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Informal Response To Housing Shortage In Post-Independent Uganda – Any Lessons For Architects?

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Abstract

Uganda's urbanization process has followed more or less the same pattern as urbanization in the other countries of sub-Saharan Africa. However, some peculiarities exist in the way the common people who have emigrated from the rural countryside in search for job opportunities in the cities have responded to the lack of housing for them, most likely because of Uganda's unique land tenure system. Unlike most other sub-Saharan countries, most urban land is privately owned. The government does not own much land onto which rural immigrants could 'freely' settle as is the case in the other countries.

This paper looks at the house types found in informal settlements in Kampala, potential for construction of storeyed buildings using locally available and affordable materials and space use and quality, as well as an experiment carried out in slum up-grading..

Recommendations are made as to the potential for densification using modernist principles.

Key words: informal settlements, house types, densification, spatial quality, community participation, research methodologies

Two cities co-exist in Kampala. To the left is a block of flats in the Makerere housing estate. Buildings were constructed using pre-fabricated elements. To the right is typical view of an informal home setting in Kampala

Introduction

As a largely agrarian country, Uganda for a very long time had the lowest urbanization rate in Africa. Since the early 90s, however, Uganda has faced massive migration from the rural areas into the urban centers. This situation has led to acute lack of decent housing for the majority of Uganda's urban dwellers. Most of the migrants have settled into what are locally described as slums. By comparison to slums in developing countries, these settlements are simply unfit for any kind of human habitation.

Most underdeveloped countries, including Uganda, simply do not have the resources to carry out any kind of intervention to improve the conditions in the informal settlements. If there have been attempts to intervene, these have not been backed up by researched information. The results in such circumstances, as might be expected are often worse than the original situation. Where some form of research has been carried out before intervention, the methodologies used have been based on contemporary western social science research methodology, without any attempt to address local conditions.

THE NAMUWONGO EXPERIMENT

In 1984, the Uganda Government , with the help of Habitat, launched a project aimed at improving the living conditions of people in Namuwongo, one of the most notorious slums in Kampala. The project was preceded by a study, conducted by the Ministry of Housing. The aim of the study was to find out about people's lifestyles, incomes, social behaviour, etc., in order to propose sustainable solutions for them. Some attempt was made at involving the people in the study as much as possible. However, at the end of the project, none of the intended beneficiaries remained in the project area. To date, Namuwongo is a slum of another nature, the rich man's slum, with good houses, roads, services, but with no privacy due to acute congestion. What really happened?

COMMUNITY PARTICIPATION

Without much debate, we all realize that for a project of this nature to succeed, community participation is essential. But community participation is a relative phenomenon. What really is community participation phenomenon?

One would assume that for a project to fully owned by the beneficiaries, they must have the feeling that they participated in the decision to proceed with that project in the first place. In the case of Namuwongo the assumed beneficiaries were never consulted about the formulation of the project.

When dealing with people living under abject poverty, it is self-defeating to employ methodologies that are used in research on more affluent communities. The people's ego is a key factor if the researcher is to succeed. In the case of Namuwongo, the first step in community consultation was a meeting for the project team with the potential beneficiaries on site. The team came to meet the beneficiaries with already pre-conceived ideas about what was to be done. At the meeting the people were informed about the proposal to upgrade their area. They were not given

the opportunity to debate whether there was a need to upgrade the area, how it should be done should the decision so favour, or even who should benefit from the exercise, and even who should be in charge of the project. Moreover, they were not given the opportunity to air their views on how the beneficiaries would finance the exercise

PROJECT PLANNING

Planning a project like the one at Namuwongo should start from assessing the need for the project, a process which should involve the community. In the case of Namuwongo, this crucial stage was skipped. The most important decision was imposed from above, or worse still from without.

The basic concept for the project was a site and service scheme on public land, which the community 'illegally' occupied. Up-grading would comprise creation of individual sites along with the provision of basic services, including roads and piped water. All the structures in the area were to be demolished as they did not conform to the city's building regulations. Nobody stopped to ask where the residents would go as they built their new homes!

The basis for the planning concept was questionable from the word go. The planners assumed that all the families on the land in the planning area were capable of paying for the land and obtaining titles for it. In the study that was undertaken prior to implementation of the project, the researchers sought to know the income levels of the family by asking them how much they earned, how often they ate, etc. These questions were not qualified by the numerous factors that make the African extended family.

