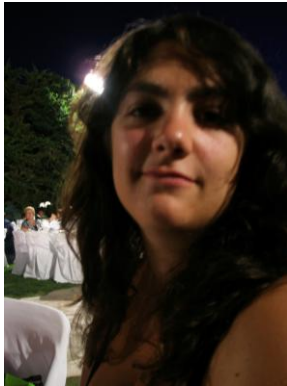


# Self-resilient Communities

Building communities in developing countries in order to achieve self-resistance



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This paper discusses how to create well-functioning, active communities and how this creation would lead to better housing solutions in developing countries. The paper will also try to identify how architects should act in developing countries, especially during the creation and operation of communities.



Figure 1 Workshop in Netaji Nagar, Yerawada, Pune, India.

# 1 Factors Shaping Urban Shelter Design

## A. THE URBANIZED WORLD

From industrial revolution until nowadays, developing countries tried to enforce their economy by creating working positions especially on the industrial and services sectors. So, employment opportunities have increased in urban areas, causing people to move from rural to urban areas. This movement created an urbanization trend with extreme rate, making urban areas (extending from distinct cities to metropolitan areas) unable to offer quality housing, public spaces and public facilities to all these people. This rapid migration created huge areas in cities where people live informally in hazardous locations, in extreme density, in self-build shelters without adequate access to water and sanitation. (UN-HABITAT, 2007)

Nowadays, more than half of world's population lives in a city, and at least one out of three people was born in a city, compared to when only half of the world's population was living in urban areas. Urbanization has reached high levels and, especially in developing countries, cities with a population greater than 10 million have become extremely common. Megacities, as they are called, are located everywhere and are growing fastly. Tokyo (19.8 million), New York (15.9 million), Shanghai (11.4 million) to name but a few. (Morano E, 2003) As they are overcrowded and dense, we notice that there is huge social inequity within such cities. There are people living in quiet luxurious gated areas spending their life completely separated from "poor" neighbourhoods, but on the other side of the wall, middle and low income families live on a "canned" way, without access to any facilities. (UN-HABITAT, 2003)

## B. SURVIVING IN THE URBANIZED WORLD

After so many people have migrated to the city, they could realise that their income has raised, but still remains low (because they are not so qualified in order to ask for a bigger salary). Also, economic growth is usually slower than migration rate and vacancies are not enough for everyone, leading to high

unemployment rates. As a result, poverty is slowly “migrating” from rural to urban areas.

Apart from the need of workplaces, there is also a huge demand for cheap housing, but city’s development speed is lower than the demand, and the value of the land increases, so municipalities cannot offer enough housing options. As the demand for cheap housing still exists, informal residential areas emerge as an immediate and cheap solution, because the people do not have to pay for the land (usually, they illegally occupy government’s or municipality’s land) and they constructed their own houses as cheaply as they can (recycling materials, own work, no construction standards, etc.).

People, live under these conditions, without any quality in urban space and lacking basic infrastructure, and usually formulate communities in order to try to improve their housing areas. By being organized in small communities, they have the possibility to be involved in development and upgrading projects run by NGOs or organize their own development solution according to their needs.

(UN-HABITAT, 2003)

**The new urban world**

The earth reaches a momentous milestone: by next year, for the first time in history, more than half its population will be living in cities. Those 3.1 billion people are expected to grow to 5 billion by 2030 – this unique map of the world shows where those people live now.

