subsequently participating, as a pilot project, in the international event.

7. 'The change in perspective of urban policies produced by a non-anthropocentric ethics is therefore radical; and it is already in place within those policies that aim to release energy in the 'planetary garden' (in the sense of the landscape designer Gilles Clément) through a double system of devices: self-limitation and grafting. By understanding the former as a form of suspension of acting, of building, of occupying. And the second as a sophisticated strategy of identifying the sensitive points of the anthropocentric territory of the cities in which to insert reversibility devices, which bring the environment back to greater biodiversity and wealth.' S. Boeri, *L'Anti Città*,Laterza, Rome, 2011, p. 110.

senza Terra for small communities (about sixty families of different sizes have been involved), Liveinslums ONG has tried to address this need with an actual solution, an instrument of social cohesion and solidarity such as the vegetable garden, which, if shared, could allow families to escape the dynamics of food donated in the form of alms by the predominantly religious organizations present in the area, who had created a welfare policy, and a form of political control, over the community. Furthermore, food autonomy of the families would have allowed greater social emancipation by women who, as the main subjects in the project, from the beginning showed a great willingness to participate in training and learning techniques, being the main referents of what happens daily in the grave houses, the place of action.

> ***Orti senza Terra***[8]

This was an experimental project also from the technical point of view, with the use of horticultural production methods linked to hydroponic gardens, replacing the fertile land with mineral substrates made of a sand-and-peat vegetable compost (a technique that guarantees a substantial reduction in the use of water, or up to 20% less per square meter compared to traditional agriculture, a fundamental fact in a desert area). The containers of the gardens, of different shapes and sizes, were made by using recycled materials from the informal neighborhoods of the city (thus triggering small micro-economies among less affluent populations) and every single micro-vegetable garden, once self-built with the families,

8. Each garden per household had to consist of about ten crates (half a square meter each), which make up approximately 5/6 square meters of gardens per family (considered a standard of minimum food support in this part of the world), where the cultivation of vegetables can take place throughout the year, since there is no periodic but sporadic rain. Different vegetables are grown in each box, chosen by the inhabitants, according to their dietary habits and respecting the nutritional indications of the Faculty of Agriculture, University of Milan, to obtain a balanced feeding of families and a sure success of horticultural production (they were the production of food with this technique of the following vegetables has already been successfully verified by Liveinslums, in various missions: parsley, mint, garlic, cabbage, tomatoes, beans, salad, aubergines, courgettes, cucumbers, melons, potatoes, strawberries, peppers). In the first phase of the project the seeds, the mineral-vegetable substrate, the vitamin solutions to be diluted in the water, the tools, the containers, the tools (for the collection and the drainage of the water) which are used to build the garden without land. Subsequently, and only for families already trained, a production of compost was started, obtained from the organic residues produced by the inhabitants, capable, after a few months of practice, of replacing the use of vitamin solutions and the substrate with their compost, further lowering the project costs and making the plant product safer from a botanical point of view (especially with respect to the risks of small pests present in the area), up to guarantee a significant productive independence to families. Over time, the project had to develop a sharing of the products of the landless gardens in the community, through the possibility of 'trading' the surpluses production of individual families, by encouraging the exchange of materials used to start a widespread and widespread system of crops (with the support of the training center coordinated by Liveinslums ONG), such as the sharing of knowledge acquired by the inhabitants and the tools for the construction of the boxes that contain the Orchards without Earth.

was placed in the patios of the tomb areas with great spatial freedom, dialoguing with the inhabitants of the *hosh*, respecting the positions of the untouchable tombs, controlling the movement of the sun during the day, to ensure an adequate radiation for farming. In addition, the transportability and reduced size of the gardens without land in an area where the idea of living is so precarious has expanded the chances of success of the project. The widespread, palpable feeling of the illegal occupants of the tombs who live in the City of the Dead is that they are under the threat of eviction by the police and may find themselves homeless at any time: the fact that nobody would take the vegetable garden away from you as you would bring it with you in the case of a possible escape, was a determining factor for the definitive acceptance of the project.
Following all these indications, from a spatial point of view, created a discontinuous map of the project. It was not possible to create an organized and shared masterplan, a classic urban garden, *cardus* and *decumanus*, involving only a specific portion of the City of the Dead, building a map with productive proximity logics. In order for the project to be successful, it was necessary to move around the cemetery through parental, friendship or unwritten logics imposed by the Torabi (the guardians of the inhabited tombs) or by the heads of families. The result was the creation of a porous and constantly moving map, capable of generating a vital model, built by different attractors that emerge in the tissue of the tomb area, creating a metabolic operating system. From this way of working, where the idea of the individual, adaptable project prevailed over the spatial needs of City of the Dead and the life of its inhabitants, the idea of creating a technical nerve center, a training center (one of the possible attracting centers of the future urban agricultural community), developed both for the educational action aimed at young people and women participating in the creation of the gardens, and for the scientific monitoring of the agronomic solutions adopted and the construction of the nursery. The transfer of technical-agronomic knowledge and the notions of proper nutrition promoted between families thanks to the establishment of the training center and the nursery with educational gardens was another important point of the project. Developed with the scientific support of the Faculty of Agriculture University of Milan and the Ain Shaim University Faculty of Agriculture Cairo (partners of Orti senza Terra), the training center has become a positive example of real feasibility of the farming strategy adopted in the eyes of the inhabitants of City of the Dead, a socially protected space for the exchange of knowledge, where the women and children involved also participated in the proposed activities in total safety.

The Orti senza Terra project wanted to contribute operationally to the promotion of a model of sustainability, agro-food quality and healthy nutrition in an area of profound social conflict and extreme urban poverty, where all the critical issues that significantly concentrate in the life of megacities are the cause of unease, conflict and pauperization of the daily lives of those who live there. This hands-on experience resulted in a design method that deliberately accepted all the actions of this puzzling metropolis, where its characteristics – density, dryness, uncertainty, poverty, warmth, beauty, silence – offered themselves as the living matter of the urban horticultural project, and became positive accents capable of re-colonizing a sacred and inhospitable soil with informal daily strategies, to cultivate the future together with an unprecedented community urban agriculture, the real success of the project.

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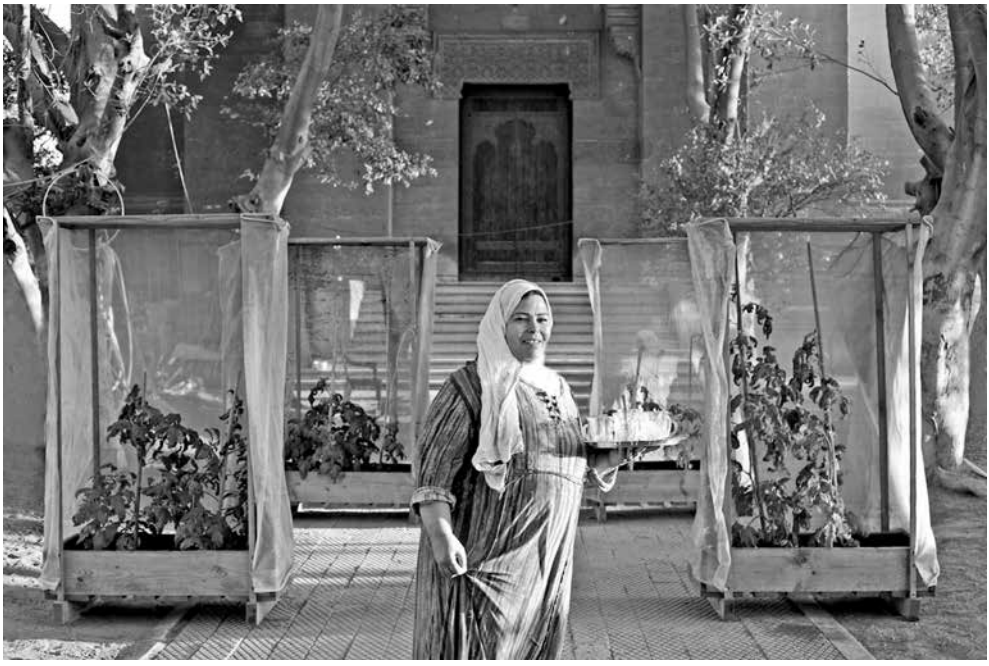

Gardens without land, portrait of Aziza. Photo by Francesco Giusti.

The City of the Dead. Photo by Filippo Romano.

The City of the Dead - informal market. Photo Francesco Giusti.

Peripheral Slums in Mumbai

by
Shivjit
Sidhu

> Introduction

In 2001, Jim O' Neill, then Chairman of Goldman Sacs Asset Management, first postulated the acronym BRIC, which was soon revised to BRICS putting into focus the economic growth and investment potential inherent in Brazil, Russia, India and China, while later adding South Africa to the list. This external moniker, a convenient handle for international investors looking to diversify their investment portfolio with high-yield returns, was officially adopted by the respective countries in June 2009 with the first formal meeting involving the Heads of State of the BRIC countries. The focus was on the BRIC countries role in improving the global economic situation with an emphasis on financial reform and cooperation amongst the four emergent economies. Implicit in this message was a greater voice for the developing countries especially in global affairs and inclusion of their concerns when shaping global economic policy, which had been hitherto dictated by Western First World powers.