It is often erroneously assumed that the socio-economic factors affecting the poor are similar irrespective of geographical location. In fact, an extended family in Uganda is very different from an extended family in Columbia. In man Ugandan cultures, there are no equivalent terms for step brother or cousin, for example. In the Ugandan context, step brothers and cousins are simply brothers. This has a very important implication for one's income, which may not be very easy to measure. Either that person earns some income as a result of these relationships, or actually has to support these not so distant relatives that the researcher so often does not remember to enquire about. It is not so difficult to see why even people with no income of their own will readily say that they have the capacity to buy a site in the slum up-grading project.

After the basic concept was accepted by the community, the process of actual physical planning, including demarcation of sites and service routes began. As is expected, the technocrats assumed that this was a feat beyond the capacity of the local community. What do they understand about physical planning anyway? The only research the planners undertook was literature review, in which they identified examples of planning solutions in similar conditions. There was no attempt to find out from the beneficiaries what kind of neighbourhood they would wish to have, what orientation they would prefer, what materials of construction they would prefer or could afford, and so on and so forth. At least the planners agreed with most of the planners that they were too poor to build their houses in one go and designed incremental schemes. But even then, the beneficiaries were never consulted about the specifics of the order in which they would wish to build incrementally. In short, the community was by and large excluded from the physical planning process.

LIMITATIONS

Any well-planned project must identify possible limitations that are likely to affect the proper implementation of the project. This must be done at the research stage. In the case of the

Namuwongo project, there seem to have been serious omissions in this respect. During the course of implementation, several apparently unforeseen problems appeared. These included the following:

- Heightened interest in the project by the middle income groups due to the increased marketability of the land in the project area;
- Influx into the project area of imaginary 'relatives' leading to complications in determination of such issues as plot ratios;
- The apparent wide range in income levels of the beneficiaries, some of whom were actually middle income earners residing in the project area for various reasons;
- Inability or unwillingness by some of the beneficiaries to begin construction work at the same time for different reasons.

It is clear that these problems could not have been foreseen because of the structure of the pre-implementation study.

LESSONS LEARNT

The Namuwongo slum up-grading project was first and foremost a social project, that only required technical input at the very end. Instead, a lot of emphasis was put on the technical aspects of the project at the expense of the social content.

The little social study that was conducted did not address the intricacies of the society in transformation and instead relied on conventional assumptions of an industrialized society. The often advance3d argument that what happened to the project was a result of inevitable economic and social pressures is true to an extent, but the situation could have been very different had an adequate social study been conducted prior to the implementation of the project.

House types in the informal settlements

In her PhD research Nnaggenda-Musana identified eight house types which she categorised and named as follows: Type 1) one roomed types, Type 2) the two roomed type, Type 3) the square four roomed type, Type 4) single strip house types, Type 5) the double strip type, Type 6) mixed residential-commercial types, Type 7) the deep strip types, and Type 8) the Other types in the informal settlements. Most of the names given to these types, that is, from Type 1 to Type 5, and Types 7 and 8, describe form or layout. While the name of Type 6 describes the activities carried out within the spaces. This kind of naming was done so that the different types can easily be differentiated and identified.

House types were named by suggesting the formal characteristics and spatial qualities and in some cases according to the activities they accommodate. This was done so as to limit the potential for other meanings, so that any confusion in understanding the house types is avoided. The name given to a type shapes peoples' images of it, Shneekloth and Franck maintain that *when naming a ...type we give it meaning by suggesting the formal characteristics and the spatial practices it accommodates; in doing so we also limit the potential for other meanings and practices* (Shneekloth and Franck, 1994:25).

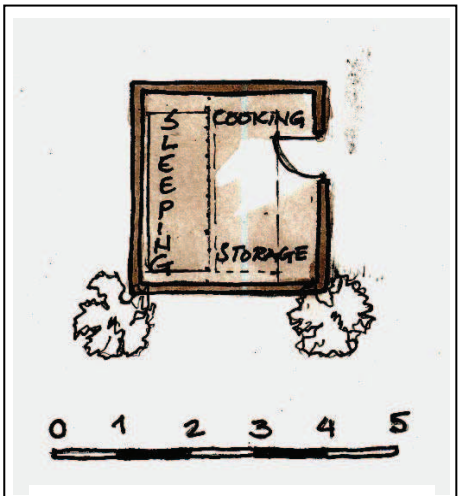
Topological analysis graphs adapted from Lawrence 1994 have been applied in the present study to illustrate the relationship between spaces. Like in Lawrence, a topological analysis is done on the house types in this study. It represents studies on the interior spaces of houses and the

surrounding exterior spaces. In Lawrence' study particular attention was given to the spatial layout of the buildings, the different names attributed to the internal and external spaces, and their intended and actual usage. In his approach the graph comprises of a set of points called nodes, which are connected by lines. Using this method a number of buildings with the same configurations can be shown to have a shared pattern. According to him this approach is not only a means of visual representation, but also a means of studying the spatial organisation of buildings (Lawrence, 1994:276-277).

