
CHANGING POVERTY POCKETS IN METROPOLITANS

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INTRODUCTION

“Poverty gap is the mean shortfall from the poverty line (counting the nonpoor as having zero shortfall), expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence” (*Millennium indicators*, <http://mdgs.un.org>)

The first question: how the analysis of the dynamic expansion of the cities in developing countries can help to identify new social and environmental perspective, aimed at reducing inequalities between rich and poor within the peripheral areas of the city?

The second question: how to intervene in the spontaneous lands, where there are no forms of control and census of the local population and where the physical consistency of the built and the speed of transformation can not help to define a mapping and some final state of done?

POVERTY AND URBAN EXPANSION

The modern western city, was a model of growth of capital cities (Paris, London, New York) all in all fairly smooth, although it was realized at different times: since the industrial revolution onwards, companies and governments have had to deal, within a few decades, with an exponential growth of population and, in parallel, with a massive migration into cities. These had to absorb the arrival of poor people in search of work from the nearby countryside. This almost always resulted in the removal of the rich and middle classes population from the towns, to escape the direct contact with immigrants and increase their security.

In this framework, the first modern program of transformation of the city dates back to the activity of demolition took place in Paris, through the work of Baron Haussmann: in twenty years, 95 km. of new streets in Paris, through the disappearance of 50 km. of old roads (Benevolo, L., 1976) Whole city center neighborhoods, inhabited by poor people arrived from the countryside to work in industry and manufacturing, were cleared to make way for new stores and middle-class residences. This has led to the birth of modern suburban Paris and the beginning of the ghettoization of the poorest residential areas. Today the size of this flow are quantitatively more significant, and qualitatively far more complex, with population movements mainly from rural areas to suburbs and spread spontaneously born.

If we take as an example China, the most important cities have changed their face in a few years.

In the great hall of SOHO China's headquarter....., a series of historical photographs depicting transformation in the area within the last decade on display. The photographs include the former No.1 Machinery Factory, the factory's workshop, the workshop's demolition in June 2001, the construction process of Jianwai SOHO, and its grand completion celebration in October 25, 2003....They epitomize the transition of a Chinese city as it enters the 21st century. (Verso est, chinese architectural landscape, 2011)

Only in recent years, urban theorists have begun to look towards new forms of urbanization in developing countries, trying to understand inner dynamics, progressive changes and effects that may have on the stability of the entire planet. (Balbo, 1999). The dimensions of the phenomenon are such that any projection of them in the future would be misleading. However it is expected that Western countries (USA, Germany, France) and the developed world (China, Japan), are attesting to a zero growth of population and in some cases a decrease, while the southern countries of the world continue their growth, albeit with a lower discount rate than the present one. (The Economist, 2011).

Thinking of control policies, aimed at reducing indiscriminate urban sprawl, today there is the problem of identifying new way of interventions that stopping the use of land, propose a progressive regeneration of poor neighborhoods that surround the major cities, making regeneration actions timely and differentiated in relation to the needs and differences of social and racial composition.

Since the era of big urban visions, even reading the city as a unitary phenomenon, based on a close relationship between urban morphology and building typology (Rossi, 1981; Aymonino, 1978), is replaced by a more punctual and circumstantial vision, investigating the internal phenomenal to the individual neighborhoods, and the specific needs and situations.

Paul Jargowsky (2002) makes a distinction between high-density neighborhoods and poor neighborhoods where the poverty rate reaches 40% of the population. The vision, even by sociologists, therefore, seems not to generalize the problem by reducing it to a single factor, but to analyze the phenomenon gradually introducing more precise parameters, which can be distinguished, even within appar-

ently homogeneous area different conditions of social cohabitation, differences in access to services and essential goods, margins, etc..

This scenario just described sees gradually erode the role of the center of the city as a driver of economic and social integration of its inhabitants. The same Jargowsky, in describing the phenomena of urban growth within the U.S., particularly in the '80s and '90s, identifies the progressive loss of importance of the city center and the growth areas of patchy, in constant motion and transformation.