For India to be included in this group was both euphoric and surprising. Until the economic liberalization initiatives chiefly orchestrated by the Dr Manmohan Singh government ushered in a new era of rapid growth and foreign investment, India had been known as a highly bureaucratic and plodding economy. According to data compiled by the International Monetary Fund, from 2000 to 2010 the Indian GDP grew from USD 2,077.9 billion to USD 5,312.4 billion and the GDP per capita accelerating from USD 2,018 to USD 4,425. The growth was not uniform with economic benefits accumulated in urban areas and rural areas relatively lagging. Further, while the middle class grew numerically, the period witnessed greater economic disparity. 'In India, the richest 1% own 53% of the country's wealth, according to the latest data from Crédit Suisse. The richest 5% own 68.6%, while the top 10% have 76.3%. At the other end of the pyramid, the poorer half jostles for a mere 4.1% of national wealth.' While this statistic is alarming, in the current urban context, the ground reality is even more disheartening and inhumanely cruel.

As the concentration of economic growth and with it the accompanying avenues of job opportunities has centered around urban centers in India, there has been a steady and predictable migration from rural areas to take advantage of this opportunity. Ironically, however, the same factors that attract rural populations to towns and cities in India have created the perfect storm for the propagation of slums. Market liberalization and foreign investment spurred real estate growth in Indian cities with an accompanying rise in real estate prices. Real Estate followed the trend of furthering economic disparity with unequal distribution of housing access even among the urban population of India.

Housing affordability and housing security particularly for poor and severely poor households was most at risk from the inflationary pressure generated by the 'Economic Boom' unleashed upon an Indian population that had seen relatively flat growth until then. Marginally better returns on commercial real estate development vis-à-vis housing, conversion of high-density low-income and especially very high-density unregulated housing into low-density housing for high-income families, rural migration into urban centers without corresponding housing development served to reduce the available stock of housing for low-income families. Simultaneously, real estate as the recipient of 'Black Money' or illicit income generated from illegal sources and/or income not declared to tax authorities caused further price inflation for real estate that outpaced the real earning capacity and savings for average Indians and most especially for low-income families creating a further widening gulf in housing affordability.

Therefore, this housing bubble supported by illicit funding was not connected to the measured economic index, so even during global and Indian slowdown in the mid-2000s, when real estate transactions trickled almost to negligible levels, the cost of real estate did not fall correspondingly to the actual earning capacity for the average Indian family. Perversely, the economic downturn created a unique opportunity for wealthy individuals and institutions to further concentrate wealth by swooping in to purchase real estate assets due to the liquidity they possessed.

Further tightening the noose of housing security for low-income families was the flow of investment funds, both domestic and international, into real estate. These funds were a hedge against the relatively volatility of the stock exchange in the domestic market and opportunity for higher return percentages for the international investors; either way, the end goal for this market-driven funding into Indian real estate was high return on investor funding rather than creating adequate affordable housing stock. Therefore, real estate development over the past quarter century became a race to deliver higher returns on investment; ostensibly, the answer was to create ever more luxurious housing complexes that could command higher price premiums and correspondingly higher return on investment. Land costs predictably and obviously increased at an alarming rate and essentially priced out development for low-income households.

Finally, while the policy of economic de-regularization and bureaucratic liberalization unfurled by the Dr. Singh government and continued by the subsequent Vajpayee government was perhaps necessary and inevitable to avoid financial collapse in India, what cannot be disputed is that competent, consistent and comprehensive urban planning and especially affordable housing has been missing as policy and practice in contemporary

India. Especially problematic was the lack of foresight and effort of the governments from the municipal to the national level to address the rapidly growing urban population via efforts of increasing urban infrastructure and allowing higher density.

While economic policy is dictated by the central government as part of the national doctrine and urban planning along with housing is a state and municipal responsibility, there was no significant effort made to understand the implications of economic liberalization on housing especially for marginalized families. The existing situation was already bleak with massive housing shortfall in urban areas giving rise to large slum areas nestled between developed parcels in most cities of India. The density of cities was artificially controlled by creating limits on building via Floor Space Index limits that were, and continue to remain, far below the FSI allowed in comparable cities across developed parts of Asia. Therefore, it is unsurprising that slum populations surged with only pastiche efforts at 'remediation' and 'mitigation'.

The State of Maharashtra located in Western India along the Arabian Sea on the West has long been on the forefront of trade and industry. Mumbai (formerly called Bombay), the erstwhile capital city of Maharashtra and ostensibly the financial capital of India, grew from a collection of fishing villages into one of the largest and wealthiest metropolitan areas of the world. As the natural port of entry for international trade and headquarters for the finance industry in India, the Maha-Mumbai Region was the landing spot for foreign funds into India post liberalization and led the nation in industrial, service and real estate development.

Predictably, the situation of housing affordability and access became increasingly acute and adequate shelter increasingly grew out of reach for ever increasing number of families. Especially vulnerable were the poorest immigrants into Mumbai from rural hinterlands who arrived without any significant savings in a context where the pool of housing, even in established slums, was one of extreme scarcity. Newer slums and unauthorized colonies mushroomed along fringe parts of the city into locations that shifted from being simply undesirable into locations that were dangerous; especially along the coastal edges of Mumbai.

To borrow the phrase from Winston Churchill, 'It is a riddle, wrapped in a mystery, inside an enigma;' Mumbai is a city with stratospheric real estate prices, inadequate development of housing, relatively high stock of unsold apartments due to real estate unaffordability, high stock of unoccupied apartments held by investors and speculators, inability to increase housing stock based on existing caps on FSI and slums that are massively overcrowded. It is in this impossible context that new immigrants arrive looking for

shelter in the city. With few alternatives available, the solution is invariably to situate themselves in the least desirable settlements in the city.
Today, waterfront slum-dwellers in Mumbai face unprecedented challenges even among the multifaceted complexity of slums and overall development in Mumbai. While previously established slums have some degree of access to urban utilities and transport, the newer slums along the waterfront exist on areas that are often inter-tidal zones, hence especially vulnerable due to a host of factors leading to creating some of the most unhealthy and dangerous places on the planet for human inhabitation. The fact that this situation exists in one of the leading megapolises of the world regulated by a municipal government with the largest budget in Asia is nothing short of a continuing human tragedy of epic proportions.

> Historical Perspective

Ironically, the scarcity of land that today creates a multitude of challenges in the creation of adequate housing for the teeming population of Mumbai was the ingredient that spurred its development. From humble beginnings, the assorted islands located off the Western coast of present-day Maharashtra grew into the megapolis of present-day Mumbai. On 23rd December 1534, aboard the galleon *São Mateus*, the Treaty of Bassein was signed ceding the islands of Mumbai and other nearby territories to the Portuguese Empire. The Portuguese added fortifications and created facilities to take advantage of the deep-sea harbor on the *Isle of Bombay* (to use the Anglicized nomenclature) for staging their naval forces. The strategic importance of a natural protected harbor with deep-sea access that was isolated from land attack was realized by the Portuguese.
In keeping with the policy of territorial expansion, spreading Catholic orders was of paramount importance and several churches were constructed; in Mumbai, several Franciscan and Jesuit churches were built, including St. Michael's Church at Mahim in 1534, St. John the Baptist Church at Andheri in 1579, St. Andrew's Church at Bandra in 1580 and Gloria Church at Byculla in 1632. By 11th May 1661, marking the marriage of Charles II of England with Catherine of Braganza, daughter of the Portuguese Monarch John IV, several islands had been joined by causeways and the fortifications included Bombay Castle and *Castella de Aguada* in Bandra, reflecting the growing importance of this disparate collection of islands. As part of Catherine's dowry, the collection of Islands called *Bombaim* by the Portuguese passed under English control as a coveted landing spot to counter the growing influence of the Dutch in India.
Under English and especially the English East India Company rule, the populations of the islands grew rapidly, from 10,000 in 1661 to 60,000

in 1675, reflecting the strategic importance placed by the English on this location and economy opportunity for a myriad of migrant skilled and semi-skilled labor force afforded by the port which added to the local *Koli* population. Further cementing its importance, the English East India Company shifted their headquarters from Surat to Bombay. With the British gaining control over most parts of India by the mid-18th century, Bombay had grown into a major trading hub and immigrants from across India had settled there. However, while the islands afforded protection from invasion, the geography and topography were not particularly suitable for conversion into an urban settlement from the sparsely populated fishing and agrarian *Koli* hamlets that dotted the island. Nor was the area particularly suited for inhabitation from the perspective of the British settlers. A deadly combination of heat, humidity, practice of fertilizing palm plantations with a noxious blend of putrefied fish and the abundant swamps that lay between the islands took its toll on spirit and health. 'Continued unhealthy conditions caused great despair. Nicholas Waite, the Deputy Governor of Bombay, in 1706 described Bombay as 'this beggarly, ruined but fertile island' and stated, 'most of us (are) often sick in this unhealthful depopulated and ruined island.' Clearly, it was not enough to maintain protection from land invasion or pirate attacks, the very environment had to change for this remote outpost to form a sustained presence in India.

