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## Can Vernacular Help the Urban Poor? Dimensions of Urban Poverty and Future Directions Using Vernacular Solutions

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We name the urban character of slum areas urban poor. Governments demolish or evacuate those informal areas without a keen sense of dwellers demands. Is it locals' responsibility that governance is corrupted and economy is collapsing so they don't have proper services, housing and living conditions? Do we blame them for migrating to capital cities to form ad-hoc settlements that breed crime and rancour? This paper is discussing the dilemma of urban poor and how citizens can create vernacular solutions to overcome harsh living conditions and how the policy makers and governments deal with such problems as a cancer tumours or time bombs in cities urbanscape. The aim of this paper is to fill in the gap between how informal settlements dwellers' act to fulfil their needs in real life circumstances and how the policy makers react and perceive such problem from their ivory towers. The paper will reflect this argument on real situations in informal settlements in Egypt.

**Keywords:** Urban poor, Vernacular vs. ad-hoc, Informal settlements, Participation, Egypt.

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## **Introduction**

The world is suffering from great housing problems. Towns and cities in developing countries are unable to provide housing, infrastructure and services in pace with their population growth (Tannerfeldt, & Ljung, 2006).

Recently research, strategies and action were conducted, planned and implemented to accommodate and cope with the demand for housing services (Nomdo & Coetzee, 2002). Egypt is one of the countries suffering from such problems.

Despite the decreased population growth rates in Egypt from 2.8 % from 1976 – 1986 to 1.99% currently (Egyptian censuses unit), they are still considered amongst the highest internationally. Egypt's population is expected to reach at least 96 million in 2020, with a 13 million increase on current population which is 83 million, which will in turn leads to the aggravation of the increased urban expansion issue and the spreading of informal settlements phenomenon.

Access to serviced urban land has been a major challenge for the Egyptian government and I claim it is not only in Egypt, the same in the majority of other developing countries in Africa and Latin America. Informal urban development and urban poor results from the combination of a range of reasons and causes. One of the main causes is economic factors in addition to lack of vision and effective rural planning policies. The rate of informal development in Egypt is higher than the rate of urban development.

It is argued that the government of Egypt's housing policy contributed in making the informal sector the predominant channel for providing shelter to the urban poor. There are two paradoxes when dealing with informal settlements in Egypt. The first is the massive growth of informal settlements (40 % of housing in Egypt is informal) which took place in a situation of oversupply of formal housing units. The second paradox is that spontaneous urbanization occurs mostly on scarce and precious agricultural land while large stretches of desert land located in the immediate vicinity of urban centers remain mostly undeveloped.

This paper is trying to meet the challenges facing informal settlements by introducing a practical approach in using the dynamic nature of vernacular thinking and building practice. It is a way attempting to apply an incremental construction process inspired from vernacular process. It is learning from vernacular research experience to solve urban poor current challenges through involving locals in a design and construction building experience. This paper is discussing an ongoing research work and is discussing what is achieved so far.

## **The causes of informal land development**

More than two thirds of today's urban population lives in developing world, it should come as no surprise that urban poverty is growing from day to day (Musterd & Ostendorf, 1998). The main reason of informal land development is the failure of the government to provide affordable housing units that cope with people's needs and desires.

Another main reason is the centralization of services in capital cities and poor basic services in small cities, towns and villages which force people to migrate seeking for better living conditions. Logically lack of good services and basic shelter leads to illegal migration, slums areas and shanty towns. It is important for policymakers to understand the causes of the phenomenon of informal development to wisely be able to confront it, as the lack of such an understanding often leads to the formulation and implementation of public policies that end up reproducing and even worsening the phenomenon.



Unplanned growth of the built up area causes an excessive pressure on existing infrastructure and major traffic and transportation problems within mega cities.

Urban poor living in inner city slums often lack the resources to reverse the trend towards poverty, and need outside assistance to improve their environment.

Providing a decent, affordable and access to serviced lands is a mandate and in the same time a burden for governments suffering from economical problems. It is also argued that causes of informalities in cities is that informality should be understood as a particular social and historical process and as a mood of urbanization that is connected to different types of spaces and norms not as parasitic formation that is formed against formal settlements and urban regulations (Pinard & Sy, 2012, May & Reid, 2010 & Myers, 2011)

### **Vernacular as a tool to help urban poor**

One can observe different building patterns in slum areas. Those who migrate from small towns and villages to mega cities carrying with them the vernacular building culture and habits. They try to build by themselves using available building materials. Sometimes the building product is kitsch and shanty due to lack of economical resources and sometimes the building product is creative in using the available limited resources.

