

Action as research. Two schools and two realities: Mathare and Bamburral

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Abstract

This article presents two intervention projects in self-built territories, discussing their role as objects of action as research.

Keywords: Action as research, Nairobi, Mathare, São Paulo, Bamburral

Introduction

The United Nations declared that "the twenty-first century is the century of the City"¹ but it is yet not known what kind of city it will be. London, Paris, Berlin, New York and Las Vegas were the empirical basis for planners and sociologists of the nineteenth century, and were the subject of study and analysis to understand the structure models for new settlements. Today, however, we face a new reality that is not yet clearly defined, because the massive urbanization that we are witnessing led to the emergence of new megalopolis², three quarters of them in developing countries: the center of the world will no longer be Europe or the United States.

These mass movements of population are leading to major changes; in 2050 the number of inhabitants in the city will double. This new trend is mainly in Asia and Africa, the world's most populous continents, where the rate of population growth is three or four times higher than many countries in Europe.

1. Mathare



Figure 1 - Mathare

In many megacities in the southern hemisphere, the so-called informal settlements have grown exponentially, as opposed to the formal historical city: these cities are characterized by uneven distribution of population, services and wealth. When we speak of favelas, slums, baraccopoli, shantytowns, bidonville, we often make the mistake of identifying these

realities as a whole, as a formless extension, of brick and metal, without differences. In fact, each settlement has its own characteristics and peculiarities, often due to different cultural traditions, climate, economic, social and political systems and development in each country and city. This is the case of the Mathare slum in Nairobi, and Bamburral slum in Sao Paulo, Brazil. Nairobi is a city of 3.5 million inhabitants and with only 200 slums, and Sao Paulo with 11.5 million inhabitants and 1600 slums. On one hand Brazil, one of the World's rising economic powers, and on the other hand Kenya, divided between foreign investment for major infrastructure and an extensive rural culture of the entire population. Even today, the Nairobi urban model is based on the system established during the British colonial period, characterized by a segregation area and an urban, social and political fragmentation. The same areas that were allocated to the European settlers are now occupied by apartment buildings, vacation resorts, shopping areas or golf courses. 60% of the population of Nairobi live in informal settlements occupying only 5% of slums and urban agglomeration, degraded areas with little infrastructure or near heavily polluted areas, as in the case of Dandora where people live around the largest landfill in the country. Mathare is part of this parallel system to the city, where 500 thousand people live in an area of only 1.5 km².

The Nairobi government failed to deal with the organization and planning of such settlements, often with their dynamic changes and a heavy and corrupt bureaucracy. All slums of Nairobi require all types of services and primary infrastructures: access to clean water is insufficient, if not entirely absent, lack bathrooms and lack connections to a public sewage system, there is no system for the collection and disposal of hospital waste, HIV reaches 60% of the population, the school system is responsible for overcrowded streets schools that are not recognized by the Ministry of Education.

In this context of insecurity and emergency, planning takes on a completely different meaning than is commonly understood. The main contact is not only the school and its building, but the entire community: every choice is linked to the needs and requests constant changing. The project is modified during its construction and many solutions must be able to be challenged and shaped in accordance with the needs that arise gradually.

The project of the *WhyNot Academy*, developed in collaboration with the NGO *Liveinslums*³, is an example of how the design of a new school is the instrument through the implementation of a broader process of rehabilitation of a neighborhood, and in response to a major need, as an educational act in a whole community of families and people who gravitate around the school. The project was born from a specific request from Dominiq Otieno, Director of WNA, but developed as a project for people who founded and wanted the school. The residents are the true leading figures of these changes, they should be able to participate in the plan, but not know that we are the ones developing their ideas. Together, we plan to work and help because they have an innate ability to self-organize. This capacity is the engine that residents of slums have, together with youth groups, to organize around projects such as gardens, schools, churches, sports, music and dance. These groups of people are a reference to the various communities in the slums, and where they get their work: collecting and recycling waste, groups of musicians and actors who organize festivals and shows, etc. So, it becomes essential to identify and create a network of local employees who become active agents in the stages of project implementation and future leaders of the tangible and intangible products.

The process that led to the achievement of these goals - in this case, the construction of a school - is never linear in its development, because it is composed of many phases and sometimes, we are forced to rethink and review the choices made earlier. The project, despite its image be associated with the new school, suffered a long interdisciplinary work involving not only the architect but, in our case, agronomists, sociologists and photographers.