> Emergence of a Global Megapolis

The most significant initiative in the advancement of this disparate set of islands at the mercy of the tides and swamps was construction of the 'Hornby Vellard', which was mostly complete by 1845. This infrastructure consisted of large-scale land reclamation and draining of swamps that linked the inter-tidal zones between the islands creating a single landmass. This was an effort of epic proportions involving engineering skills pioneered by the Dutch to be employed here, massive topographic disruption of leveling hills for suppling the rocks needed as the base of the reclamation in an unforgiving climate, managing logistics and finance for the supply of labor and material but an effort that has continued to pay dividends till the present day. 'With the first comprehensive plan to reclaim land and grow the city's boundaries established soon after, private companies entered the fray; it proved such roaring business (for a while) that reclamation companies accounted for 95% of the paid-up capital of all those registered between 1863 and 1865. More land in Bombay became habitable and the terrain flattened out as, one by one, hills were broken up and dumped into the sea. 'These were very ambitious projects,' Dossal says of the reclamations. 'They required great technical skill, engineering

expertise and financial management.' In the archives, she has found meticulous estimates of the costs involved, factoring in stores, foundries, barges, the levelling of hills, and how the workmen would be paid – including 'Chinese stonemasons, whose rate was higher.'

This was followed by the first train line in the Indian subcontinent linking Bombay to the suburb of Thane in 1853, which further allowed industrial and urban development. Consolidation and connectivity allowed for rapid growth with far away historical events providing a stimulus. The American Civil War (1861-65) disrupted the cotton supply to British textile mills whose owners pivoted east to Bombay for supply of this essential commodity. The opening of the Suez Canal in 1869 made the route between Europe and India logistically more efficient and the port of Bombay quickly filled the vacuum becoming the world's primary cotton trading center.

Supporting the headquarters for the military and bureaucratic of the English presence in India, the multitude of port activities ranging from ship construction to trade and the growing textile industry created a massive boom in the development of Bombay whose population grew primarily with immigration from various parts of India by people who brought much needed skill and expertise. At the time of Independent India, even though the British had shifted the national capital to New Delhi, Bombay was firmly established as a global financial hub and the primary port of entry for people and goods into India. 'We've created a city out of water,' says Mariam Dossal, retired professor of history at the University of Mumbai, who has studied reclamations during the British period. 'It was a major feat. The subsequent development of Bombay owes a huge amount to the reclamations.'

From the small set of islands, the consolidated land mass grew to approximately 438 square kilometers with a population having crossed 12 million inhabitants for the Greater Mumbai Municipality. Per the MMRDA, Mumbai Metropolitan Region (MMR) is spread over 4,355 sq. km. consisting of 8 Municipal Corporations viz. Greater Mumbai, Thane, Kalyan-Dombivali, Navi Mumbai, Ulhasnagar, Bhiwandi – Nizamapur, Vasai-Virar and Mira-Bhayandar; and 9 Municipal Councils viz. Ambarnath, Kulgaon-Badalapur, Matheran, Karjat, Panvel, Khopoli, Pen, Uran, and Alibaug, along with more than 1,000 villages in Thane and Raigad Districts and a population pushing 20 million inhabitants. An estimated 55% of that population lives in informal settlements and slums.[1]

1. https://mmrda.maharashtra.gov.in/about-mmr

> **Layered Development**

This phenomenal growth is a consequence of a multitude of factors that aligned to create one of the most important urban centers on this planet. The foundation was laid by the British who used the unique geography and strategic importance of a protected natural harbor for their benefit in carving a colonial empire for themselves. Later, as the economic might of the British Empire grew, Bombay as the gateway to Europe became the epicenter for continued urbanization and industrial expansion.
The growth and economic expansion, however, was not uniform. The massive disparity between the neighborhoods reserved for British inhabitants and the Indian population has been adequately documented. Further ghettoization of urban opportunity was created within the Indian population with *Kolis* occupying villages adjacent to the coast, migrants clustered in *chawls* and slums segregated by caste and community created with adjacency to the industry they were attached to, while preferred groups like the Parsi community afforded greater autonomy based on their economic condition.
The immediate areas within and surrounding Bombay Fort were reserved for the command structure of the British with institutions of Law and Police, Taxation and Revenue, the University and Military. The British Governor maintained a compound on the South West edge of Bombay Island along the slopes of Malabar Hill, which still serves as the residence of the Governor of Maharashtra today. Much of the British and economically upper crust of Indian families stayed in the areas of Malabar Hill and along the new causeway of Cuffe Parade within stately bungalows overlooking the sea.
It was in less geographically opportune places where the residential communities of the less fortunate Indian were located. These tended to be located close to the malodourous and dangerous edges of swamps and recently reclaimed land. Many of these were self-constructed tenements built in haphazard layouts without formal plans or sanction. *Koli* villages expanded with an influx of migrants, often single men working in the textile industry or the ports, which swelled the population of the outer lying areas of the Island City. Finally, there emerged the typology of *chawls,* which were single room apartments rented out or provided as part of employment almost exclusively to single men. The *chawl* buildings were usually built up to 5 stories high with a single loaded corridor opening to rooms on one side and the courtyard on the other with shared toilet facilities and stairs in the corners. Usually *chawls*, like slums, catered to a particular ethnic or linguistic community and reflected the migrant roots of that community. Eventually these *chawls* shifted from serving as

essentially migrant worker hostels to serving as family accommodation, however the system of shared toilets has continued into the present day as codified vertical slums. The slums that had their seeds in British India continue to exist into the new millennium, albeit highly evolved and massively expanded.

Post-Independence Mumbai witnessed steady population growth, however the early zeal for reclamation was somewhat diminished. The major activity was the creation of Nariman Point and expansion of Cuffe Parade, both in South Mumbai. These were created as vestiges of the 1911 plan for South Bombay reclamation. The major thrust for land reclamation was strategic with economic expansion being a primary motivator along with securing a better urban fabric for the upper echelon of society. The present-day efforts at land reclamation for the Mumbai Coastal Road project continues with that top-down perspective for city improvement.[2]

> History of Slum Policy In Mumbai

Pre-Independence Policy

In 1706, Nicholas Waite, the Deputy Governor of Bombay, described Bombay as 'this beggarly, ruined but fertile island' and stated: 'most of us (are) often sick in this unhealthful depopulated and ruined island.' Next year, in January 1707, he wrote to the Company: 'My continued indisposition .... till I leave this place or the world.' Captain Alexander Hamilton, in 1727, thus introduced the island of Bombay to his readers: 'Its ground is steril (sterile), and not to be improved. It has but little good water on it, and the air is somewhat unhealthful, which is chiefly imputed to them dunging their cocoa-nut trees with Buckshoe (Buckshaw), a sort of small fishes which their sea abounds in. They being laid to the roots of the trees, putrify, and cause a most unsavoury smell; and in the mornings there is generally seen a thick fog among those trees, that affects both the brains and lungs of Europeans, and breed consumptions, fevers, and fluxes.'[3]

Facing unhealthy conditions created by a mixture of the local swampy topography, fish-based fertilizer and poor living conditions with high density within inadequate housing caused by inadequate *terra-firma*, the British recognized the need for civil improvement. After the Bubonic Plague of the mid-1890s, which swept through the teeming slums and dense *chawls* devastating the population, caused tremendous harm to the textile industry and caused the overall stature of the principal urban center

2. https://www.theguardian.com/cities/2016/mar/30/story-cities-11-reclamation-mumbai-bombay-megacity-population-density-flood-risk.

3. https://rajeshkapoor.com/bombay-duck/.

of the British in Western India to be seriously jeopardized, the authorities responded by creating the Bombay City Improvement Trust (BCIT) in 1896. The Trust was partially inspired by the Glasgow Improvement Trust, which faced similar issues of health and sanitation affecting economic interests. In particular, severe overcrowding and unsanitary living conditions in the Indian neighborhoods was held primarily responsible for the spread of the disease, which had caused the population to reduce by about 600,000 people who either perished or fled the city. This municipal failure set in motion as series of Slum Improvement initiatives we see carried out till the present day. In essence, economic interests are affected by urban conditions and insomuch that economic interests of the upper echelon of society are threatened by slums or societal maladies, there needs to be intervention to mitigate that threat.