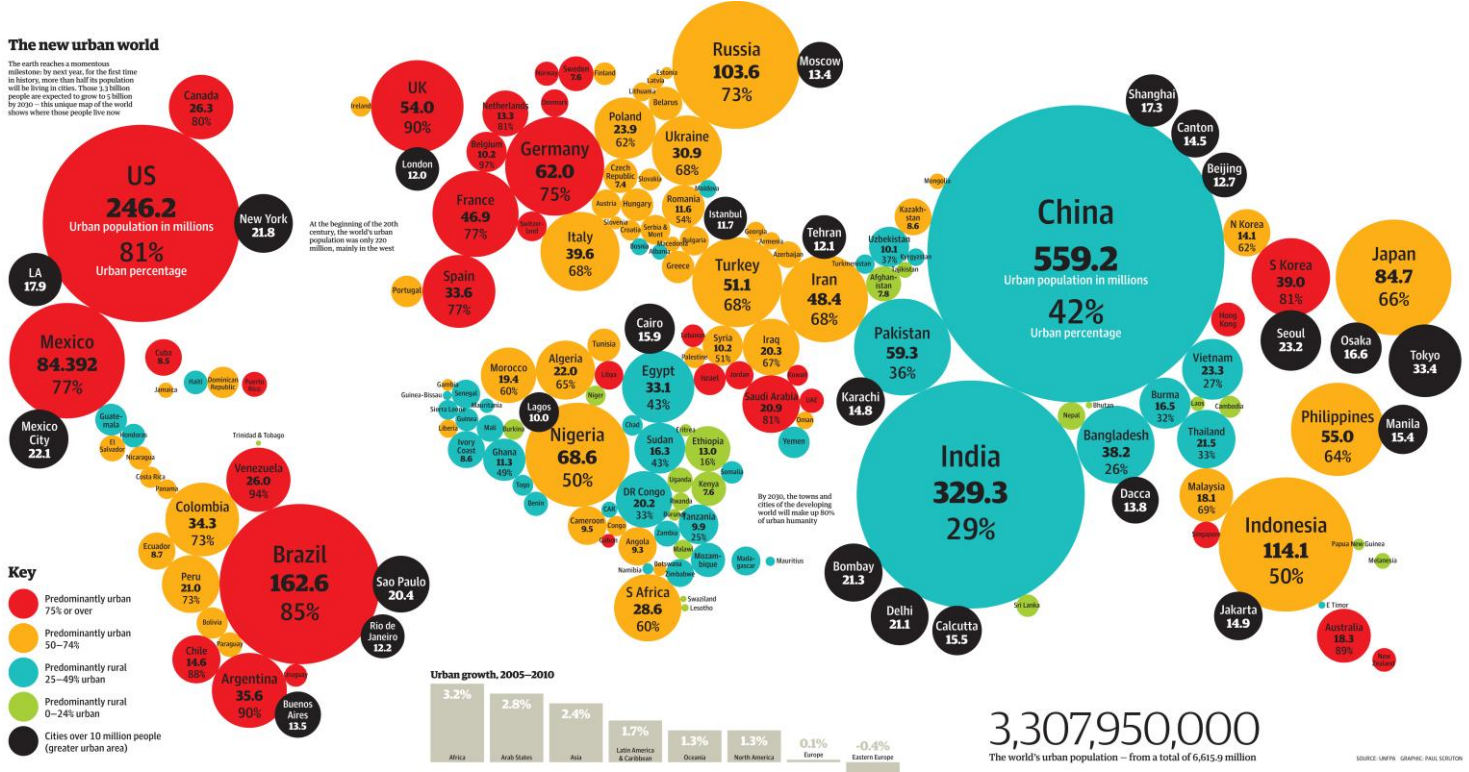


Figure 2 Map of the world urbanization.

## 2 Design of Sustainable Shelter and Neighbourhoods

### A. COMMUNITY (GENERAL INFORMATION)

A community is a social union of people sharing the same environment (built or natural), facilities, values or beliefs. Human beings, as early as prehistoric times, realised that surviving could be easier if they decided to live as a group. Therefore, they started to formulate small communities and to live together, and obviously, in a smaller scale than today.

From a psychological aspect, humans are social beings and they need the sense of belonging which is developed when they are members of a community. According to McMillan and Chavis, the feeling of community is really important for a person's social activation and participation in community activities. Therefore, the feeling of belonging in a community will provide a sense of belonging and safety to the person. Being fully incorporated within a community, he will try to put his own ideas and thoughts to the common discussion and try to influence community's decisions. This is a really important step for a well-functioning community, because if the person realises that his activity is not going to influence the decision making process at all, he will lose the sense of belonging and safety. But, if his voice is heard or at least discussed, the member could feel that he can influence the community with his ideas. According to that, members will exchange ideas and thoughts influencing one the other. The members' needs will be fulfilled when a decision will be made, making them to feel responsible for the community in general, and care about and interact with their neighbours, in both an emotional and material level, in particular.