The problem is always with basic urban services from sanitary and plumbing those locals can't provide themselves with. When they try to use vernacular methods for such services normally it does not work in urban areas as it used to work in rural area. That causes a kind of urban illness symptoms and unhealthy living environment (Dalrymple & Opolot, 2002). As Oliver and Glassie defined Vernacular as a building product that is built by locals for locals to cope with their needs. (Oliver, 1976 & Glassie, 2000). Vernacular also is a building product that is harmonious with the surrounding natural environment due to using natural local materials (May & Reid 2010). If we apply such definitions in slum areas we can deduce that the source of inspiration is a non-harmonious urban grid even if it is planned by the government according to strict building rules and regulations but unfortunately it lacks a lot of human and aesthetic values.

I argue that the building product in informal settlements lacks the aesthetic values and the inspiration from the natural surrounding environment which almost does not exist in an urban setting differs than a rural setting.

One can also argue that poor living conditions and economical standard are one of the main reasons that turned the notion of establishing vernacular dwellings as an initiative from locals to solve their housing problems into slum dwellers. In rural areas locals can get the building materials with almost zero cost from the surrounding natural environment (Dabaieh, 2011) but in cities everything is at a cost. In addition to that they don't have the knowhow of the building techniques in cities and they can't afford to hire a builder and that what makes the product not only kitsch but also unsafe.

There is a potential that vernacular self-help buildings can be in a way a solution for solving the housing problems if it is regulated and supported by the government. The most expensive services the government had to provide is the basic infrastructure, however if the basic infrastructure is provided using vernacular sustainable methods that will reduce the cost. Regulating the building outcome will solve the issue of non-harmonious shanty building product. As Hamdy argues that we need to find ways of crossing boundaries between building knowledge and building know-how (Hamdy, 2011 & 2012). Moreover I claim that self-help vernacular methods can solve the weak connectivity between existing built-up area and new urban communities and go a long way towards limiting the growth of informal settlements.



## **Transdisciplinary in participation and vernacular mainstreaming**

Dealing with urban poor challenges and problems needs a trans-disciplinary methodology to make it possible to deal with the complexity of the factors affecting housing problem. Trans-disciplinary research, as explained in the Handbook of Trans-disciplinary Research, provides a way of perceiving the complexity of problems and of investigating them from a diversity of perspectives (Hadorn & others, 2008).

It has been argued that trans-disciplinarity is an intellectual space where participants from diverse disciplines can express their views and provide input of different types (Somerville & Rapport, 2002). Lawrence & Després stated that trans-disciplinarity deals with problems which are complex and related to several disciplines; it is context-specific and implies intercommunicative action (Lawrence & Després, 2004).

As trans-disciplinarity necessarily have a participatory component applied the concept of community participation, which is broadly defined, as a social process in which groups and individuals are assisted in order to help them communicate and decide about the future of a specific issue (Gramberger, 2001). Lawrence explained that many tools can be used to assist participants including conventional simulation methods and new information technologies that enhance communication (Lawrence, 2004). Applying trans-disciplinary approach in this research will give the chance in the present study to bring together scientific research with the everyday experience of field practitioners, engineers, the local authorities, local investors, local NGOs and small local business owners together with members of the local community in informal areas.

That is to give all the chance through their participation to define problems and express their views on the future of the complex informal housing problems, which the majority of the inhabitants considered to be a major priority. The main concern is to empower local inhabitants.

Participation is an essential tool to create dialogue between the informal settlements inhabitants and the policy institutions.

This dialogue is intended to enable all concerned to express ideas about their current needs, share in problem-solving as well as articulate their future aspirations. Generally, involvement of the local community increase the possibility of developing better understanding, especially in problems related to social uses. The trans-disciplinary approach is also a useful way to put into effect the proposed vernacular construction ideas.