The BCIT prioritized new infrastructure that focused on creating new land through reclamation from inter-tidal areas between the islands, connectivity via new roads and improving living conditions in existing neighborhoods and creating new housing colonies that were built by either private enterprise, mainly textile corporations, or various civil departments. Land for new housing was transferred from the Municipal Government and existing slums were targeted for improvement, which invariably meant demolition of existing slum shanties without providing alternative accommodation for evicted residents. The recently passed Land Acquisition Act of 1894 was a powerful tool to designate slums as 'blighted areas' and undertake massive renewal for large parts of the city with forceful eviction and demolition.[4]

The massive gulf between stated objective and accomplished reality which has been the most reliable outcome of slum improvement and eradication schemes which continue to the present times, the BCIT initiatives caused further congestion and worsened the housing crisis. The BCIT via its development arm, the Bombay Development Directorate (BDD), created a series of worker colonies, some of which are being considered for development in 2019. BDD efforts resulted in 21,387 houses constructed with approximately 24,500 houses demolished by 1919 with almost 75% of the 1.2 million population living in severely overcrowded and dilapidated single room tenements along with an estimated shortfall of 64,000 housing units even with the high room density.[5]

Acknowledging the failure of this reductive policy, the BCIT changed their approach in the 1920s. Land reclamation and expansion into the suburban

4. Rao, 2013:25.

5. Kidambi, 2007:112.

areas north of the Island City to create greater housing tracts with the aim of reducing unhealthy congestion and slum proliferation rather than demolition and eviction of slums was pursued. This effort saw the first instances of the original *Koli* village settlements being termed as slums, which allowed them to be subject to 'Planned Development' and transformation, which was often justification for removal and eviction of the residents. By 1933 the BCIT along with the BDD was shuttered with the Bombay Municipal Corporation assuming the responsibilities previously held by these entities. In any case, British efforts had shifted from development with the widely acknowledged end of British rule in India as a matter of when not if.

> Post-Independence Policy

The two decades following Independence from British rule in India did not result in a shift in policy or attitude for addressing housing inadequacies. The zeal of land reclamation had been curtailed after critical opposition by activists such as Nariman, and the BMC was content to allow suburban movement of population facilitated by a relatively efficient urban transport system. A series of public housing initiatives were undertaken to address slum proliferation by both the government and private bodies. The primary housing typology remained the *chawl*, which even then was seen as a temporary measure fit for a labor population that was expected to be transient, even though they were often little more than warehouses for people, reaching up to 5 stories high with inadequate plumbing and ventilation and stacked next to each other with little space between them, creating some of the most unsanitary and dense housing in the city. For the average laborer, little distinguished the *chawls* from the slums and squatter colonies, which were increasingly the answer to the growing population of Bombay. The BMC identified three types of slums; first were the dilapidated permanent multi-storied buildings and *chawls* with inadequate plumbing and abhorrent living conditions, especially the *chawls* that existed in the industrial areas and were privately held. The second type was semi-permanent residential buildings that were over-crowded, unsanitary and had become structurally unsound due to neglect. Makeshift shanties that had mushroomed on encroached vacant land parcels often belonging to the government.[6] The typical slum shanties still constituted a small percentage (less than 1% of the population, which amounted to about 21,000 people) of inadequate housing relative to the first two types (about 15-18% of the population).[7]

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6. Desai and Pillai, 1970:154

7. Ibid.

The first of the large-scale slum demolition drives was started in 1958 following the National Slum Clearance and Improvement Act of 1956 whose aim was slum clearance and relocation. This resulted in 4,000 slum hutments from across Bombay being demolished with a large group of evicted families relocating to the suburban fringe of Mankhurd, which saw later decades of slum relocation buildings and colonies.

Decades of slum clearance and evictions of settlers were almost entirely unsuccessful from the perspective of eradicating slums from the Island City. By the late 1960s the debunked rhetoric of urban authorities was being challenged by activists along with the under-threat and evicted populations of slums. The steady growth of the city population due to economic growth and relative rural stagnation along with the entirely inadequate supply of affordable housing made any effort to eradicate slum hutments a losing enterprise but one that had terrible human consequences. Pragmatically, the number of slums and the hutments had grown so large by the late 1960s that 'clearance' was not a practical solution. This pragmatism against slum clearance was further enforced with the growing political clout of slum dwellers who were no longer considered migratory or transient labor but permanent settlers, many of whom had registered with the city electoral rolls and possessed 'Ration Cards', which were a principal identification for gaining government benefits.

In 1969, the BMC established the Slum Improvement Cell, which was augmented by a Central Government-funded Slum Improvement Program (1970) to provide basic amenities like water supply and toilets to slums. With the establishment of the Maharashtra Slum Improvement Board (MSIB) in 1974, the government attempted to improve access to water, health facilities, police sub-stations, electricity and sanitation to slum pockets in Bombay and outer lying areas. A significant development was identifying slums as informal settlements with separate policy for dilapidated buildings (such as *chawls*), which had established legal status and secure land tenure.[8]

Slums themselves were not acceptable, even if the approach was improvement rather than clearance. Improvement was considered as a stop gap measure until formal housing in adequate numbers could be created, thus rendering the slums redundant. Per the MSIB, slums were 'a source of danger to the health, safety and convenience of the slum dwellers and also to the surrounding areas, and generally a source of nuisance to the public' that needed to be serviced 'until such time as [they are] removed and persons settled and housed in proper buildings.' In line with this

8. Kerkar, et al., 1981.

thinking was an effort of containment to prevent further proliferation of slum populations. The Slum Act of 1971 gave overarching powers to civil authorities to 'Notify' or label any area of informal settlement as a slum, which then allowed the area to be 'cleared' if the authorities deemed the area to be a scourge for health or safety or if the buildings were dilapidated or unfit for inhabitation.

When the Indra Gandhi government declared National Emergency in 1976 gaining direct control over many state and local functions with no effective political opposition, there was an immediate effort to rectify the slum problem. In Mumbai, over 600,000 households were given a 'Photo Pass', which was the first in-situ identification created specifically for slum dwellers, which granted some degree of legitimacy for the slum population against forceable eviction. However, many hutments were still removed in areas that were deemed important by civic authorities especially in the suburban parts of Bombay. A prime example of this whole scale clearance and relocation was witnessed at the Janata Colony where 70,000 people were evicted; ironically, the colony was established by victims of previous slum clearance drives in the 1950s and 1960s from the Island City.[9]

The following decade saw a continuation of demolitions and slum clearance drives irrespective of the political party in power. The division of Bombay State into Maharashtra state, which retained Bombay, and the neighboring state of Gujrat carried over into a zealous drive to protect Bombay from 'outsiders'. This period coincided with a growing xenophobic attitude and increasingly aggressive posturing against outsiders, anyone who was not native to the state Maharashtra, within the city of Bombay and finally to push for the change from Bombay to Mumbai to reflect its identity and ideology as a place for locals. The Shiv Sena political party crafted their central platform around protecting the city from outsiders and fighting for the local 'Sons of the Soil', efforts that tried through policy and street violence to evict slum dwellers not only from the slums but out of the city itself. In 1985, when they gained control of the local municipal government, the Shiv Sena leader, Bal Thackeray, famously proclaimed his pledge to clear pavement slums and send the lot of half million pavement slum dwellers (who were overwhelmingly non-Maharashtrian) back to where they came from by declaring that there was 'no question of showing any humanity' as the city was not the 'country's orphanage'.[10]

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9. Mahadevia and Narayanan, 2008; Patel, 2010.

10. Mukhija, 2002.

> **Slum Redevelopment Authority**

Facing an ever-increasing gulf between affordable housing supply and the pent-up demand, government policy took a hands-off approach becoming a 'facilitator' via policy and financial incentive rather than a direct creator.[11] This was reflected in schemes such as the Bombay Urban Development Project (BUDP) in 1985, which created two schemes to address slums and affordable housing; Slum Up-Gradation Program (SUP) and The Low-Income Group Shelter Program (LISP). Both schemes sought to address the issues via financial incentives. For the SUP, this translated into land being leased to slum dweller cooperative societies, amenity creation with development costs recovered from dwellers along with loans house upgradation. These schemes were only for eligible slum dwellers who had previously been catalogued by authorities based on politically set 'Cut-Off' dates with the stipulation that slums created after those dates or slum dwellers not catalogued or without identity cards were not eligible. Reflecting the stance of the World Bank and the local political climate, the BUDP policy towards slums shifted from public subsidy in creating affordable housing to providing funds that lead to housing and amenities with system for recovery of the funds from the 'beneficiaries'.

The abysmal failure of this effort can be gauged against the actual housing demand and the percentage of population that lived in 'informal' housing. The first Development Plan for Bombay City drafted in 1964 estimated that annual housing growth would be 50,000 new units per annum with a projected population of 7 million by 1981. The *Maha*-Mumbai Regional Development Authority (MMRDA), which was created in 1975 as the planning and development body for the Mumbai region, estimated that approximately 45,000 slum hutments were created annually and by 1980 44.6% of the population lived in slums; keeping in mind that the term for slums no longer included dilapidated *Chawls* and other 'uninhabitable' buildings that provided shelter to millions.[12] Actual supply of formal housing units varied from 25% to 7% of the projections during this time.

Keeping with the World Bank directive of transitioning responsibility of housing development to private players acting on policy frameworks and incentive schemes created by the Government led to the next phase of slum initiatives. Land was commodified with the introduction of Floor Space Index (FSI) incentives for informal settlements starting in the mid-1980s with the most famous example being the re-development of Dharavi, one of the largest slums in the world. The improvement program

11. Bjorkman, 2015:75.

12. MMrda, 1995:171.

at Dharavi sought to create Cooperative Apartment Blocks (occupier – owned and – managed), which were constructed with partial funding from cross subsidy generated by selling market rate towers in a portion of the cleared site. This became the model for tackling slums in the 1990s and beyond. Slums had therefore become a space for economic opportunity and exploitation rather than being considered as an urban or social issue as it had been addressed previously.

