The Impacts of Informal Settlement Upgrading on Housing Affordability:  
*The Experience of Hanna Nassif in Dar Es Salaam, Tanzania*  

* Anna Anael, Stephen Mukiibi and Nicholas Makoba  

Received on 9th April, 2016; received in revised form 20th May, 2016; accepted on 21st June, 2016.  

**Abstract**  
Upgrading of informal settlements is a feasible way of improving access to decent and affordable shelter. However, there is limited knowledge of the impact of upgrading on housing affordability. This paper aims to analyse the impact of informal settlement upgrading on housing affordability. Reference is made to Hanna Nassif in Dar es Salaam, Tanzania where empirical studies were carried out as a case study. Primary data were obtained through physical observation, photography and interviews. Observation and photographs were used to capture the physical transformations made to the structures in the settlement and to establish the housing conditions in the area. Interviews were conducted with key informants in the settlement about people’s perception and responses to upgrading and housing affordability. Literature review was conducted to provide documentary analysis needed to supplement the interviews and discussion made with relevant independent sources. The study revealed that upgrading of the informal settlement of Hanna Nassif improved the affordability of some residents, especially, homeowners who improved their houses and incomes, in addition to the infrastructure and services provided to the area. The paper finally proposes other considerations for improving the housing conditions in the area and achieving the objectives of upgrading the area.  

**Key Words:** Affordability, informal settlement, upgrading.  

**INTRODUCTION**  
Local and international legislation and conventions have acknowledged that all human beings have the right to live in a secure, peaceful and dignified place. In the Tanzanian context, Article 16 of the Constitution of the United Republic of Tanzania underlines this by stating that shelter for oneself, the family and household is a basic human right. At national level, there have been efforts to ensure the provision of decent housing for all citizens, but a number of social, political and economic factors have limited the realization of this basic human right (Malewo, 2008). In informal settlements where there is no formal land use planning, governments have adopted the ‘upgrading’ mode to address the characteristics mentioned earlier to improve housing quality (UN-Habitat, 2013; Jaitman, 2012).  

In an attempt to support the acquisition of shelter as a basic human right, many nations, including Tanzania have made efforts not only to provide houses but also to address the land tenure issues for their respective citizens. In Dar es Salaam, the largest city in Tanzania with about 4.0 million people, 70 percent of its residents live in informal settlements (Sheuya, 2004). This has been linked to inadequate efforts by the government to support housing development due to the shortage of formal housing finance for most of the people (Vuyisani, 2006). This has resulted in the low supply of housing, making housing availability a challenge to the urban population. To cope with the deficiency, individual households construct informal houses in informal settlements where there are minimal or no entry restrictions, such as plot standards, service requirements or other technical specifications.  

At the same time, in Dar es Salaam often poor residents, and especially tenants, move from an informal settlement when it is upgraded. One of the factors attributed to this move is the issue of affordability of the cost of living in the upgraded environment. Observations show that the cost of living in such upgraded settlement increases with an improvement in the quality of the area. In some instances, due to unclear factors, coupled with...
used to summarize the difficulties individual households face in obtaining decent or adequate housing (Hulchanski, 1991). Households are said to have a housing affordability problem when they pay more than a certain proportion of their income on suitable housing (Hulchanski, 1991). Studies on the household budget argue for “one week’s pay for one month’s rent”, meaning that it is envisaged that families can and should spend about a quarter (25 percent) of their income on shelter (Feins & Lane, 1981). Andrews (1998) defined the term “affordable housing” as that which costs no more than 30 percent of the income of the occupant household. The standard 25 or 30 percent threshold has been criticized in the literature as deceptive, as these figures may not be realistic because of inaccuracy in defining the actual income of a household and predicting the willingness of the beneficiaries to allocate a specific part of the budget for housing.

Challenges of Informal Settlement Upgrading

Informal settlements upgrading is a complex venture and the upgrading exercise has to be packaged so that majority can benefit from it. It has to be done by incorporating community participation in order to assist the poor that cannot afford decent housing (Amao, 2012).

Access to decent housing is often expensive to the majority of informal settlements dwellers. It requires more than household earnings and savings to achieve. Raising finances for housing development is a challenge. Often times, the poor are left out of formal financial support programmes. Formal financial institutions prefer lending for short term ventures with minimal risks. They tend to exclude the poor as they are considered high risk clients. Extending mortgage facilities is again limited to people in the formal sector as those in the informal sector hardly meet the institutions’ eligibility criteria (Nabutola, 2012; Mukiibi, 2008).