### *Using vernacular solutions*

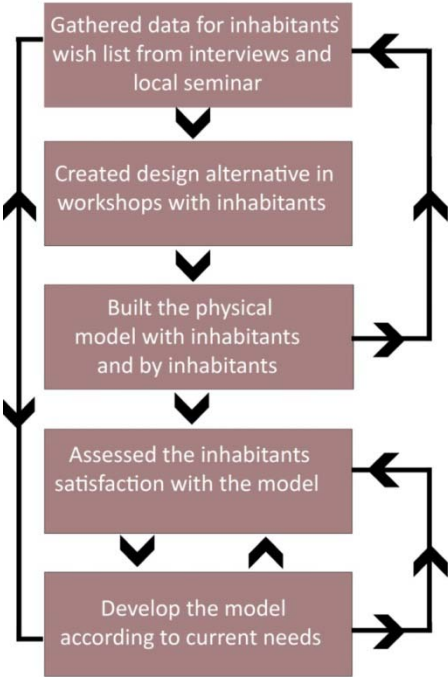
In this research project a pilot trial of building a house model started in one of the vernacular settlements in Egypt. The locals were encouraged to contribute their ideas so that the method process could incorporate their specific cultural and traditional beliefs; that is, the main concern of this phase was to include their sense of belonging to their community.

The need for the involvement of locals was especially clear both in the design and in the physical building steps, where it is necessarily to benefit from their knowledge and insure a high level of acceptance to the final house model product.

Rapoport described vernacular architecture as possessing an open-ended nature which gives it a special quality in enabling inhabitants to accept changes and make adaptations (Rapoport, 1969). The suggested approach to deal with this urban poor informal situation is to formulate vernacular traditional knowledge in terms that satisfy inhabitants' current needs and aspirations.



Such a reformulation will allow mapping the future of informal settlements expansions. Once vernacular is not seen as a static building form, but as one that is constantly evolving and reacting to changes in the communities that shaped it, then future of informal sprawl can be manageable.



*Figure1.* The figure shows the process followed to reach the phase of implementation for the physical trial house model. It started with gathering information related to locals’ needs and aspirations. Applying the wishes in a design alternative for a house was the next step; it was designed by the locals as well. After that came the building phase, which will be followed by the assessment of the trial model, hoping that the vernacular way of continuous developing of needs and aspirations continues in that way. Source: developed after (Dabaich,2011).

The project started with conducting intensive walking interviews and questionnaires with sample of 30 local inhabitants in two informal settlements in Cairo. That is mainly to lay hands of problems and lack of services, reasons of migration, squatting on state owned land and investigating current housing conditions. Then the next phase done was working with locals on a design proposal for a house model. As it is still ongoing research the current phase is the building process of a model house built by locals for locals to locals as a trial for applying vernacular building methods. The fund of this building process is supported by a local NGO in one of those informal settlements.

The role of researcher in this project is mainly providing technical support. The house model idea also aimed at installing some basic low tech solutions for heating and cooling. From the site investigations natural gas for stoves appeared to be a critical issue in informal settlements together with sanitary and electricity. A Bio-gas unit will be installed to solve the problem of gas and a compost toilet method will be used to solve the sanitary one. Solar photovoltaic were thought to be used to solve the issue of electricity but the cost will not be affordable for locals if this house model idea will be replicated.

Also the house roof top will be planted with domestic plants for household use or as a source of income. Some simple environmental solutions were feasible to be applied to the building materials to solve currently faced structural problems. The technical and environmental solutions used for enhancement of traditional building technology were results of literature study together with advice from experienced locals.

#### *Challenges in this experiment*

This sort of participatory building experiment had led in many projects to frustration and annoyance among community members, as researchers gave advice about their problems and then left without showing practical solutions for how to solve them (Stokols, 2006). Sommer has pointed out that a researcher cannot tell people that they are mistaken and run away and expect them to change their actions or behaviors. He insisted on the necessity of working with communities to assist in the transformation process (Sommer, 1977).

Involvement and participation of the locals was essential since the aim was that any decisions within this model house should favor their long-term interests and should never go against them. Another aim was to give youth a central role so that they could contribute actively beside the seniors whose role was to guide the building process and share their wisdom about building procedures.

This research idea is not based on just creating and supporting a process that produces dwellings resembling traditional houses. The concept is deeper, it is meant to learn from urban poor experiences and trials. The model house was seen as a means of incorporating current informal housing needs in ways that respond to contemporary locals' demands. The aim was thus to build on the traces of the old vernacular tradition and map them onto the future of urban poor. Building a model house is based on collaboration with inhabitants. It prioritized their ideas, desires and needs and used the accumulated knowledge of many generations together with technical assistance from the researcher to solve current problems. Hinds argued in his research around this point that the approach to the past only becomes creative when the practitioners like architect are able to go into its inner meaning and content. He added that it can be dangerous when vernacular is reduced to resembling pastime architecture and just focusing on form (Hinds, 1965).