To argue that sprawl is related to central city decline, is not to argue that sprawl is what causes central city decline. It clearly does play a role, but it is just as valid to argue that central city decline is what causes sprawl. The "pull" of the suburbs is enhanced by the construction of large modern homes in ethnically and economically homogenous suburbs, perhaps with walls and a private security force. The "push" of central cities is exacerbated as higher-income families leave and the fiscal condition of the central cities worsens and the quality of public services, particularly education, declines. (Jargowsky, 2002)

THE SOUTH OF THE WORLD

About 830 million people—or some 33 per cent of the urban population—live precariously in these settlements and, if present trends continue, the number of slum dwellers will increase to about 890 million in 2020 (UN_HABITAT, 2011)

In south of the world modern cities, in contrast to the established western cities, the degree of poverty is dramatically higher (Baker, 2008). In addition to, in Africa, 72% of the population lives in cities.

But, as mentioned previously, the size of the phenomenon betrays the expectations of greater access to goods and services (potable water, schools, transport) that gave rise to this migration, as the city center moves far away. The mechanism of "pull" and "push", that is attraction of free suburban areas, and push outward by the central system, causes a form of patchy settlements, with shadow zones formed by areas, who are transforming and replacing. This creates areas of inhomogeneous (poverty pockets, inside new settlements for the upper middle class) whose inhabitants live unwillingly, with huge problems of safety, hygiene and social inequality. In these areas the gap between rich and poor areas will gradually be filled with different policies and action based on the organization of services and essential goods, even before that with the replacement housing policies.

In the Millennium Development Goals, In Particular, Goal 7, target 11, calls intended for the improvement of the lives of at least 100 million slum dwellers.

In this sense, it seems anachronistic and unrealistic to plan interventions and assertive global replacement construction, less than an uprooting of whole sections of the population and households from its structure that, as characterized by a certain instability, it seems gradually consolidated in a kind of temporary equilibrium.

The improvement must necessarily start from actions that, even before offering solutions and programs, aim to become more aware of the survey instruments. These investigations, relating to outstanding physical properties of the constructed and natural resources available and exploitable, may give rise to possible new strategies, more compatible with the social dynamics and more environmentally sustainable strategies, in these individuals must be involved in the process of transformation.

POVERTY POCKETS

One of informal settlements Types locate in urban context and serened by life borders from each side that make them unable to horizontally sprawl, specially, in metropolitans of 3rd world. Poverty pockets as defined in urban planning research journal- Cairo University, faculty of urban planning- is "poor city within a city, saturated, not available to horizontal extensions, on high value land".

Developed and poor communities are no longer live separated. They meet on the border of poverty pockets inside the same city itself where the Gap is highly noticed. They are many example of poverty pockets around the world, if we just go through Google earth trying to explore the urban context of metropolitans, such as Cairo, Mumbai, Nairobi, Casablanca, San-Paolo, etc., poverty pockets are highly recognized where intensive density- poor area are locked from all sides by rich urban context.

People live there, in poverty pockets, under the poverty line, inside residential areas that are physically and socially deteriorated and in which satisfactory family life is impossible. Bad housing is a major index of slum conditions. By bad housing is meant dwellings that have inadequate light, air, toilet, and bathing facilities; that are in bad repair and improperly heated; that do not afford opportunity for family privacy; that are subject to fire hazard and that overcrowd the land, leaving no space for recreational use, while on the border of them and after a few miles, all kind of high quality life are there, lived by people have the same citizenship. This gap affects both poor people that live in pockets with high intensive numbers of inhabitants under poverty lines, and the government thinks to relocate them to another areas provided with low-cost houses hoping to create new investments in their lands.