Type 1-The one room house type

The one room house is more frequent in the informal settlements. It is comprised of only one room and has two variations House 1a and House 1b in figures 5.4 and 5.7, with one erected directly on the ground and the other constructed with a protrusion around it that serves the purpose of a splash apron. The one room house type has a Floor Area Ratio of 0.33. This residential density is relatively high. This house type does not have to be associated with this density since Floor Area Ratios were arrived at by the analysis of a block of houses. The dashed line in the sketches demarcates the area that was considered when the calculations for Floor Area Ratio were done. According to the interviews this house is usually owned or rented by a single household, though it may house several members of an extended family. The land on which the one-room house is located is not defined by official plot boundaries.

In this area there is a potential for densification because some spaces are under utilised. The empty spaces around this type are evident in the photographs.



Floor plan of the One-room house (House 1a). Dashed lines represent possible bed arrangement in this type.

Far back, is the back of the One room house (House 1a), built 1984, but has been renovated several times. Mbuya, 2004

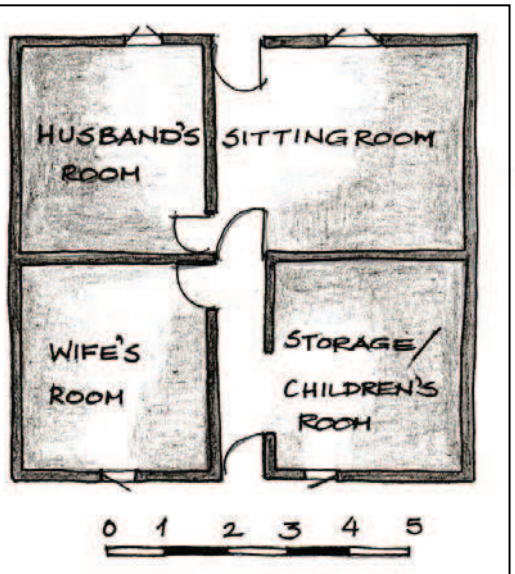
The one-room house comprises of an exterior space, which is semi-private since only the resident household uses it. This space is used for domestic activities, sometimes for children's play in case of households with children, and for storage of items that do not need protection from rain. The rest of the space beyond the invisible boundary or gate of the exterior semi-private space is more communal in nature, since neighbours who visit casually or people passing by use it. Passers

by know not to tread beyond the invisible boundary between the semi private and communal space as they walk by past the house.

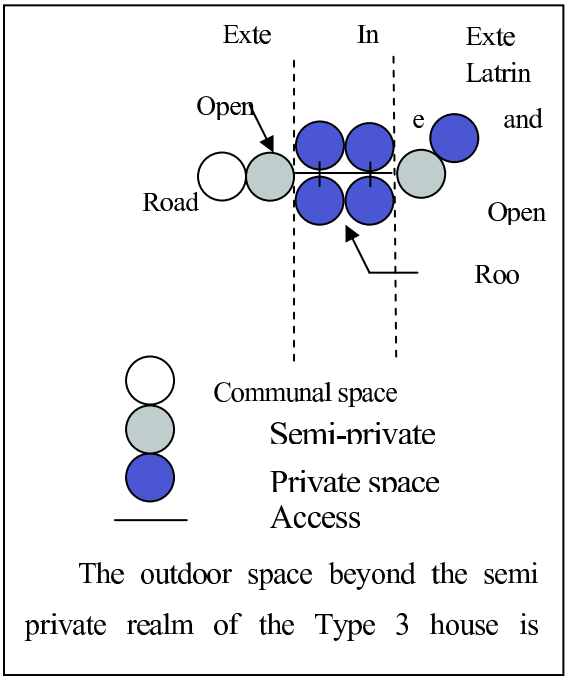
Type 3-The square four room house type

Single households own this house. Floor Area Ratios are low, about 0.11. The land on which this house is located has no indication of ownership boundaries. Plot boundaries are determined by the nature of the activities that take place around the house. Land boundaries are arranged in a curve judging from the way the houses in its vicinity and the backyard activities are arranged around a central open space. The house is exposed on all sides. Space around it is utilised in a semi-private way. Within this invisible (curved) boundary are three blocks, comprising of the main house, and two other blocks. These other two blocks are a kitchen block and a tenants' block. Farming activities are carried out at the rear end of the houses, for instance, banana, sweet potato and cassava.