The key element of this Slum Redevelopment Scheme (SRS) launched in 1991 was doubling FSI for slum upgrade, which allowed private developers to virtually recoup their investment with amazing returns. In return the developer provided an 18 sq. mt. unit (single room tenement with attached toilet) in mid – to high – rise structure. This was provided to eligible families within the slum that was cleared as opposed to all families and those eligible beneficiaries were to contribute 40% of the cost of this rehabilitation with the remaining subsidized by the free sale component gained from extra FSI. Slum redevelopment suddenly because the hottest profit maker in Mumbai.

When the Shiv Sena and BJP political alliance won statewide elections in 1995, they were in a position to immediately and effectively act on their platform to convert Mumbai into a Global City with Shanghai as a model. Slum eradication was central to their vision of a transformed Mumbai with a stated election promise of creating 4 million free houses from slums in Mumbai. The Afzulpurkar Committee, established by the newly inducted Shiv Sena/BJP government, published its draft report the same year, which sought to balance this massive endeavor while ensuring 'the finances of the Government are not unduly burdened and judicious utilisation of land values is fully realised'.[13] The chief outcome that emerged was the creation of the Slum Redevelopment Authority (SRA), which expanded the previous scheme. Under the SRA policy, size of the tenement unit was expanded from 18 to 21 sq. mts. and the provision of beneficiary contribution was removed with the entire construction to be cross subsidized by the free sale component. The date of eligibility for slum dwellers was established as 1st January 1995 so that most slum dwelling families that had been registered till that date could be eligible for provision of redeveloped tenements.

The SRA was able to deliver approximately 157,400 units up to 2014.[14] In the meanwhile, approximately 72,000 slum hutments were being demolished in clearance schemes between 1994-1998 and this pace

13. Afzulpurkar, 1995.

14. Praja, 2015.

increased from 200 to 500 units being demolished per day so that close to 150,000 hutments were being demolished annually from 1999 onwards.[15] The cleared land was used for road expansion, civic beautification and open market real estate development. Keeping in mind the migrant population estimated at 50,000 families annually and the internal growth, this delivery was an abject failure in either creating equitable housing or reduction slums in Mumbai. Where the SRA was amazingly successful was in aligning with the exorbitant property prices in Mumbai to create unprecedented profit margins for the developers of SRA projects.

Between November 2004 to February 2005, the State Government and the BMC jointly demolished about 90,000 hutments across the city to further their goal of Urban Transformation, which was supported by a McKinsey Report produced by a citizen civic improvement group called Mumbai First (composed of leading Industrial Magnets in Mumbai and modeled after the London First organization) and formally adopted by the Government. Further evictions and demolition drives continued for major infrastructure corridors under construction in Mumbai under the Mumbai Urban Transport Project (MUTP), the Mumbai Urban Infrastructure Project (MUIP), Mumbai Metro and expansion of the Mumbai Airport. The implementation agencies have worked with MMRDA to provide SRA units to eligible families, however the pace of resettlement has vastly lagged behind the pace of demolition.

What has continued in the meanwhile is that existing slums and *Koli* villages have become increasingly denser. The fight for basic amenities such as water and toilets has become increasingly more difficult. Commodification of the slum dweller families (developers have to prove consent of beneficiary families with minimum 75% consent to gain SRA permission for redevelopment) is now increasingly more lucrative and dangerous as it is aligned with political patronage and massive investment so that a thriving sub-trade of consent bundlers has emerged who coerce and cajole potential beneficiaries on behalf of competing business interests. Health and sanitation are at crisis levels along with the growth of industry, which is entirely unregulated from a health, safety and environmental point of view. Slums are simply an economic opportunity; the slum-dweller as an individual or a social group has been reduced to a trading chip within a long sequence of transactions to extract maximum economic value.

15. Mahadevia and Narayanan, 2008.

> **SRA Policy Implication**

SRA policy was framed under guidelines and the neo-liberal economic philosophy which held sway over the World Bank in the 1990s, stressing efficiency and private enterprise rather than direct government action even when tackling systemic urban issues with a huge human suffering component. Affordable housing for economically challenged sections of the population was seen as a subset of economic policy rather than understanding it as a social necessity that economic development is predicated upon. Under this context the real human toll and suffering, lost economic opportunity, environmental damage, spread of disease and devaluation of human life, which are some of the indicators of slum living, are simply ignored, while disruption of existing social fabric and negation of cottage industry, which are often the consequence of re-development, are not considered.

At its core, the SRA policy is based on the value from sale of free market units that developers will speculate on rather than consideration of any urban or social benefit. The immediate flaw in this policy is that slum redevelopment is guided by maximum profit and minimum risk to investment. Planning guidelines have scant framework for the units to be provided other than the minimum size, which started at 18 sq. mts. and has been increased based on political campaign promises rather than understanding of basic family requirements. Stipulations for ventilation, open space, social and recreations facilities, space for small/cottage industry and other programmatic elements that create a cohesive urban environment and often existed in the slum colony that the redevelopment has replaced do not exist and are invariably missing in the subsidized housing provided. Therefore, this redevelopment has caused further income, social and economic disparity with lower opportunity for recourse available to the 'beneficiary'. Lastly, the selection process of redevelopment is entirely based on investor returns, therefore location of the slum is paramount. Slum colonies that are located in areas that have high market value and those that are less challenging based on legal or other issues will get developed, while those slums located in areas where real estate value is lower will not attract any attention. To the slum dweller the message is clear – they are a commodity and the value this contains is real estate location; human and social issues have no bearing on redevelopment or improvement.

> **Peripheral Slum**

The Neo-Liberal economic approach that has guided policy towards housing and more specifically dealing with 'Informal Urban Settlements' combined with political exploitation of slum-dweller population and the

aggressively xenophobic sentiment that has pervaded into local discourse especially against Muslim and *Dalit* migrants in Mumbai have led to the emergence and proliferation of what we will refer to as Peripheral Slums. Current policy is to redevelop 'Notified' slums; that is, slums that have some legal sanction based on the politically established 'Cut-Off Date' and also that exist on land, although encroached', that has mention in the Development Plan for Mumbai as a plot within zoned development areas. By their very nature slums exist beyond the prescriptive boundaries established by various Municipal Authorities and their organic growth transgresses established municipal norms of land ownership, zoning, infrastructure and plan approvals. In Mumbai, however, the 'solution' for dealing with slums has been market-driven cross subsidy where the actual end goal is creating marketable real estate on land cleared by slum removal with vertical slum rehabilitation buildings created as a by-product of that transaction. While the failure of this approach has been well documented, one of the most notable conditions has become the emergence of the 'Peripheral Slum'. This typology of slum exists on land that either has a 'No Development' classification for the plot or the land does not exist as per government maps and therefore cannot be developed. For a city that has gradually emerged from the sea, this is not an unusual situation as land has been slowly harvested from partially and wholly submerged coastal areas. City maps, however, are codified documents and the process of recognition of land, inclusion into the 10-year cycle of Mumbai's Development Plan, creating of zoning for that new land and getting exemption from the No Development category based on the nationally mandated Coastal Regulation Zone (CRZ) established in 1991. The CRZ regulates any development within 500 meters of the High Tide Line of the coast and 100 meters along banks of creeks, estuaries, backwater and rivers subject to tidal fluctuations. Thus, a market-driven strategy for slum improvement or rehabilitation cannot function on sites that are not recognized by the municipal departments, for which plot numbers and property tax norms are not established and construction permission cannot be sanctioned. In short, this 'Informal Settlement' cannot be converted into formal market-ready real estate and therefore gets excluded from development consideration.

As with all real estate, slums are also subject to market economics. Not all slums are created equally; proximity to commercial hums, transport facilities, availability and reliability of utilities, established land tenure, social and cultural fabric, safety, sanitation, employment opportunities along with development potential all play into the cost of owning or renting a hutment in one slum versus a similar hutment in another slum or

even within the same slum at a different location. The most marginalized communities, the poorest of the poor can often find no option but to seek shelter in the Peripheral Slums that invariably exist along the coastal intertidal zones of Mumbai.

Economic growth against a counternarrative of Exclusionary Politics are accommodated by the non-place of the peripheral slum. These slums and their residents are the most vulnerable as they fail to, and under the current policy, cannot have any legal status. They have no development potential and therefore contain no economic currency. Without the weight gained from profit based on development, political backing, which translates to civic oversight and provision of urban amenities, is entirely missing. Basic essentials such as water supply, electrical connections and sewage disposal are catered by local 'Water Mafia' whose best interest is to maintain a highly dense urban population that exists in a nebulous urban non-place and consequently can have no legal safeguards. These slums are defined by their relationship to waterbodies and coastal edges with devastating consequence during the violent monsoons when waves, high tides and storms are a constant threat to their very fragile existence.