Figure 2 – WNA, fase 1 – before

The school project is the starting point to understand what are the critical issues and needs of the community, is the center of a complex system of relationships that would be difficult to understand only from the point of view of architecture and urban planning. The architectural project becomes the "camp site" to explore the neighborhood, is the instrument through which one can get in touch with the people and the community and then to understand the dynamics of everyday reality in which the project is inserted. We can say that the architectural design is secondary and subordinate to a broader vision of cooperation and assistance that covers areas as diverse as food, education, urban agriculture, waste recycling and part of a process of social and environmental regeneration much more complex than architecture and goes beyond the typical self-reference. The role of the architect is not just designing spaces and providing technical support, but connected with dense and complex human and social aspects, that distort the normal relationship between client - architect, because in this case the characters are varied and well-designed but almost never with blurred boundaries. The architect within the NGO is not a person, but an entire group of professionals with different capabilities, which converge around the project and enriching the content that architects are called to give shape. The process leading to the construction of a school, or any other type of work requires the involvement

and cooperation of most subjects to analyze and understand the phenomenon as complex as the slums, in contrast to the traditional method of analysis proposed to study and resolve separately the various aspects of these realities. The architect should be able to observe and interpret the signals that people give and establish a relationship of trust that is based on a relationship of equality in which the reasons for the architect is not experienced as an imposition.



Figure 3 – WNA, fase 1 – after

The project, for obvious reasons of time and budget, was divided into three phases. The first phase, launched in 2011, saw the construction of a kitchen and the recovery of a landfill on the side of the school to create a garden that provided products to ensure a meal for all children in school and provide them with a more diverse diet. In general, there was a safe school, which was partially covered with earth, and where the walls were built. The filling should have been with recycled bags containing the same earth removed, and originally planned to be cultivated, but when we discovered that children were using the space to play and people were using the site as a meeting place, we changed our concept, creating a playground and a common space for residents.



Figure 4 – WNA, final fase

The second phase, completed this year, was much more complex and articulated: the garden was expanded and tripled its original area and built a long wall of stones wrapped in metal mesh, because the garden was destroyed several times, even with the protections put on the river bank to prevent flooding during the year. The main part was, however, the demolition of the existing school, as well as the reconstruction of the same structure using a filling with clay and a more specific wood, a common technique used in the slums and villages of many of the inhabitants. However, this intervention raised concerns among many people who see the earth as a raw material that is extremely poor and not very durable.



Figure 5 – WNA, kitchen and vegetable garden



Figure 6 – WNA, fase 2 - school

We then built a wall model in 1:1 scale to show the strength and potential of this choice. After months of skepticism, land preparation and writing on a bamboo frame, used as a support for the land, it became a time of fun and learning for children, parents and school teachers, people who were passing by stopped and asked for information on the technique, the type of land used, and intrigued they tested the firmness and strength of the wall with their hands. With the latest layers of earth and plaster demonstrated a technique often used but little seen and completely unexpected results and looked like a brick structure.

This phase was completed with the creation of new benches that were easily put together by the people and build new furniture for the kitchen and classrooms. The third phase will see the construction of the second floor, and the expansion of the school, thanks to the structure made between the two floors, where the cover can be removed, and is possible to connect the ground floor to the first floor using those new pillars and replace the cover again.



Figure 7 – WNA, fase 2 – earth preparation



Figure 8 – WNA, fase 2 – school

2. Bamburral

To paraphrase Mike Davis⁴, Sao Paulo is certainly the City of slums, with more than 1500 favelas(slums) and more than 3 million people who live in and around the city, is perhaps one of the best urban models that represent the history and evolution of the informal settlements, as well as foreshadow an example of urban development for the next mega-cities that will be created by 2050. Until the 60s, the attention went to Brasilia as the modern city foundation, architects, urbanites and sociologists looked only to the history of this city, and the slums began to develop around the major urban centers, according to unwritten rules based on self-governance without an organic planning, using the infrastructure of the city as a formal model for its survival. In the following years, slums were ignored and labeled with a negative effect of rapid urbanization, which was the price they had to pay for progress and city development. Only in the early 70s, we begin to understand the phenomenon of informal settlements was not an end, but a consequence of the very rapid growth of urban slums and were the only option for this part of the population that could not afford a house, and therefore preferred to live in a precarious situation, despite the possibility of access guaranteed by the city itself.