Stratification in space use is seen as one moves away from the house. The less private activities are carried out further away from the house. Visitors who are not close to the household are hosted on the exterior, in the front yard, some distance away from the house. The access route (road) where this property is situated seems to be the only communal area. Other activities that are done in the front yard include, washing of clothes and bathing of infants, which are done closer to the main the house. The owner household hangs clothes far enough to be visually guarded.



Floor plan of House 4 house.



The outdoor space beyond the semi private realm of the Type 3 house is

In the diagram above showing the plan of a square four room house there is no need to show the neighbouring houses because they do not contribute to making the space that belongs to this house type.

The potential of house types to accommodate higher densities

In Nnaggenda Musana's study specific houses are observed and not the entire area housing community. In Mbuya and Kitintale space in the interior of the house types is utilised privately by the resident households and is therefore referred to as private space, while that on the exterior but close to the houses which is used for domestic activities like cooking, washing of clothes and bathing of infants is referred to as semi private. However, common to all the house types that were studied the exterior areas further away from the semi private spaces, which Correa above refers to as the semi public, were used by people living in the area or the neighbours, as circulation spaces and this is the space referred to as the communal space. Communal space in relation to the house types is that space which is accessed by people who live in the area, for instance footpaths. Space accessed by those who do not live in the vicinity, for example roads, is referred to as public space. The spatial qualities of the identified house types have a high potential for densification horizontally and vertically.

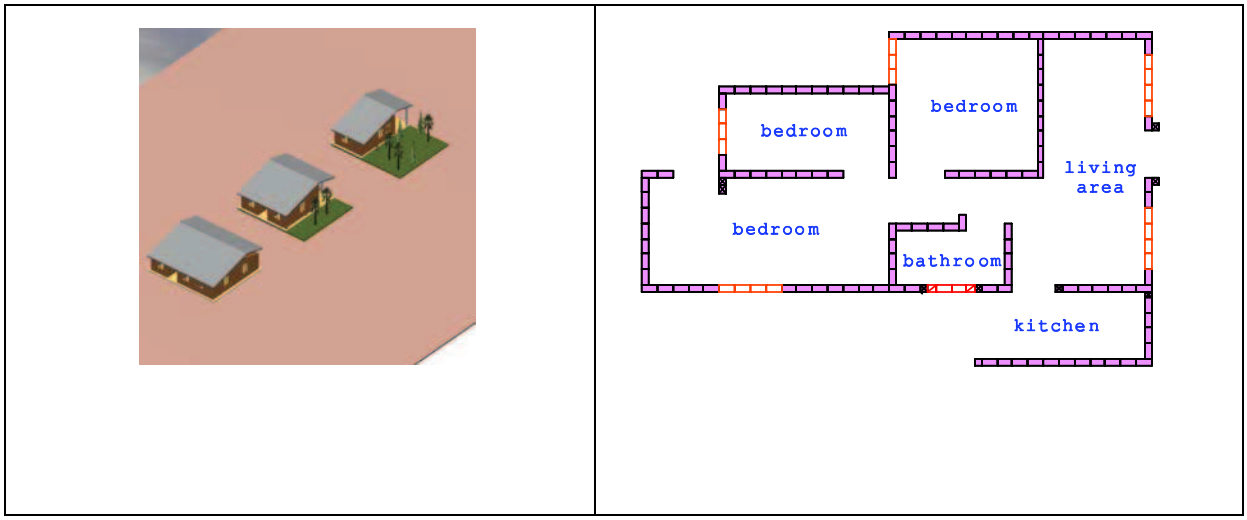
Filling the Knowledge Gap

We need to fill the knowledge gap that is the cause of our problems. This calls for reflexivity on the part of academic institutions. Reflexivity demands taking stock of our situation so as to know what we know. By so doing, we'll get to know what we don't know in order to start the process of getting to know what we need to know.

To change the face of architecture for the better, we must first garner the relevant knowledge to fill existing gaps. This knowledge should then be disseminated to the young ones through the university and vocational institutions with the aim of having a man well-trained to handle every building task. Graduates of education should be equipped with the right knowledge so that, like an efficient army, they can start organising labour to convert the resources around us into high quality habitats.