THE BLIND METHODS

(ONE-EYED APPROACH)

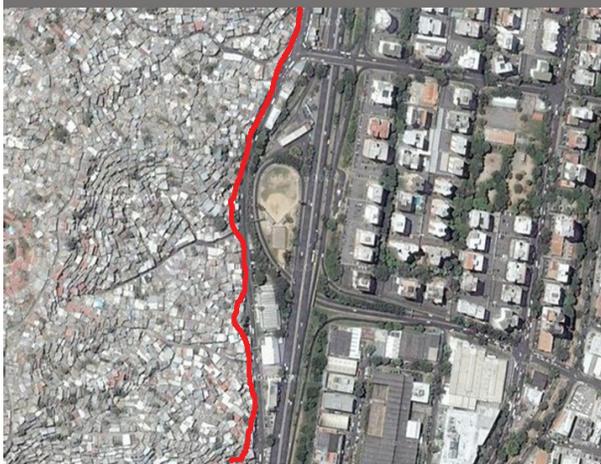
As poverty pockets are located on a high value lands, urban developing sectors follow a traditional strategy that relocate the inhabitants to new low cost settlements outside the metropolitan urban context, hopefully, to clear the slum off by demolishing all buildings and replace them with new profitable projects. Results of these actions were unexpected and surprised the governments. They created new off-urban isolated non-social houses people don't like to move to, and internal problems between governments and inhabitants don't want to leave their lands.



one of Poverty Pocket in Cairo, Egypt
taken and modified from Google Earth



one of Poverty Pocket in Dharavi, Mumbai, India
taken and modified from Google Earth



one of Poverty Pocket in Paraisopolis, Sao Paulo, Brazil
taken and modified from Google Earth
— Poverty Pocket border line

Figure 1. Poverty Pockets examples in Metropolitans of developing countries, taken and edited from Google Earth by Mostafa R. A. Khalifa

One-eyed approaches stand only by government profit side without thinking about real poor inhabitant situations and looking forward to solve their problems; while the real development would not be achieved without creating a good balance between people and government needs, and without looking to both sides at the same time.

they are noticed enough in slums located in metropolitans' cities in developing countries such as those are located inside touristic areas along the river Nile in Cairo-Egypt, after the Egyptian governments managed a future project to have skyscrapers, commercial and touristic developments instead of slums located in the same area by 2050 in order to path on trail of Dubai and try to simulate it. The same with Indian's slums while the government fails to apply the India's dream project 2008 Called the *Rajiv Awas Yojana*: Slum Free Nation; India wants to move all those people — 6.2 million to be exact — out of the slums in five years by promoting what they're calling "ultra-low-cost housing." multi-story flat developments built outside of cities where land is cheaper.

ONE-EYED APPROACH PROBLEMS

For the government
<ul style="list-style-type: none"> - The slums, inside metropolitan cities, are located on lands that has a high value for investments - The activities of people there have negative effects on developing movements - Those areas hinder the process of sustainable development and delay the new prospects of investment to the government - Governments loose Investments provided to create low-cost off- urban houses because people don't want to be relocated to off-urban areas far from their work and families
For poverty pocket's inhabitants
<ul style="list-style-type: none"> - They live in illegality status, under unhealthy human-environment, high intensive numbers of inhabitants, and under poverty lines. Public services are not enough or don't exist at all - Overcrowd existed houses are physically and socially unsatisfied; Bad conditions, inadequate light, air, toilet, and bathing facilities, and without privacy for families - they can't pay for new houses offered by government even if it is low cost dwellers - Socially, low cost residential buildings offered by governments are off urban, isolated, uncomfortable and narrow units. New settlements are fare from their works while the new areas don't provide them with new possibilities of work or sustainable living.

ONE-EYED APPROACH RESULTS

In consequent, the result of this strategy is a new abandoned off-city settlements the private and public building sector lost their investments. Moreover, the poverty situations are rapidly increasing for people in slums.

Here following question stands urgently, need to be answered:

- Can we improve poverty pockets without people re-localization? How?
- Do we need to think “out of the box” for poor communities?

THE CHANGING IS “OUT OF THE BOX”

Western architecture culture had express, in the past years, several lines of urban phenomena interpretation, mainly based on a formal idea and on organization of roads and communication, (mono-centric city, multi-center, linear, etc.). Today, this approach is not appropriated any more for poor communities: we need to interrelate the themes on urban Sustainability produced by different disciplines to identify new standards, so to cover issues such as identity, land consumption, energy, thermodynamics, physics, economy, social development. The multidisciplinary approach seems now to be the only way that allows obtaining a new vision of sustainable urban development. The goal is to provide new tools for the interpretation of urban phenomena to all those ones involved in the territories of cities characterized by strong inhomogeneity.