Benefits of upgrading sometimes come with the threat of displacement of the poor due to affordability issues and corruption as in the experience of Kenyan Slum Upgrading programme (KENSUP) (MacPherson, 2013). The upgraded environment frequently increases the demand for housing as it entices higher and middle income earners into the settlements. Ehbrecht (2014) argues that “solutions need to be found to prevent displacements of the poor through extensive downward-raiding of improved and formalised settlements that become attractive to higher income groups and hence experience increases in property prices and rents”.

Housing affordability

In the informal settlements environment affordability is an important aspect in accessing housing. The term housing affordability has been used to refer to a number of different conditions of housing that a household can afford without becoming overburdened. The cost of housing is considered high when the household spends more than 25 percent of their income on housing (Hulchanski, 1991). Studies on the household budget argue for “one month’s rent”, meaning that it is envisaged that families can and should spend about a quarter (25 percent) of their income on shelter (Feins & Lane, 1981). Andrews (1998) defined the term “affordable housing” as that which costs no more than 30 percent of the income of the occupant household. The standard 25 or 30 percent threshold has been criticized in the literature as deceptive, as these figures may not be realistic because of inaccuracy in defining the actual income of a household and predicting the willingness of the beneficiaries to allocate a specific part of the budget for housing.
RESEARCH METHODS

The case study was conducted in Dar es Salaam, the largest commercial and industrial city in the United Republic of Tanzania. Dar es Salaam was purposely selected due to the facts that the city is endowed with the best services of any urban centre in Tanzania thus attracting many rural dwellers (Mushumbusi, 2011).

The largest proportion of Dar es Salaam residents (75%) lives in informal settlements, a high figure compared to other areas (URT, 2000). Informal settlements have sprawled in all directions of the city. It is also estimated that about 15,000 new houses are constructed per year in the informal settlements of Dar es Salaam (Mushumbusi, 2011).

Location and Selection of the Case Study

Hanna Nassif is an informal settlement in Dar es Salaam, located four kilometres from the city centre. The city has a population of 4 million people, with 70 per cent of them living in informal settlements. Hanna Nassif is located four kilometres from the city centre. Administratively, Hanna Nassif and Mkunguni sub-wards form the Hanna Nassif Ward. In 2002, the ward had a population of 32,023 (United Republic of Tanzania, 2003). Figure 1 shows the location of Hanna Nassif in Dar es Salaam.

Hanna Nassif was selected for the study because it is a settlement that was upgraded not less than three years ago. The three-year period was selected because the researcher believes that within that period of time one can get a clear idea of the effects of upgrading on rental housing prices for both tenants and owners, because most house or room leases for tenants are for one year and occasionally six months. The three-year period was therefore adequate time within which renters might have experienced at least three rent changes, thus feeling the impact of upgrading of the settlement.

Hanna Nassif settlement was upgraded through the community participation approach that enable the researcher to ascertain whether or not local contributions in kind or cash contribute to the affordability of housing by the urban poor. The settlement with its high density and close proximity to the city centre attracts more people to reside there. Hanna Nassif settlement is an area where other studies have already been carried out and these could be used as a source of basic background data for the research.

Primary data were obtained through several data collection techniques, involving physical observation, photography and interviews.

FIGURE 1
Location of Hanna Nassif
Source: Field survey 2012
Observation and photographs were used to capture the physical transformations made to the structures in the settlement and to establish the housing conditions in the area. Interviews were conducted with key informants in Hanna Nassif Community Development Association (HNCDA) and ward executive officers in the settlement about people’s perception and responses to upgrading and housing affordability. Secondary data was obtained through literature reviews to establish an understanding of the existing knowledge gap with respect to the research issue under investigation and to provide documentary analysis needed to supplement the interviews and discussion made with relevant independent sources.

A total of 50 households out of 1862 were covered in the study, selected through random sampling of every 37th house from the list of all houses identified. Only one household per house was selected depending on the availability of the household head.

RESULTS

Upgrading Motive and Interventions
The motive for upgrading Hanna Nassif settlement was to enable the urban poor (tenants and house owners) who could not afford housing in a planned area to live in better and healthier conditions. Therefore, the upgrading programme mainly focused on providing infrastructure through community labour. The idea behind this was to create employment opportunities for the community, which in turn alleviates poverty. The upgrading programme included the construction of a 2-kilometre (km) gravelled access road, 1.2 km of main storm water drains including 150 metres (m) of gabions, 3.7 km of side drains, 10 road drifts and 10 vehicular culverts crossing the main drains, two major outlets for drainage discharge into Msimbazi creek, 38.40 m of bridges, 2.5 km of water pipes and seven (7) water points, three (3) of which had a capacity of 10,000 litres each and four (4) with a capacity of 5,000 litres each (Phoya, 2005). Women Advancement Trust (WAT) pioneered the cadastral survey and land registration, and the processing of land titles is in the final stages. Today Hanna Nassif stands as an upgraded informal settlement with a relatively improved and conducive living environment.