In Makerere University at the Department of Architecture there are signs of hope on the horizon. The students at Makerere are encouraged to think about the entire building process from unrefined raw materials to completed building and to think about the ramifications of their design decisions after the occupation of the building and finally when it is demolition. They are pushed to always be mindful of the environmental, social and economic aspects that contemporaneously impact on architecture. The students are encouraged to identify the opportunities and constraints within the context under study and to come up with creative solutions that take account of the entire building process cycle. Students should aim at rationalisation of the process, and – if need be – its re-conceptualisation for the sake of an appropriate solution. The academic standard of the projects is judged on functional efficiency, economic optimisation as well as response to social and environmental realities/requirements. Presented below are projects by two students. Both projects use materials and technology available in East Africa. The first one uses adobe blocks (which do not require any sophisticated technology). The second one uses CEB blocks (the machine for making the CEB is locally manufactured in Kenya). The projects exhibit an acceptable degree of technical and aesthetic quality while remaining relatively affordable and environmentally friendly. The concept of modular expansible design, which the students were experimenting with for the first time, proved to be pivotal for achieving housing with a flexibility to respond to changing needs and incomes. For each house, the first phase was minimal and had the qualities of the 'muzigo' – a popular form of housing for the poor in Kampala today. The question of too big a house does therefore not arise as it is possible that any user who cannot afford a complete house can simply stop at the first stage or any of the subsequent stages (i.e. the house can be cut according to the pocket of the user). And yet, if money allows, the user can build the house to completion and have herself a befitting residence. The beauty of modular housing – itself a

Modern Movement concept – is that the *same house design* offers suitable options for persons of varying incomes or even for the same person as his income varies over time.



Makerere Student Projects: Left (above and below) – an expansible adobe housing all its stages; Right (above and below) – an expansible CEB house in its final stage.

Such a modular approach based on affordable building materials and combined with enforcement of appropriate minimal legislation can make informal settlements a relic of the past. In the field, the graduates must be capable of continually drawing lessons from their environments. In this light, the focus for students at architecture school should be on learning how to learn from any given context.

The Role of Modern Architecture

Modern architecture was based on the "rational" use of modern materials, the principles of functionalist planning, and the rejection of historical precedent and ornament. It was a result of technology and engineering developments that emerged (1). It led to mass production of various elements, among which were building components. Concrete panels, culverts, pipes, made from iron, steel etc, used in housing construction could now be prepared. While some argue that modernism is 'finished,' it is dominant in the third world. (Holston 1989)

Modernism in architecture, in Uganda can be seen in the Bugolobi housing estate, located in Kampala was built by the Israeli's, using prefabricated concrete panels. It consisted of over thirty, thirty-two unit apartment blocks, with outdoor parking yards and green communal spaces sited on a large piece of land. The four level apartment block used, was a modern building type that should have been replicated in many areas to house people. It was developed by the National housing and Construction Corporation (NHCC), which was a public body, charged with providing housing for the people. Architects and engineers working in public bodies were responsible for many of the designs that were developed. This is now changing. Today nearly all the housing in the country is provided by the private sector, while the government is supposed to provide a conducive environment. However the private sector is profit driven and may not be able to provide houses for the poor. Payne (1977 argues that private sector activity in the third world is geared towards economic growth, making it difficult to provide shelter for the poor, since they lack funds and creditworthiness. Today the National Housing and Construction Corporation provides very few housing units for the high and middle income earners.

Housing estates need other forms of physical and social infrastructure to function effectively. Choguill et al (1996) argue that infrastructure is one of the prerequisites of sustainable development. The infrastructure will include; water systems, sewage systems, roads, electricity, open parks, etc. It is important to ensure that housing estates have nice houses with well maintained infrastructure that will enable them to have a safe, comfortable and convenient living environment for their residents. This will ensure that the residents live in a pleasant area devoid of any stigma that may have adverse effects. This is a challenge the providers of the housing estates, be they public bodies or private developers, must face.

The housing estates produced using pre-fabricated panels like the Bugolobi apartments are in a deplorable state. The apartments units themselves, and some of the infrastructure has not been well maintained by the public bodies managing them.

Housing estates built using prefabricated panels like the Bugolobi Flats, can be quickly erected, if the funds allow. Prefabricated panels used in high-rise buildings, ensure that more people can be housed on smaller pieces of land. In an estate developed by a private developer, this could go some way in reducing housing cost since the cost of the infrastructure would be shared by more people. However a number of issues need to be noted.