These considerations were the basis for the first true work of public initiative in the early 90s, major programs that provided for the formalization of informal settlements and the construction of thousands of homes for families affected by the demolitions. Many of these projects, taking into account pre-existing territory, had the consequence of creating

problems in the social fabric of the slums, creating inequalities between those who received the new housing and those who were excluded. The type of housing was applied the same way in different slums, without taking into account the differences, the important thing was the relocation of numerical data. Although there is still much to be done and sometimes architectural solutions emerge even from a positive view and modern design, the government of Sao Paulo has been looking in recent years through the Department of Housing for the rehabilitation of slums with a closer look at families' needs, inclusive planning, which aims at formalizing only the cases of greatest danger and discomfort with targeted projects and different in each case.



Figure 9 – Bamburral

It's a more participatory process in which people are involved in the process of rehabilitation of slums. It is within this new landscape and city views that can read the educational garden for the slum Bamburral. This is a small intervention in cooperation with a municipality that invited us to participate in the São Paulo Calling, a project that aims at analyzing the main proposals for further discussion of the informal city, as good practice, a new type of relations that politicians and designers should engage with the people of degraded areas.



Figure 10 – Bamburral - before



Figure 11 – Bamburral, vegetable garden - after

The project, in this case, was conducted in a school, the primary school where Fernando Gracioso Bamburral's children go to. The project lasted a few weeks because it involved children and elementary school teachers in creating a garden with medicinal and aromatic plants, which do not require a lot of light, creating a sensory journey. After a heavy and necessary work for the preparation of the soil and pots, children were involved in planting and decorating ornamental vases. Just at the opposite side of the entrance to the school, using recycling wooden pallets, was built a vertical garden that changed the perception of the deteriorating school. The aim was to provide an educational device that could attract children to agriculture and make them proud and responsible for the development and maintenance of the project.



Figure 11 – Bamburral, vegetable garden – construction

Final notes

Mathare and Bamburral, although both are in currently in social degradation situations in Bamburral, in the neighborhood of Perus, residents have a house with two levels, built in brick, they have a car, are linked to basic services, the roads are paved and the area is served by public transport. The situation is totally different in Mathare where people live terribly as in other slums in Africa, where the "houses" are rooms of 3x3 on the ground, in metal boxes, where bricks and cement are considered a very high social status. The school is public Bamburral where no one pays anything and the books are free and the canteen offers 2/3 meals per day, while in Mathare a child eats an average of 4/5 times a week.

This parallelism shows two diametrically opposed examples of urban policies implemented by local governments, revealing as in Brazil, thanks to a remarkable economic growth, which is trying to integrate the favelas (slums) in the city and are not intended as a parasite, while in Africa the informal areas are deliberately ignored and segregated, becoming the city in a city, and an independent source of self-confidence and self-regulation.

But what unites Fernando Gracioso de Bamburral and the *WhyNot Academy* in Mathare is that both are local attractions for young people and their families, are reference points for the entire community.

An action-research. Fieldwork, becomes a method of analysis and applied research that helps to understand and complete the dynamic that moves these realities. The analytical and statistical analysis of demographic and economic data are important for understanding the causes that lead to the formation of such settlements, but a research and deep study, is essential to integrate the study of systems and understand the macro effects and consequences on the daily life in these cities. It is through the exploration of space, listening and dialogue with people who can fully understand the meaning of anonymous points on a map. Life in the slums is made of close relations, micro-savings and micro-dramas and emergency situations that can hardly be captured by a distant look. We must overcome the definitions that limit and regulate traditional urbanism, and we need to separate ourselves from an architecture designed only as an image and refers to a self-referential system. Teddy Cruz also notes that "as the architects continue to be seduced by the image of informality, he is captured simply by an aesthetic category" informal settlements are, however, a small productive business, self-generated and self-organized, forming a micro-economic system, domestic supply and demand, which meets the needs of the entire population excluded from the formal life of the city.

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¹ Un-Habitat – U.N. Human Settlements Programme, State of the World's Cities 2008/2009.

² U.N. – Department of Economic and Social Affairs – Population Division, World Urbanizations Prospect: the 2007 Revision, 2008, tab 1.7.

³ www.liveinslums.org



⁴ Davis, Mike – Planet of slums. London: Verso, 2006.