Megapolitan regions located in emerging countries such as India are typified with juxtaposition of gleaming skyscrapers whose roots are surrounded by sprawling slums. The Peripheral Slum in Mumbai typifies this condition with razor sharp accuracy. While the established slums, continuing the Pre-Independence British policy of pushing lower income communities and slums towards the suburbs, until the urban megapolis engulfed them to create lucrative redevelopment opportunities, the Peripheral slum in Mumbai exists on the edges; slums on beaches, as *Koli* village extensions, on coastal infrastructure such as unused wharfs and piers in the port area or breakwaters along the harbors, in coastal monuments and colonial forts, in cleared mangrove patches with hutments built on stilts and slums in tidal areas along railway tracks.

Living in a Peripheral Slum is at best a grinding challenge with daily effort to achieve some semblance of human dignity; at worst, it is an environment where the merciless force of ocean tides and monsoon storms conspire with untreated sewage and garbage to leave a trail of death, pestilence and devastation. Most affected are women, infants and children. Extreme density, no fresh water connections, lack of sewage infrastructure along with extreme levels of poverty and civic apathy create an environment where women are vulnerable to disease and death. Children and newborns suffer from the same maladies with instances of infant mortality much higher than average. Exploitation is a given and daily fact of life; without civil utilities simple necessities such as water delivery

is controlled by the local mafia and stored water is susceptible to theft. Violent crime is a common occurrence with women being especially vulnerable. Lack of sewage and a dearth of public toilets means answering 'the call of nature' in the open where women and minors are frequent target of rape and molestation.

> **Urbis Xenophobes vs Urbis Cosmopolitan**

The Peripheral Slum is often identified in another manner; based not on its geographical location at the edge but the composition of its citizens as being extremely marginalized. In addition to being disadvantaged based on extreme poverty and limited opportunity, the residents here are often migrants to the city belonging to historically discriminated castes or Muslim and face intense prejudice, both politically and socially. The sense of community that emerges is born as much from cultural resonance with the fellow resident as it does from preservation and protection gained by being part of the collective. Liberal sociographies paint a cautious picture against 'development' as a potential disruption of the cultural and social bonds that exist, yet the collective bargaining and political reckoning gained as a cohesive tool is perhaps equally and more urgently required in a Peripheral Slum, which is so precarious an entity without legal protections and civic sanction.

Often championed in 'regular slums' such as Dharavi in Mumbai is the emergence of vibrant internal economy based on cottage industry, craftsmanship and skilled services. Immigrants to the city bought with them skills and trades from their place of origin and this has grown into a niche industry within slum colonies. Leather crafts, from tanning and processing hides to finished leather products for high-end labels, are quite famous as are the potters and weavers. This cottage industry also leads to impressions of local entrepreneurship, economic inclusiveness and diverse streams of opportunity for the slum resident. Further gross statistics about economic output and volume of income generation suggest a healthy and equitable economy. Closer analysis reveals a contrasting image. The vast majority of artisans and workers are not self-employed but exist as freelance or contractual labor for larger units and provide services that are grossly undervalued. The unregulated nature of their employment makes them vulnerable to abuse and exploitation, while the nature of the work is rife with safety hazards and exposure to extreme toxicity. Beyond the seemingly benign artisanal nature of employment exist the vast majority of small industry in the slum; recycling hazardous e-waste, jewelry industry with exposure to mercury and welding/smelting works without safeguards. These industrial units exist in the slums precisely

because this location allows them mechanisms for exploitation and are vehicles for income disparity rather than the beacons of individual entrepreneurial upliftment. The institutional xenophobia and discriminatory stance of common society towards residents of Peripheral Slums makes them even more vulnerable to exploitation up to the point where the definition can be extended to Urban Serfdom as industry owners realize that the captive labor within the Peripheral slum has neither protection from police and civil authorities nor equal opportunity and access to employment beyond the slum.

In a country that boasts tremendous social and linguistic diversity, at the extreme edge of poverty that diversity is a mechanism for control and marginalization. Official and political discourse takes place in the local Marathi language, which is invariably not the mother-tongue of residents in Peripheral Slums. Unlike the relative linguistic homogeneity of slum dwellers and the residents of the city in general for places like Rio de Janeiro, Dhaka or Karachi, the otherness of language, religion or caste and cultural background is a vehicle for discrimination and marginalization. That Mumbai, which was forged and grew precisely because of the cosmopolitan nature of its citizens and the unique and diverse skills they contributed to her industry allowing the city to prosper, has adopted an attitude that is antithetical to the cause of its success is both tragic and short-sighted.

> **Mumbai Paradox**

Perplexed by the apparent contradiction between lack of evidence for extraterrestrial civilizations coupled with high estimates for their probable existence, the physicist Enrico Fermi is attributed to have uttered, 'But, Where is everybody?'. An analogous paradox exists for Mumbai. A city with global aspirations, blessed with a sheltered deep-water harbor, the gateway to trade and industry for the largest democracy in the world, center of the Indian financial industry and home to the most vibrant media production industry in the world, managed by the Municipal Authority with the largest budget in Asia and settled by a young, dynamic, highly educated and highly motivated population is also a city where over half its population lives in slums with utterly inhumane conditions and extreme levels of socio-economic inequality.

The paradox continues into its very soil and fabric. Ocean and river waterfronts are some of the most desired real estate, globally and in Mumbai. Real Estate rates along historically developed parts of Mumbai are some of the highest in the world. These areas also contain several Peripheral Slums with unfathomable levels of density, pollution, danger and disease.

The slums physically exist and yet have no legal basis for existence per Mumbai Municipal records and therefore no scope for recognition and offer no scope for remediation. As stated by Winston Churchill, 'It is a riddle, wrapped in a mystery, inside an enigma ... ;' but the most important part of this phrase is often neglected. Winston continued it by saying ' ...perhaps there is a key.'

The 'Key' to creating equitable housing access for the millions of Mumbaikars who silently suffer as residents of slums can perhaps be found in the conceptual framework of the Peripheral Slum, itself a poignant reflection of the emergence of Mumbai from the sea. Land was reclaimed, swamps drained, hills levelled, and coastal edges dredged with the purpose of creating long term benefit for society. The same resilience and courage are to be found in the dwellers of Peripheral slums and also the same ingenuity to craft shelter in so inhospitable a scenario. The current situation of addressing urban issues with massive human dimensions by private sector exploitation of those issues is not and can never be successful at either improving the slum condition or indirectly furthering global aspirations of the city. Current slum policy has become the 'central vehicle for facilitating the alienation of public land to private developers'.[16]

The 'key', therefore, must lie in an ingenious approach towards creating shelter and economic opportunity by and for slum residents rather than exploiting the inherent economic value trapped by outside forces. To achieve this, the approach must be a truly comprehensive sustainability, which considers economic, social, environmental and cultural as interrelated and equally necessary rather than frame an approach from the narrow, futile and arbitrary of present-day planning norms, legal definitions, neo-liberal economic policy and legislative framework.

16. Ghertner, 2014.

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Waterfront slum-dwellers in Mumbai.

Residual collective spaces in the slums of Mumbai.

The multifaceted complexity of waterfront slums in Mumbai.

Architectures, infrastructures, resources of Indian informalities

Understanding slums settlement conditions in Ahmedabad

by
Giulia
Setti

> Ahmedabad: economic and political reasons for the growth of informality

Reconstructing forms and processes of informality in the city of Ahmebabad (India) constitutes a deep journey in the understanding of urban and political facts that have defined the characteristics of the Indian context.[1] Ahmedabad is the financial and industrial capital of the Gujarat state, located in north-western India; it has a population of around 5.5 million inhabitants – 6.3 million considering the entire metropolitan area. Ahmedabad is the fifth largest Indian city in terms of its urban conglomerate, and the seventh largest metropolitan area in India (Census of India, 2011). The few items of data describe the impact and strength of the city in the Indian context and worldwide, as well as its rapid growth over the last few decades. The Ahmedabad scenario is interesting on many levels. The city has always been the protagonist of cyclical tensions due to the opposition between Muslim and Hindu communities, attracted by the commercial and industrial power that the city has been gaining in the trade routes since the beginning of the 20th century. Ahmedabad experienced a period of economic and industrial prosperity around the 1940s and in the years following the Independence, due to policies introduced by the Nehru government that pushed the country towards secular industrialization, free from the traditional division of society into castes (Torri, 2007). It was a fertile time for Ahmedabad that led to progress in various fields of knowledge, related to the construction of professional and technical institutes and universities.

With Nehru's death (1964), a period of stagnation and crisis began for the whole of India, with a strong effect on Ahmedabad and its economic growth. Many industries went bankrupt due to the injection of unskilled labour masses into the market and the subsequent expansion of the informal market and inflammatory effect on existing religious divisions. This series of events had various political and urban consequences. The decline of social policies initiated by Nehru led to the imposition of extreme forms of Hindu nationalism – in Ahmedabad, the Muslim community began to be persecuted and was held responsible for the economic and social crisis.