Firstly, the components of the physical infrastructure systems in housing estates are standardised mass-produced products like cast iron pipes, steel pipes, concrete culverts, etc, which add to construction cost of the houses in Uganda, and in many other developing countries. This is because they are either imported or they are expensive, because they are not produced locally or because of the production system used, respectively. Cement, for example, which is locally manufactured is expensive.

Secondly the providers must maintain the housing estate and its associated infrastructure. Infrastructure needs to be managed responsibly if development is to be sustainable (World Bank 2002). This statement applies to a housing estate context as well. Housing estates with poor infrastructure are not easy to sustain. Water and sewerage system collapse can lead to ill health, badly maintained roads can inconvenience residents, and increase vehicle servicing costs, etc.

Thirdly, more efficient methods of producing houses need to be developed. The World Bank (1994) argues that coping with infrastructure challenges, involves more than simple planning and management. It involves tackling inefficiency and waste, both in investment and in service delivery. This may call for capacity building in some areas.

Housing estate infrastructure should be well planned, well maintained, and self-sustaining. The people who provide and manage it should be able to maintain it. They should understand the technology and have adequate resources.

Housing estates and their infrastructure that use prefabricated panels, may be out of reach of the poor in Uganda. Modernism with its use of technology, construction materials - like prefabricated panels, and its focus on functionalism and efficiency is good, but it may not applicable to Uganda's context – as is. Only those who could afford the houses produced would benefit from it. However there are lessons one can learn from it. The challenge would be to try to shape its relevant attributes, to meet Uganda's local conditions and context. Payne (1977) argues that third world cities need appropriate approaches, from tried and tested local solutions that could be adapted to meet future needs, to solve their problems. Local resources may be used to mass-produce building components that could be used in the development of the housing estate for

various income groups. Intermediate technology could be developed to mass-produce cheaper earth blocks, or to produce cheaper cement, etc. It could then be used to provide housing to both the rich and the poor. This is a challenge that Ugandan researchers and their counterparts need to face.

Concluding

In the concluding remarks, it is worth mentioning that while it appears to offer the best solution for tackling housing shortage, architectural modernism is not without problems. The problems have been well-documented, for example by Nawangwe and Sanya (2002). Those problems call for a reconceptualisation of modernism to make it more suited to East African idiosyncrasies. Like Alvar Aalto married ideas from the Modern Movement with the traditional and the classical to find a fitting architectural expression in Finland, East Africans architects can reformulate modernism to fit local conditions. Perhaps the greatest challenge is to move away from the Modern Movement preference for the universal solution and excessive centralisation to more locally fine-tuned and decentralised solutions. Modernism in East Africa should be based on a different watchword: *small is beautiful*. That means solutions that resonate with people's local culture in their variety as well as with the environment. In early Modern Movement thinking, the environment was perceived as an isolated source of resources and sink for waste that was to be controlled and optimised for the sole benefit of man. Contrary to that thinking, this paper argues for a different Modernism that ought to recognise that the environment is a complex phenomenon of which we are a part in an intricate web of life, and that environmental degradation will inevitably harm man as well. Technology too has become a significant component of the environment – be it for the better or for the worse. Used with caution resulting from our respect for environment, technology can help man attain a fulfilling life in harmony with other creations with which we share this fragile planet.

References

Bailey, Kenneth D. Sociology and the New Systems Theory: Towards a Theoretical Synthesis. New York: State University of New York Press, 1994.

BBC website: http://news.bbc.co.uk/onthisday/hi/dates/stories/july/4/newsid_2786000/2786967.stm. Viewed on 26th-05-05

Bernstein, William J. The Birth of Plenty. How the Prosperity of the Modern World was Created. New York: The McGraw-Hill Companies, 2004.

Frampton, Kenneth. Modern Architecture: A critical history. New York: Thames and Hudson, 1985.

Meiss, Pierre von. Elements of Architecture. From form to place. London: Van Nostrand Reinhold (International), 1991.

Nawangwe, Barnabas, Dick Urban Vestbro and Tom Sanya. "Architectural Modernism as a Tool for Development". Makerere University and the Royal Institute of Technology, 2002.

Nnaggenda-Musana A. Sprawl and the City. House Types in the formal and informal settlements of Kampala. Licentiate Thesis. Stockholm, 2004.

Polanyi, Karl. The Great Transformation. New York: Ameron House, 1944.

Sanya, Tom. “The Beautiful Community Network.” a PhD research paper: Oslo School of Architecture-and Design (AHO).