SELF-CHANGING WORK EXAMPLES:

A- DOUALA EXPERIENCE: SECOND PRIZE AWARD BY IAHH INTERNATIONAL 2010.

The idea of urban poor self-improvement was proposed by Association of Humane Habitat international competition, in which a multidisciplinary team of architects PhD, biologists, ecologists, members of the Graduate School of the University of Camerino-Italy, has proposed a strategy for regeneration of a suburb of the city of Douala in Cameroon. The group was awarded the second prize for a proposal which identified a method of gradual replacement of homes built with no sanitation and no infrastructure. An approach in which public participation in building infrastructure (sewers, tanks, roads, etc.) is compensated with the participation of citizens in a program of guided self-construction.

The starting point was to find a common ground for dialogue, based on the following arguments:

- think across the boarterms of design thinking as possibilities and not solutions
- think through examples and images related to concrete references
- think out of the disciplinary box

This approach has allowed work to better define problems and identify in the group different points of view, about the same problem. The area selected as a sample survey is located on the outskirts of the city of Douala, within a linear neighborhood, spontaneous and very poor, built along the road connecting the city to the airport. One of the few viable infrastructure and consolidated so fast.

As you can see from the image (Figure 1), some portions of land nearby the slums are fragmented in advance, are provided with essential infrastructure, and made available to the private upper-middle class, to build single-family homes of good quality and manufacture.

These new enclave huddled spontaneous to neighborhoods of the poorest people who have occupied the land, disrupting the flow and creating a sort of island, occupying new territories along the road connecting the airport.

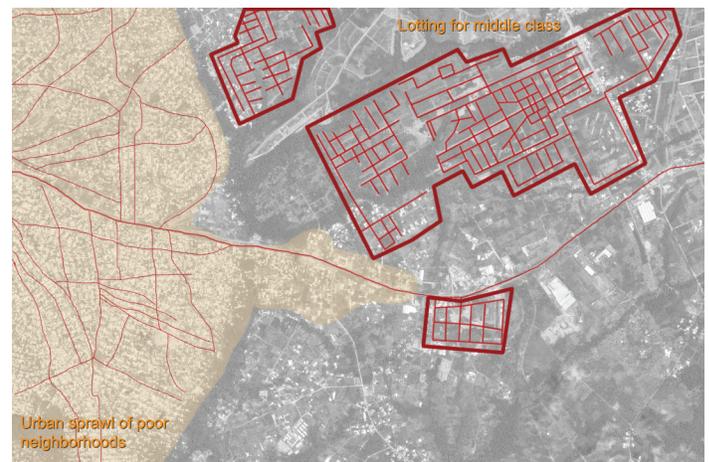


Figure 2. City of Douala, Cameroon. The spontaneous expansion is slowed by subdivisions for the upper middle class

This first survey cleared that rural-urban migration are complex and different, beyond a general view that sees the increase of urban sprawl as a homogenous blob, and have no differences and hierarchies.

The proposals emerged from the group have therefore identified the following objectives:

- Identify strategies that involve citizens from the stage of investigation of existing conditions. The difficulty of detecting a single event, while it is continuous and fast growth, is one of the major problems that currently prevent a real understanding of the phenomena of transformation in developing countries. The tools held by the group considered the most effective, are on one side the traditional ones, such as oral interviews, photographic campaigns, samples of materials and techniques of spontaneous self-construction techniques and local, also referred to current construction. As we shall see in later chapters, the first translation of these investigations in a more sophisticated mapping, carried out by computer, can provide very precise information to

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the public administrations on the existing conditions, at present been little studied.

- Identify processing practices which, based on existing situations, find themselves in the internal mechanisms of self-construction, certain rules of construction and urban regeneration. Starting from some Japanese and North American experiences we have tried to transfer into these more complex situations, some concepts that relate to the theme of urban regeneration as a possible strategy for action in the urban sprawl and non-serious. The idea is to act through urban elements that gradually replace or fill spaces left free.