(McMillan, 1986)

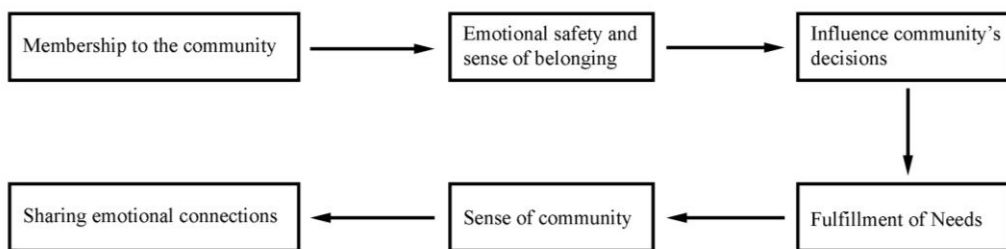


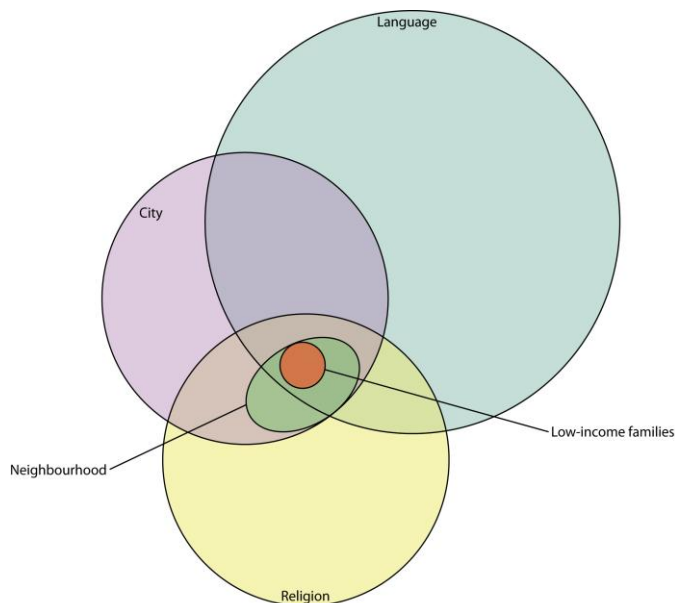
Figure 3 Process of the development of community feeling.

## B. CLASSIFICATION OF COMMUNITIES

Everywhere around us we can find bigger or smaller communities, with different identities and function. In order to easily understand the chaotic nature of a community, we will briefly discuss some of their classifications and forms of interaction between them.

We could classify communities according to the location they share (geographical classification) having a nation (people living in a country), a region (people living in a specific part of the country), a city, a town, a suburb, a neighbourhood, etc. If we examine more closely the suburb and the neighbourhood, we could sub-classify them according to the income level of their inhabitants (low, middle, high or mixed neighbourhoods for instance), according to the interaction with other areas/communities (gated or open) and according to their operation (active/helpful for their member or inactive).

Another way to classify communities would be based on their cultural characteristics, in other words we could examine them according to the customs and traditions shared by their members. In this category, we could include an ethnic group (people having same origin/area), a nationality (people coming from



the same country), a religion, a sub-culture, etc.

Lastly, communities could be classified according to their function or organisation. For example a professional associations, an economic enterprise, a political structure or a family network. (Tropman John E., Erlich John L., Rothman Jack, 1995)

Figure 4 Overlapping of communities

We have to point out that all these classifications are not so clear in reality, because every community does not belong to only one category, but usually, it could be classified in more than one. Also, a bigger community could be subdivided into smaller ones and a member could participate in more than one communities, as well.

### C. THE ROLE OF COMMUNITY IN DEVELOPING COUNTRIES

Community participation, as we know it in the developed world, is used as a way for governments (or municipalities) to assure acceptance, as well as satisfaction in regards to the way they handle new projects and funds. Even if communities seem to be able to influence a government's decision making processes, they are seldom allowed to change something on a proposed project and, at the same time, they are required to use and maintain their place on an individual level.

In developing countries, the use of community participation is different from that in the developed ones. The context for these countries is different because governments (or municipalities) do not have adequate financial and administrative capacity to fulfill the constantly increasing demand for shelter and housing in general. In rural areas, they have followed this approach for decades now and, together with governments, individuals and NGOs, managed to activate community participation and self-help housing. The results from this kind of development are great examples that could be applied in urban areas, as well, but, when communities attempted to apply the same approach, and provide shelter as well as services and infrastructure to thousands of people, they usually failed to gain approval from the government, because they lacked legality and construction knowledge.