Skills Acquired
Both tenants and house owners had equal opportunities of being involved in the upgrading process. Through seminars and workshops participants were trained in how to construct the infrastructure.

Housing Affordability Considerations
Two measures were taken during upgrading to enable the original dwellers of the settlement to afford housing when the upgrading was completed and they are as follows:-

- Hanna Nassif residents who participated in construction activities were trained so that they could be employed in the programme and later on they could either get employment elsewhere or become self-employed, as they had acquired skills and experience gained from the programme.

- Residents were sensitized to process their land title deeds and use their property as collateral to get loans from a bank or other financial institutions, or to join SACCOs (Savings and Credit Co-operative) to get capital for small enterprises to ensure sustainable earnings.

The second measure seems to be selective and favours house owners, given that processing a title deed is only possible if one owns a plot or house. This implies that many tenants who could not participate in construction activities and hardly acquired any construction skills and therefore gained little from the upgrading process to improve their level of affordability.

Generally, it was found that the whole process of upgrading did not give special consideration to tenants that do not own property in the settlement. The danger is that tenants were side-lined in the informal settlement upgrading programme.

Contextual Upgrading
Contextual upgrading has resulted in good infrastructure as well as creating opportunities for residents in different ways. However, an interesting trend was noted in that the majority of house owners strongly agree that upgrading had created opportunities, while the majority of tenants strongly agree that improved infrastructure was the benefit of upgrading. This could have been influenced by the different perception about housing by the two groups. It also points to the way the two categories were involved in the upgrading exercise. Tenants may have had fewer opportunities of or less interest in participating in the upgrading process at the time the upgrading was done, although afterwards they greatly enjoyed the improved infrastructure. On the other hand, homeowners had more interest in the improvement of both the dwelling units and infrastructure and they therefore exploited the opportunities emanating from the upgrading of the settlement.
It is believed that contextual upgrading motivates object upgrading in the sense that the involvement of the government in contextual upgrading implies that the settlement is recognised by the government and so there is no fear of eviction from the settlement. This assures security of tenure and enables residents to construct permanent buildings and undertake different forms of transformation to the existing structures. Some house owners have bought out of the settlement as the value of land has risen as a result of upgrading. Such residents consider contextual upgrading a blessing and a way of getting out of poverty. As a result, they sell out their property with a profit and move to other areas where they acquire cheaper land and they use the remaining money to invest in other ventures. Otherwise, when the money realised from selling the property is properly used it benefits the household by improving residents’ affordability levels.

Object Upgrading: Positive Effects

Extensions
Extending existing houses was the most common intervention witnessed in Hanna Nassif. This is done incrementally depending on the availability of resources. While studying housing affordability in Tanzania, Makoba (2008) noted the same situation and emphasised that building incrementally is a more affordable way of constructing houses by low-income earners. Horizontal extension are common in the Hanna Nassif settlement and they aim at accommodating income-generating activities, for instance, rooms for rent, shops, hair cutting and beauty salons, tailoring activities and bars. The rent collected annually is partly used to rehabilitate the house and/or to construct new rooms to rent. This similar situation was noted in Keko Mwanga settlement by Sheuya (2004) “...part of the income generated from renting was invested in housing transformation”.

Again the common trend in these extensions is that the back is extended into the courtyard to accommodate rooms for rent while the front of the building is extended and at times its use is changed to accommodate commercial activities. Tipple (2000) as cited by Sheuya (2004) emphasised the same point that many households in the informal sector have a dwelling with their home-based enterprises and many enterprises would not exist without the use of the building. That being the case, it is evident that affordability is improved through extensions.

Demolition of old buildings and construction of new ones
New houses were constructed on vacant plots and areas where the original dwellings had been demolished. Most of the demolished structures had been built with temporary materials like mud for walls and old salvaged tin pieces for the roof. These types of houses are known as mabanda. The new constructions in the settlement are made of better-quality materials and are better designed, for instance, with a toilet and bathroom inside the building.

Change of use
Change of use is common in a situation whereby residential rooms and a veranda have been transformed so that they can be used for commercial purposes, for example, shops, salons, tailoring.