Recently, the International Architecture Exhibition in Venice in 2010, the atelier Bow Wow (Tokyo) presented a research work on the city of Tokyo, inspired by the concept of Void Metabolism.

As the city has become so vast, no one is entirely sure where it ends anymore, and it is nearly impossible to ascertain what sort of effect individual architectural speculation has had on the city as a whole. Therefore, it is necessary to extract a limited area from the seemingly endless urban fabric of Tokyo, and using this as an intermediate unit, investigate the influence that each structure exerts on the others. (Tsukamoto, 2011, p.8)

The proposal focuses on the idea of taking representative samples of the city, to analyze the differences, without pretending to govern the entire urban area, but trying out the samples, to make it them repeatable and representative. In this way you can approach the scale of human relations, to approach the issues of construction and technology, crucial to set a sustainable strategy.

Another more practical experience, the public administration of the city of Bellingham (Washington), has defined a protocol called *Infill Strategy Toolkit*. "In Accordance with city goals and policies established businesses to Promote and Encourage infill as a growth management strategy, These created new forms to make best use of our Remaining land supply" (2009)



Figure 3. Phases of strategie: infrastructures (cisterns in red, piazzas and walkways in yellow)

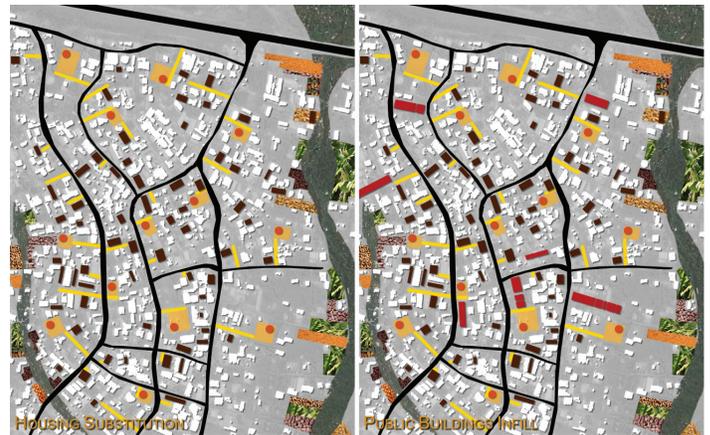


Figure 4. Phases of strategies: housing and public facilities

The goal we set ourselves is to give life to the inhabitants without the transformation of their habitat that determines the abandon of land and houses, but rather help to transform the places in a sustainable way and compatible with their needs.

We have thus shown the following steps (Figures 2,3):

- 1) infrastructure infill
- 2) vegetable garden infill
- 3) housing substitution
- 4) public buildings infill

B- SLUMS SELF BLOOMING PROTOTYPE TECHNOLOGY: PhD study on poverty pockets of 3rd world

Self-blooming technology is a recent PhD study works on creating and automating slums self-improvement system, specially, for poverty pockets that located on high value lands inside Metropolitan cities without needs of re-localization of local inhabitants. The aim of this study is to bridge the gap inside developing communities by re-habilitating Slum's human-environment without re-settling inhabitants and reduce the poverty of local people and supply the slum with future sustainable incomes co-managed by both government and the people without need of re-localization. Not only identifying new eco-dwellers that achieve needs of people and flexible with local conditions, but also finding eco-sustainable construction technology of onsite housing self-improvements are in focal objective. Understanding local inhabitants' problems and needs are initiated point such as healthy house, open spaces, main roads, keeping of social network, and sustainable work.