(UN-HABITAT, 1987)

### D. COMMUNITY PARTICIPATION IN MAINTAINING AND IMPROVING LIVING CONDITIONS IN DEVELOPING COUNTRIES

Community participation is always a big challenge, no matter if it is in the developed or developing world. Working on the latter case, strategies, commonly

used in western countries such as consumer ownership, external funding, risk tasking, usually fail because district communities do not accept any changes. In this environment, community agreement is really important for a project to succeed, and this agreement could be easily achieved if a community participated actively in the project's process.

Community participation needs an active, well-functioning, organised community. The active community seems to be the last step in community participation as we read on Dr. Thomas' paper. According to that, levels of community participation are:

**Level 1:** There is a community of people sharing the same living environment and they, as a community, receive benefits and services offered by NGOs or government, but they contribute nothing. On that early level, people care about benefiting from different programmes and projects without being able to make an effort to improve their living conditions. This situation, usually, happens because their living conditions do not give them any hope for improvement.

**Level 2:** After a small change happened, some community members realise that their contribution would be important for a faster and more effective improvement of their environment. According to that, the community starts providing personnel, financial and material contribution to on-going projects, but its role is limited in facilitating and not being actively engaged in the decision-making process.

**Level 3:** The next step is to start being involved in the decision-making process and trying to adjust the project's result according to their needs. After understanding that they could influence the improvement of their living conditions, the people try to get involved in the planning and designing process of the project. This fact will make them understand how they want their needs to be served and plan their future life (for example, saving money for future extension or improvements).

**Level 4:** Community participation, then, goes beyond the lower level of decision-making process to monitoring and policy-making processes. Apart from influencing the final result, they try to set rules and limits to community activities, which could be specific design criteria in a smaller or



bigger scale, rules for the usage of common spaces or financial policies for saving money and investing it.

**Level 5:** In the fifth and final level, the community has the motivation, capacity and ability to run its own projects. Members are willing to participate in common activities according to their skills and abilities and want to learn more things about social, financial and construction development. Of course, people are not so educated and specialised on these matters and they could always ask for consultancy and technical assistance from organisations. Also, the community could be independent at that point, but from a financial point of view, it would be partly depended on out coming funds (for example government, organisations, development banks, etc.).

(Dr. Maya Thomas, Dr. M. J. Thomas, 1999)

## E. EXAMPLES

The idea of community participation and community projects is already tested (and usually successful) in different countries especially in Latin America and Africa. Some important examples, will be presented and analysed below.

### a. **India, Mumbai, Dharavi:** Mumbai Urban Transport Project (MUTP)

Mumbai is a Megacity, located on the west coast of India. It is the most populous city in the country and one of the biggest in the world. In such a big city, railway is a quite important transportation system which is being used by millions of people every day, connecting suburban areas with the central one, where the majority of workplaces is located. The local authorities of Mumbai decided to upgrade the railway system, in order to provide better transportation options and reduce traffic, but this operation is impossible to complete without relocating people living next to the railway lines. Although these areas have many disadvantages, like the lack of infrastructure, poor quality of housing, small houses/plots, insecure tenure, in addition to the danger of that trains passing by all the time, they still have as advantages the facts that they are cheap and close to people's workplaces. (Sheela P. and Jockin A., 2007)



The most affected area from that relocation is Dharavi, which is located near the city center, overcrowded and surrounded from two sides by the railway. The relocation programme had to move 60.000 low-income informal settlers, who had created a strong federation according to the ownership of land they live on (in our case, it was the “Railway Slum Dwellers Federation”). The principles of that project included that people being moved away would not lose their source of income, relocation would be done voluntarily without police or municipal force being involved, and communities would participate in the planning, design and implementation processes. According to the “National Slum Dwellers Federation’s” statement (Sheela P., d’Cruz C. and Sundar B., 2002), slum dwellers are threatened by development plans in Mumbai, but they can understand the improvement which could be achieved and they actually want it. They are conscious that relocation is needed for this kind of development projects, and usually, they want to participate in the process, as far as it refers to their life.

This kind of approach is followed in this relocation project and, although some problems occurred during the whole process, they avoided extreme reactions and consequence to the life of those resettling. Communities were organized very well and they managed to be involved on the design process by mapping the households which would be moved, participating in the design of their future housing and in the relocation process (defining also the location of new units). The resettlement was completed in two steps: firstly, families were provided with a temporary accommodation (a 120 sq. foot apartment including amenities) and after a while every family got a 225sq foot (20.8sq meters) apartment. The census process activated the community and introduced it to the rest of the projects. After that, the people were organized in smaller groups in order to be relocated slowly and without problems.