The majority of informal settlements in Egypt are built with concrete. Using concrete and other industrialized building materials cannot today be claimed to be a local available material; however, in a few years' time it might be claimed to be part of the local building tradition. Inhabitants will have developed a tradition of building with concrete, just as they used to build with local materials in their native settlements before they migrate to capital cities and start forming informal settlements. Inhabitants living in informal settlements although they know the benefits of using local materials like earth blocks but they wanted to live in houses built from industrialized materials like concrete. For them that fulfills their aspirations of a modern look for their settlements. So the choice of building materials in this house model is a real challenge because the acceptance of locals is one of the main concerns.

One could argue that the new houses built in informal areas in Egypt either with concrete or fired bricks are manifestations of current contemporary means to satisfy modern needs. I claim that this product cannot be called vernacular.

Vernacular is a continuing and sustaining intellectual building process. It is the brilliant use and adjustment of local materials. It is the urban patterns and the configuration of buildings that have emerged from the interaction with the physical environment. It is an ageless and timeless way of building. It is the fusion of culture, tradition, religion and inherited beliefs reflected in the building product.



It is the accretion of human knowledge and the continuous loop of accumulative experience of reacting with the environment. It can be concluded that it is all the above factors cannot be found in the recent building informal housing product. However in many cases some of those above mentioned factors can be seen clearly due to the influence of the rural roots of the inhabitants.

In *Building without Borders* the authors justified the importance of using natural local building materials and building methods in contemporary vernacular buildings rather than costly imported materials such as steel and concrete. They mentioned that local natural materials such as earth, timber and stone are easily obtained, energy efficient, low in toxicity, safe and durable (Kennedy, 2004). It is also argued that the advantage of using local material and methods is that it allows the use of existing work force of craftsmen and skilled locals and that it also reduces costs compared to procedures using imported building methods and materials (Dabaieh, 2011).

One more obstacle is that the informal settlements are either state owned landed or private lands for agriculture not for building. Encouraging locals to build for themselves using vernacular techniques will be in both cases squatting on private or state own landed. The proposed solution is a kind of collaboration with the state for putting a legal framework for this building model experiment.

## Conclusions

Government in general should work at all levels to confront the phenomenon of informal urban development, aiming at least to minimize the causes and work on the serious problems resulting from them. The bureaucratic and fragmented urban management policies together with the concentration of public services and facilities in big and capital cities had encouraged land grabbing and fraudulent which caused this informality status. Civil society also had a role to act as a pressure force on the government and propose grass root applicable solutions based on bottom up approaches. Adopting only top down approaches had proved its failure especially when it comes to forcing locals to move and re-locating them in other settlements.

People know how to build for themselves. Vernacular architecture in Egypt had proved by examples spectacular forms of architecture that had lived for centuries providing local with their needs. Informal urban poor is the symptom of ambition to better life standards that people lack in their vernacular or rural settlements. That is why they migrate and had to live in indecent and inhumane circumstances because they have access to better educational and work services in big cities. Studying the social needs is a major clue when planning or designing housing projects for urban poor.

Effective solutions are needed with full involvement of locals in all action and implementation steps to make sure that any intervention or decisions favor their needs. In the same time parallel solutions should be introduced in providing proper housing services that cope with locals social and culture concerns and economical situations which the latter is often ignored. I believe any interventions in informal housing should make a difference to peoples' livelihood and any new planned or designed projects should be affordable and equitable.

This paper is an attempt to begin thinking of the gap between political pressures on the urban poor, and their ability to build for themselves and maneuver in their everyday urban poor practices in Egypt. It also investigated the potential of approaches of using the dynamic nature of vernacular building into a form of vernacular building practice to provide a better future for informality situation in cities. The flexibility of vernacular solutions and harmonious integration with the environment can suit best with the practices of urban poor.



The paper started with can vernacular help urban poor? The question is still open and the results should be evaluated. It is a trial and experimental work to solve the informal settlements problems. It is a trial for investigating possibilities in using vernacular thinking and building practices to provide a solution for informal housing problems. Vernacular housing tradition can be a kind of practices that can help in a better housing outcome to cope with the rapid economic and societal changes in the urban transformations in mega cities in Egypt.

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