The city was the scene of riots and clashes between Muslim and Hindu groups in 1969, 1985, and 1992, and the bloodiest of all in 2002 (Spodek, 2011).

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1. This essay is the result of a close cooperation between Politecnico di Milano and CEPT University, School of Architecture, Ahmedabad (India), which started in 2014, through some exchanges between professors and students. Over the last few years, researches have been conducted on various topics focusing on the use of public space, the informality and typological conditions of Indian urban settlements.

Latent or explicit conflicts made the process of cultural integration carried out in previous years increasingly difficult and monocultural, and introverted neighbourhoods, strongly linked to the community of origin, began to be established within the city. With its coexistence of ongoing, latent tensions (Cerruti But et al, 2017), Ahmedabad has been, and still is, a divided city, where different forms of separation and segregation have deeply affected the construction (or demolition) of its urban form and the growth of informal settlements. One particular element that should be underlined is the strong industrial identity that has defined Ahmedabad, a drive to produce that, on the one hand, enshrined its economic growth, and on the other hand created migratory flows of workers to the city and, consequently, an increasing number of informal settlements to support the poorest sections of workers. Starting in 1990, the city's economy started to pick up again, intensifying in the sectors of industry, trade and construction. In those years, Ahmedabad experienced a significant demographic growth, which led to the construction of new neighbourhoods, in the outer parts of the city, for high-income families. The city, as well as the Indian context, shows contradictory and powerful images: next to fenced and newly built residential complexes, several informal settlements, with various levels of services, spread throughout the city and present different conditions.

> **Slums: types and reasons for informal settlements in Ahmedabad**

Ahmedabad is divided by the Sabarmati river, that crosses its core, effectively separating it into two areas: – east and west. The Old City, the original nucleus of the urban settlement protected by fortifications, partly still in place nowadays, lies to the east of the river. Within the dense and intricate structure of alleys and passages of the Old City, which represents the heart of Ahmedabad, some *enclaves* of single communities – Muslim or Hindu – can be found. These are called *pols* in *Gujarati*[2] and constitute the basic residential unit in the historical part of the city. In recent years, several new residential expansions – new neighbourhoods for the upper-middle class population – have sprung up in the outer fringes of the city. These settlements feature tall buildings, repeated in series and often unable to establish a connection with the surrounding context.

Far from reducing the presence of informal settlements, the expansion of the city through the construction of new residential neighbourhoods has in fact intensified their presence. This happened because the residential complexes have also been built with the use of cheap labour, housed in

2. The *Gujarati* term refers to one of the national languages of India. As the recognized and spoken language in the state of Gujarat, Gujarati differs in some important ways from the Hindi language.

informal settlements close to the building sites. Furthermore, the fact that many slum dwellers provide services to high-income families highlights once again the violent separation between poor and rich in the Indian social environment.
Informal settlements in Ahmedabad belong to two different types: *chawls* and *slums*. The *chawls* originated as residential units for low-income workers at the first mills; while the term *slums*, in its most common and widespread meaning, defines the illegal occupation of ground, or buildings, in marginal areas of the city, by migrants or other vulnerable sections of the population (Bhatt, 2003). The difference in concentration of settlement types in the various areas of the city is significant, in relation to the needs of the population that has settled there. *Chawls* are concentrated mainly in the eastern part of Ahmedabad, outside the Old City, where mills built their first businesses. More than half of the residential settlements in this area are informal, showing how, in Ahmedabad and in India at large, informality is bound to represent a pressing issue for urban and architectural development in the coming years (Mahadevia, 2002). As mentioned before, the west area of the city, facing rapid growth, has a substantial number of slums, which provide services to upper-middle classes. The presence of informal settlements in the city, which have grown substantially in recent years,[3] is evident along the main roads of Ahmedabad. Temporary shelters, tents and shantytowns are flanked by more structured informal settlements, such as *chawls* featuring multi-storey concrete structures that have grown along with the development of mills.
The term slum defines a solid, resilient type of community that has shared the same spaces for years, and produced mutual forms of help and sustenance. A slum is an architectural form that, in the case of Ahmedabad, has defined the identity of many places with different types.

> What does the slum give to the city?

Firstly, the slum is a sort of host facility, providing affordable housing for migrants who come to the city in search of work. Such accommodation units belong to populations of different religions, ethnic groups and communities, and they coexist in a way that actually enriches the civil value of the city itself. The slum population has come to play an important role in the economic life of Ahmedabad. *Slums* and *chawls* offer low-cost skilled labour in various production sectors (hawkers, repairers,

3. The slum population in Ahmedabad has increased dramatically over the last 20 years; according to the Census of India, the slum population (considering both slums and chawls) includes about 1.8 million inhabitants, although a precise account of the number of people living in informal settlements is always difficult to make.

dhobis – laundries, electricians, and construction workers). Therefore, they represent a resource for the city and, for this reason, require projects and policies to safeguard and improve living conditions.
A close study of the real conditions of informal settlements in Ahmedabad may offer a more detailed view of slum life in the Indian context. Since 2006, Ahmedabad has been developing the *Slum Networking Project*[4], or SNP, a recovery and implementation program for the transformation of slums developed thanks to a partnership among the Ahmedabad Municipal Corporation (AMC), non-governmental organizations (NGOs) and local communities. The aim of the still ongoing project is to focus on the need to provide and implement service infrastructures such as water supply and drainage, individual toilets, paved internal roads and street lighting. Informal settlements have common architectural and typological characteristics, which appear to be interesting to highlight, precisely because of their identification within a basic module in the city's structure. For the most part, they are densely built conglomerates defined by means of various aggregations and stratifications; there are temporary structures, roofs made of sheet metal or other materials, alongside some masonry houses, in different stages of decay, which give shelter to inhabitants or provide collective spaces for the community.
Chawls, on the other hand, are generally residential units composed of a single room housing three or more people. *Chawls* follow a clear design rule, and are placed side by side in linear settlements. The slum features an architectural mix of materials, colours and shapes; while stratification over time represents a distinctive feature of informal Indian settlements. Furthermore, the growing aggregation of population leads to the extension of the slum itself, to its rapid growth through the use of recycled materials, with partially covered building spaces that could accommodate an increasing number of inhabitants.
Life in slums and chawls takes place mainly outside, along roads and alleyways. It is a public life, open and shared. The settlement shapes and Ahmedabad's weather conditions make it possible to perform most daily activities outside.

4. For more information about the ongoing Slum Networking Project in Ahmedabad, see: http://mirror.unhabitat.org/bp/bp.list.details.aspx?bp_id=1762.

> What do life in and the architectural types of slums describe?

While the slum represents an important form of local and urban community, which establishes strong relationships between the inhabitants and the place, it also presents important issues related to services – often insufficient and inadequate – that highlight the problems of these architectural types.

In the informal settlements of Ahmedabad, access to water is guaranteed in almost all conurbations, even if it is insufficient for the needs of the population; while access to latrines and sanitation facilities is more limited – some residential units have access to a private bathroom but sanitary infrastructures and latrines are often scarce and undersized in relation to the number of inhabitants[5] (Bhatt, 2003).

Informal settlements in Ahmedabad reflect the complexity of ethnic groups and communities present in the city, as well as their precarious balance. Muslims and Hindus belonging to different castes inhabit these places, in particular the percentage of Muslims (about 22-26%) is relatively high, often located in informal settlements following the riots and conflicts during the 1990s. Slums also accommodate inhabitants of extremely poor castes, women – who work from home or near the slums – and tribal populations. While extremely varied, this scenario shows the common traits of the population that lives there; these are precarious, low-cost workers, women who often struggle to enter the labour market, and unemployed or temporary workers.

Slum residents have to fight in order to obtain better living conditions, often facing a lack of interest on the part of authorities and politicians. Moreover, many communities face latent conflicts with the inhabitants who often consider slum populations as a ghetto community. In the Ahmedabad scenario, the attention paid by the municipality to the slums and to improving housing conditions represents an important step towards the awareness of the need to adapt these settlements to better living conditions.