Another important aspect of that project was the involvement of women. The actual function of those communities was woman-centered. This fact provided gender equity and showed the women-centred community management structure.

(Sheela P., d’Cruz C. and Sundar B., 2002)

**b. Costa Rica, FUPROVI projects**

FUPROVI is a private development organization (NGO) with a huge experience in social housing and community development in Costa Rica. Its goals are to provide low-income families with affordable housing in organised communities which share basic services, and to introduce people to self-help housing principles combined with credit programs, in order to achieve social (community) development in a sustainable way.

This NGO works as a consultant for the community, offering its members technical, training, administrative and financial support during the whole process of housing construction. FUPROVI group consists of specialised engineers, architects, economists, administrators, sociologists, lawyers, social, journalists and specialists in international relations to name but a few. Even though a permanent group of specialists, professionals and technicians exists, external specialists are occasionally hired to support different projects under the organisation's principles. This team tries to contribute to improving the quality of life for low-income families by offering quality, innovative products and services according to their needs and capacity. So far, they have helped about 8000 families (in 42 areas) in the metropolitan San José and Limon province providing new houses, improvements and maintenance in old ones, basic services, land legalisation and training. (UN-HABITAT, 2003)

FURPOVI now runs two types of projects, the one focus on the built environment and the other on social development. Habitat projects aim to support families to build, improve or extend their houses, infrastructure and basic facilities using the principles of mutual help and individual effort (as part of a group). It also offers credits for using specific building materials and guarantees for land tenure.

Communal development projects seek to enforce community's potentials and skills, so that the people would be able to improve their social, financial, and environmental conditions, strengthen their community feeling and use their rights and responsibilities. Through these projects, the organisation provides advisory, training and technical support towards social organisation, building management and financial and legal aspects. Also, income generation support is provided to families which used to have an informal commercial activity. ([www.fuprovi.org](http://www.fuprovi.org) )

Looking on the financial aspect, FUPROVI's projects are basing their financial sustainability on rotating fund which is managed by the organisation and provides short-term recovery loans to families from Costa Rica's National Housing Financial System (SFNV) as well as medium- and long-term loans. The main strategy is not to give subsidies to its housing projects, but to offer long-term low-interest credits to families in order to financially activate them until they qualify for a loan under the SFNV. Credit programs aim to facilitate community banks, solidarity groups and individual microenterprises to start their financial activity and become financially sustainable.

FUPROVI's projects have a great impact to Costa Rica's housing problem, both on a qualitative and a quantitative way. They have become examples which are showing the ability to work on a competitive and sustainable basis with low-income families. Furthermore, FUPROVI organisation has supported changes in policies and legislation, as well as, in awareness and public perception of self-help projects and in changing the attitudes and organisations of low-income people.

(UN-HABITAT, 2003)

### 3 The Role of Architects

Developing countries are a difficult environment with many contrasts and inequity. Architects have two opportunities for employment in such an environment. One option is to follow a professional career in one of the big construction companies (for example Ayala Land in Metro Manila, the Philippines) which usually run middle and high-income housing projects. These companies develop quality housing areas, with enhanced security and surveillance but at the same time, separated from the city life and usually ignoring the need to accommodate poor people. In order to provide even and liveable conditions within these residential areas, they separate them from neighbouring area using walls and they provide everything inhabitants need inside the "wall area". This planning strategy breaks the urban fabric in small areas and sub-centres according to the land use (office and factory areas, etc.) and people's income (middle and high-income areas, etc.) and creates strong traffic trends between them.

Another option for architects is to work on low-income housing projects running by NGOs, private companies or the government. Through these projects,

architects could work on low-cost housing projects combined with community development in order to achieve social and financial regeneration and development of low-income residential areas. Also, they could work on the integration and connection of low-income residential areas with their surroundings, in order to become part of the urban fabric and evolve into a liveable and essential part of the city.

Even though a global strategy is needed for low-income housing projects, a project's approach should be adjusted according to even particular circumstances and site specifics. When especially they want to work with community regeneration and activation, it is very important to take into account the type of the project and the character of the community. We are going to discuss the different type of approaches according to the organization level of the community: new projects, relocation projects, upgrading projects and upgrading the existing housing area (talking about maintenance and improvements).