Poverty pockets blooming technology has alternative strategy and new technology to improve slums located in high value lands without re-localizing of people. All technology phases are automated by BIM API, as add-in files to create new implementation tools can be applied on poor urban context in metropolitans of developing countries. As a multidisciplinary work, all co-operative sectors needed for the entire integrated slums self-upgrading work flow

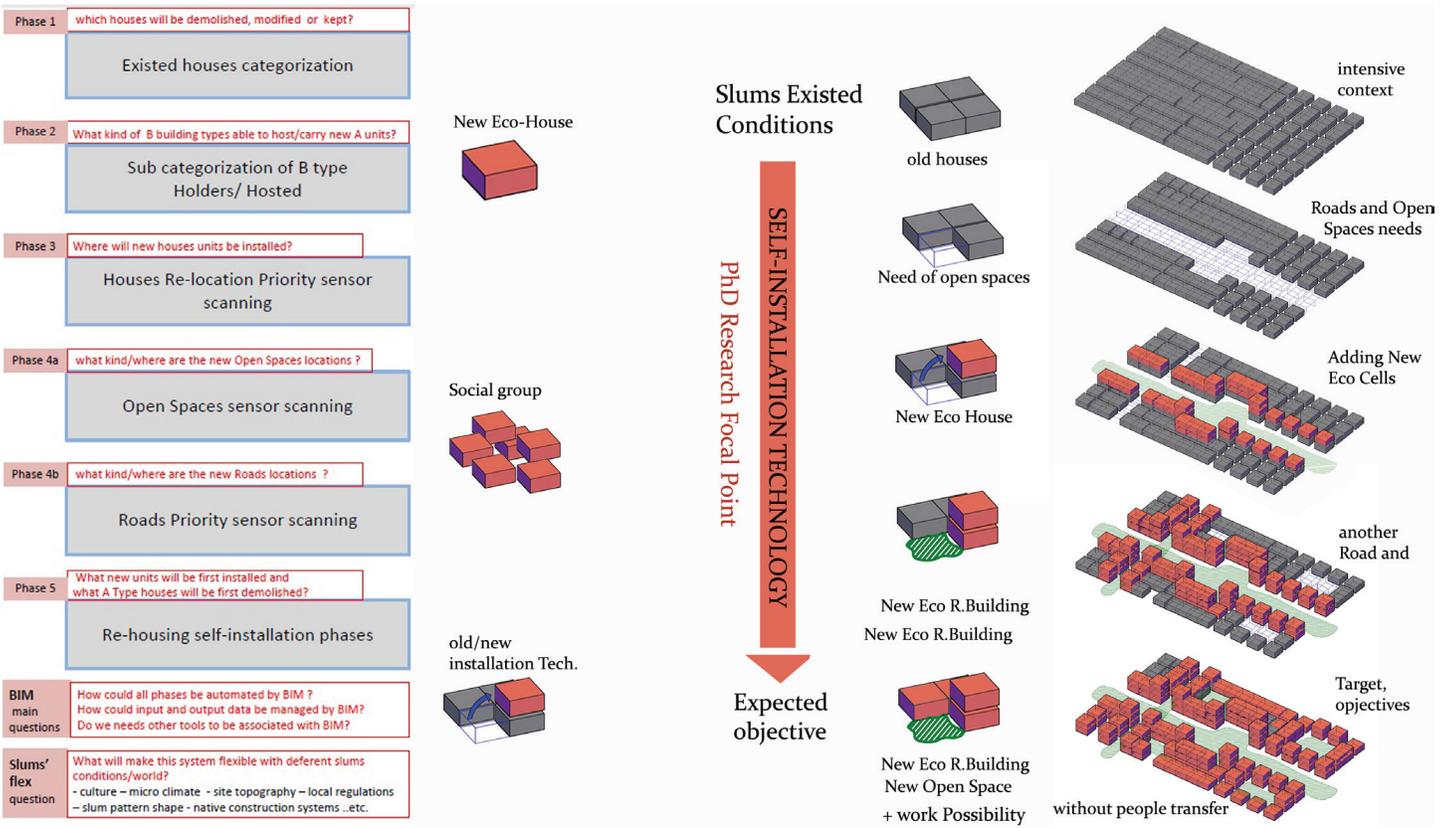


Figure 5. Phases and concept of Slums Self-Blooming Technology for Poverty Reduction as self-changing for Poverty Pockets without people re-localization

system is needed to be understood. Creating a BIM API code, that automate all phases and organize data transaction among all sectors needed to this new technology, makes work-flow/ sector/ time clear, easy to handle, and fixable with local conditions.

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