> **The informality of public spaces in Ahmedabad**

Discussing public space in the Indian context means subverting some fundamental paradigms in the description and definition of collective places that structure mostly Western cities. It is even more complex to distinguish the role of public space in informal settlements. In order to do this, it is necessary to understand how the concept of public space has

5. Data derived from some surveys conducted in the slums of Ahmedabad by SEWA (Self Employed Women Association). In recent years, SEWA has worked to improve women's working conditions through shared initiatives.

been understood in the Indian context and what resources it could give to communities. Public space in India is undergoing continuous transformation, multiple activities happen during a single day, radically changing the conditions of various spaces. It is a free ground colonized by activities, people and objects during the day. Therefore, in India public space is a place for experimenting with different uses that turns the classic Western paradigms upside down: the concept of a square, street, or market, acquires different, in some ways, more fragile boundaries here; in other cases, they show the catalysing force of the informal use of places, typical of the Indian context. The case of *Manek Chowk,* in the heart of the Old City, where the space and the architectural scenography in the background undergo three transformations during a single day, is emblematic in this sense. In the early morning hours, *Manek Chowk* is an area for feeding cows and animals, a fundamental activity for syncretic Hindu culture; during the day, the ground becomes a large public market with the opening of shops on the edge of the square and streets that turn into parking lots for sellers. But the real – and total – transformation of public space takes place in the latter part of the afternoon, when the square is occupied by kiosks of street vendors that organize themselves and transform the area into a huge and colourful open-air restaurant. Therefore, Indian public space is open and flexible, able to welcome – and to reorganize itself – around the exchange of different activities. In India, a successful public space has to be overused, often congested by vendors, families, animals, and traders. Chaos is, in its own way, the only form of possible order and public space is shaped by the exchanges among different activities. Overlapping, either commercial or collective, activities constitute a precise feature of Indian public spaces – shops that are superimposed, street vendors that change the configuration of places with a few gestures, while public spaces designed, or controlled to be such, remain desolately empty or become neglected. The contradiction in the concept of Indian contemporary public space lies here, in the redefinition of canonical paradigms according to which we named spaces and the scenography of collective actions. In the European context, public space – the square, the porch, the market – is often measured, controlled and designed; in India, on the other hand, a rapid demographic and economic growth encourages the experimentation with different collective and shared spaces.

But how should the concept of public space be translated into the informal settlements of the city?

In the informal settlements of Ahmedabad, as mentioned before, people usually live outdoor, on the road, where women, sitting on the thresholds of their houses, work, clean, and prepare food; children play, and the

elderly observe the activities going on around them. In this sense, we recognize the idea of community, as described above, but also of introverted *enclaves*, in some cases with security and crime-related problems.
The slum offers commercial activities along its edges, showing how public space could shift – and change – beyond the unconventional 'boundaries' of the settlement. These are flexible borders where street vendors and temporary activities are often arranged. In most slums, however, collective space is a transitional space, where domestic activities or activities related to the maintenance of the slum are carried out at different times. Following the development of the previously described slums recovery and rehabilitation project (SNP) supported by the Ahmedabad municipality, conditions in these areas have significantly improved: the roads inside the informal settlements have been paved allowing a better use of collective space. Many slums are still in a situation of partial degradation, aggravated by high population density and precarious hygienic conditions that increase the spread of epidemics. Therefore, it seems difficult to think of opening slum public spaces to the city or introducing permanent commercial activities.

> Slum architecture between uncertainty and cohesion

As mentioned before, the slum defines an architectural type that is widespread and juxtaposed with the growth of the city in developing countries. The settlements identified and studied in Ahmedabad show similar typological features: the residential unit comprises a single room, built either in masonry or even with poor materials, metal sheets and recovered scrap parts.
In Ahmedabad, it is clearly possible to perceive and identify informal settlements: such dense agglomerations are defined by a continuous façade composed of portions of houses and temporary shelters, small verandas and porches used by inhabitants for commercial activities or to create a separation from the city. The 'walls' of the slum, its border, show its discontinuity with the formal and designed city. The slum's settlements overlap, with narrow alleys and minute passages. The slum is a dense labyrinth made of an intricate overlapping of elements, objects and materials, where getting lost[6] is an experience that confuses and, at the same time, fascinates. In Ahmedabad, slums are recognizable because they are juxtaposed with medium-high residential areas, because they develop along the banks of the Sabarmati river or because they represent what

6. Crossing an informal settlement is an intense, sometimes disorienting journey; in order to really 'get lost', it is worth to visit the Dharavi, a slum complex in Mumbai, one of the largest informal settlements in the world.

is left over by the production industry, the true core of the city. Slums are conglomerates of modest size, generally arranged on one level, where the condition of the housing structures is precarious, often degraded; the slum lives, and grows, at different times, for this reason continuous additions and high density increase the issues to be dealt with and to improve their quality of life.

The slum is an architectural kaleidoscope, made up of parts and fragments, which are found in different areas; it is a place made up of precious details: inlaid windows, small votive chapels embedded into the constant and unstable growth of the slum. But it is also a place of rubble, scraps, fragments and ruins often accumulated by the inhabitants during their lives; they create layers of memories that persist and sediment. For this reason, the architectural richness of the slums must be protected, both as social resources that slum communities bring into the city, and for the value of the architectural pieces they contain. By observing the plans of some informal settlements in Ahmedabad,[7] it is possible to identify the presence of precise design rules that determine the hierarchy of connection axes and the shape of the settlement itself. Slums often show a linear organization with some main intersections and, sometimes, the presence of collective spaces that act as a 'square' or a meeting place.

In the slums' residential units, one can find a mixture of materials and different construction techniques, which sometimes create houses, or simple shelters for occasional refuge – a real catalogue from concrete to bricks, tiles, wood, and stone: everything is combined by respecting the design rules of each settlement as much as possible. Slums are repositories of stories, of architectural fragments, of private and collective spaces; therefore, studying the conditions of these settlements in order not only to safeguard them but to radically improve their living conditions seems fundamental. The Ahmedabad context, and the policies formulated by the municipality, reflect its awareness of slum issues, as mentioned above, and of shared actions organized to guarantee a respectable life for the inhabitants.

> What projects and design programmes are possible for slums settlements?

Rising awareness about the improvement of living conditions in the informal settlements of Ahmedabad is an increasingly crucial issue for several reasons, in particular the need to protect communities and families

7. Many surveys have been carried out in Ahmedabad in recent years, especially thanks to the cooperation between the Ahmedabad Municipality and the CEPT University in Ahmedabad.

that have lived there for generations and, at the same time, to safeguard settlements that are the holders of memories, architectures and activities. The important need to provide major improvements in the sanitary conditions of the slums forms the background, in a way that favours, wherever possible, a series of interventions to strengthen the already existing, but insufficient, structures. Recently, a joint operation to improve slum conditions has been carried out in Ahmedabad by local communities with the support of various NGOs and local authorities. Much has been done both to improve infrastructure and access to water and electricity, and to build bathrooms and toilets in order to reduce illness and health insecurity significantly.

Over the years, the Ahmedabad municipality has tolerated informal settlements, even where these were built on public or private land, by avoiding demolition or violent removal, and allowing even poor populations to use public land for commercial activities. As we have said, there are several ongoing projects in Ahmedabad, such as the *Slum Networking Project* and the *Slum Improvement Partnership*, both with the aim of supporting the upgrading and construction of new infrastructures that could be networked with the city's infrastructure system.

But what could still be done?

Working on and designing a slum means building and providing basic infrastructures and a network of services of use for balancing the settlement, guaranteeing a certain flexibility in self-construction and in the transformation of residential units. Building an efficient infrastructural system represents the framework that every informal settlement should be able to obtain, and based on this structure, one could imagine the organization of prefabricated housing units and modules, designed to be integrated with pre-existing structures. On the one hand, this would mean protecting and recovering the architectural heritage of the slums, and, on the other hand, promoting better living conditions.

Repeatable housing modules have been used in many contexts in recent years,[8] showing how architectural design can actually 'shape' informal situations, integrated within an open project, by adapting to different contexts, architectures and lives.

Like many Indian contexts, Ahmedabad is struggling to achieve such integration, but in the projects promoted by the municipality the role of

8. Some important projects have been developed in slum areas in recent years; two examples are particularly interesting: Alejandro Aravena and his firm Elemental developed the *'incremental' Quinta Monroy Housing* in Chile in 2004; Urban Think Thank developed low-cost housing for Cape Town's informal settlements, and the project called *Empower Shack* was selected for the 2018 RIBA International Prize longlist.

architects and urban planners often appears marginal. On the contrary, building and implementing low-cost informal settlements require a close and solid cooperation among different experts. Architecture could – and must – act by creating infrastructural systems and by innovating the use of land, while working on architectural language and forms through efficient designs for new settlements – designs made of modular elements and designed to reconstruct a unit without imposing a common language. Upgrading Ahmedabad's slums means building and integrating new residential parts within what already exists; favouring the recognition and protection of informal settlements as a resource and a future priority for the city. The architecture of the slum implies a change in the design tools and a necessary awareness required to understand how these portions of the city represent a fundamental condition for Ahmedabad that must, of necessity, be placed at the center of new forms of contemporary design, and be open, inclusive and flexible. Architects should be able to define visions for a possible development of the slum settlements in Ahmedabad, in which the rapid changes of the country are reflected in architectural devices able to support and re-organize informality without destroying it: a real challenge for contemporary design and for the development of the city.

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Stratification, Ahmedabad, 2018. Photo by Ottavio Pedretti.

Living in a slum, Ahmedabad, 2018. Photo by Ottavio Pedretti.

Printed in July 2021
by PressUP, Rome

The book, through a reflection on the paradigm of the informal city and with a verification in corpore vili on 10 cities, presents a description of the role that collective space and social organization have in the construction of slums. In addition, an investigation is developed on the role of architecture in the regeneration of settlements. The picture provided by the 10 factsheets on cities, in which the slums represent a phenomenon of great importance, helps to understand the reasons for their birth and development, and, through different perspectives, to understand how to promote a new comprehensive and inclusive urban organization.

ISBN 978-88-6242-528-5