New projects aim to create new housing areas to provide cheap housing for low income people. On that case architects are asked to design and build low-cost housing for poor people, but they do not know the people who will live in the future residential area. From my point of view, this is the most difficult kind of design on a community level, because it is difficult to foresee the people's future activities. One possibility is to design the future residential area in order for future residents to have the maximum integration opportunities. For example, they should share common facilities like laundry, courtyard, recycling station etc. and also, they should all have to be responsible for the maintenance of the common areas.

Relocation projects aim to move people who are living in hazardous or destroyed areas to an other safer one and with a certain level of living conditions. People who are moved through these projects are not always coming from the same neighbourhood, architects should focus on integrating people who will move to the new housing area by making preparatory activities in order to enforce the community feeling. It is also very important to ask them to cooperate with architects to design their future houses and the urban space around them according to their needs. After that, people should be encouraged to participate in the construction process and get taught how to produce and use their own

construction materials (for example compressed earth blocks, concrete, etc.). Also, they should be encouraged to find new ways to increase their income, for example they could produce construction materials for other projects, cultivate vegetables and fruits or produce handcrafts by recycled materials to sale them at a local market.

Upgrading projects aim to improve the housing and urban environment within an existing slum area. In such a case, residents are already organised in a community, but the goal is to make this community actively involved in order to design an improved built environment. During the designing process, there would be some changes at the street pattern and some houses should be moved with the community's acceptance, but residents could choose how they want to upgrade their houses (materials, interior design, size of the unit/building, etc.). Also, it is very important for the financial sustainability of the upgraded area that commercial activities, such as a local market, workshops etc., are introduced. Architects should suggest to the community new (or correct) construction techniques and the idea of self-help housing which means that all people should help at the construction process, not only to build their house but to build the whole area and some community buildings like multipurpose rooms or schools.

Existing housing projects aim to educate people on how to work on a community and how to improve/extend their built environment on a self-help base. Architects, in that case, should try to organise people living on that area into a community and make it work actively and effectively. He should work as a consultant during the whole process helping them to make their own decisions and set their own policies (laws and rules) inside the community and he should give them advice on construction techniques and materials in order to facilitate safer building methods.

## Bibliography

UN-HABITAT

1987 *Human Settlements Development through Community Participation*. UN-HABITAT: Nairobi

2003 *Challenge of Slums: Global report on human settlements 2003*. UN-HABITAT: Nairobi

ISBN 1-84407-037-9

2007 *Twenty first session of the governing council*. UN-HABITAT: Nairobi

Morano Eduardo López

2003 *Slum of the world: The face of urban poverty in the new millennium?* UN-HABITAT: Nairobi

ISBN 92-1-131683-9

McMillan, D.W., Chavis, D.M.

1986 *Sense of community: A definition and theory*. Journal of Community Psychology, Volume 14(issue 1)

Tropman John E., Erlich John L., Rothman Jack

1995 *Tactics and Techniques of Community Intervention*. Itasca Illinois: F E Peacock Pub.

ISBN 0875813917

Dr. Maya Thomas, Dr. M. J. Thomas

1999 *Enhancing community participation in programs in developing countries (Friday meeting, rehabilitation notes)*. Jayanagar, Bangalore: Associate publication of Asia Pacific Disability Rehabilitation

Sheela Patel, Celine d’Cruz and Sundar Burra

2002 *Beyond evictions in a global city: people managed resettlement in Mumbai*. Environment & Urbanization/Vol 14 No 1 (April 2002)

Sheela Patel and Jockin Arputham

2007 *An offer of partnership or a promise of conflict in Dharavi, Mumbai?*

Environment and Urbanization 19:501

[www.fuprovi.org](http://www.fuprovi.org) (04/05/2013)

## Figures' source

Figure 1: <http://www.archdaily.com/21465/incremental-housing-strategy-in-india-filipe-balestra-sara-goransson/> (04/05/2013)

Figure 2: [http://image.guardian.co.uk/sys-files/Guardian/documents/2007/06/27/URBAN\\_WORLD\\_2806.pdf](http://image.guardian.co.uk/sys-files/Guardian/documents/2007/06/27/URBAN_WORLD_2806.pdf) (04/05/2013)

Figure 3: Author's creation.

Figure 4. Author's creation.