Figure 2 shows one of the houses in Hanna Nassif that is a typical “Swahili house”. This house demonstrates how it was extended in order to meet changing needs. The original layout was occupied by a single family (house owner) before the upgrading was done. The extended layout transformed the original layout to accommodate three shops. A new veranda was introduced but it partly encroaches on the road space. The back of the building was extended to accommodate rental rooms for four different households. It should be noted that the toilet-cum-bathroom, which was previously used by a single family, is now used by the house owner (four people) and four tenant households (seven people), making a total of eleven people.

Rehabilitation and maintenance

Common rehabilitation and maintenance witnessed in the settlement often includes alterations such as increased headroom and size of windows, plastering and painting, changing a cement floor to a tiled one and putting up a chipboard ceiling.

Figures 3 and 4 show the size of the headroom that was increased by 450 mm high (b) in one of the houses. Increasing the house headroom in Hanna Nassif is a popular way of improving the micro climate in the house due to enhanced ventilation enjoyed by increased ceiling height. In most of the original buildings the rooms are about 2500mm high (a). The easiest and most economical way of improving ventilation in the buildings is by increasing the headroom of the buildings from (a) to (c). At times the increment is observed on the windows as well.

Improvement of services
The common services provided are electricity, but very few people install clean, piped water in their
FIGURE 2
Layout showing transformed housing in Hanna Nassif
Source: Field survey 2012

FIGURE 3
Increased headroom and newly fitted chipboard ceiling
Source: Field survey 2012

FIGURE 4
Section showing increased headroom
Source: Field survey 2012
Drawbacks of Informal Settlement Upgrading

Having an understanding of the negative effect of informal settlement upgrading is as important as knowing the positive effect, as it helps to identify areas that need to be improved in the future when carrying out similar programmes aimed at improving the livelihood of the urban poor. Therefore, among other things, the study also looked at how the plot coverage, population density, gentrification and social ties have been affected by upgrading in Hanna Nassif. Results from the study showed that plot coverage was greatly affected by house extensions as these changes were not guided or controlled by the regulatory authorities and/or professional bodies and the resulting spatial quality was compromised at plot level. In the course of utilising the available space often the roads are encroached on, as also observed by Kyessi (2002) in Keko Mwanga settlement.

Existing household facilities were over-utilized as it was found that extensions are focused on adding more rooms and ignoring the question of common facilities like bathrooms, toilets and kitchens, sometimes leading to poor sanitation and health risks. Again the same situation was observed in Keko Mwanga by Kyessi (2002), who argues that the high level of toilet and bathroom sharing often leads to poor sanitation and women are the ones most likely to get infections as they clean these facilities.

Densification resulted from the increased demand for housing, causing more people to crowd in the settlement, at times in worse living conditions yet the upgrading programme was largely aimed at improving the quality of life in the area. Gentrification in Hanna Nassif was observed to be driven by improved housing in terms of both infrastructure and individual houses. Poor property owners are displaced by well off people through the selling and buying of their properties/houses and in many cases tenants lose the ability to afford the raised rents of the improved housing.

Tenants’ Reactions

Housing being a basic human need, Hanna Nassif residents in the low-income category are struggling to meet this basic need in different ways. Tenants’ reactions to increased rental charges can be put into two categories.

The first category comprises of tenants who are unwilling to incur the extra cost of rent and therefore look for alternative housing. These are the ones who move from the settlement to other places where they can get affordable housing in line with their levels of income. Other tenants opt to move to smaller housing units so as to spend the same amount of money as before on housing. It was noted that the majority of house owners who shifted from Hanna Nassif moved to another less populated settlement of Mbagala, which is located 12 kilometres away. Mbagala, another slum, is the largest suburb in Temeke district in Dar es Salaam. Therefore, the concern is that these people are moving from one informal settlement to another, causing densification there. In other cases, they are forming new informal

New immigrants are better off and separate themselves from the original dwellers as they construct fences with gates round their houses and hide themselves inside, and their kids do not play with ours. Others live in two-storey buildings and spit on us, and you never see them participating in our social functions like weddings and funerals.

This complaint about the new dwellers (immigrants after upgrading of Hanna Nassif was effected) gives an indication of declining social ties in the settlement and a sign of social exclusion of the original dwellers. Generally, through upgrading, the quality of the settlement is improved, and the relationship between the quality and the price is that the higher the quality the higher the price (Verma & Soma, 2004). Upgrading implies raising the quality of the settlement and, by so doing, the cost of housing goes up.

Changes in rental charges in Hanna Nassif are dictated by market forces. A house is a commodity and its price is influenced by the demand for and quality of the house. The relationship between price and quality, and between demand and price mean that upgraded houses with an upgraded infrastructure obviously attracts more potential tenants or buyers, which leads to a greater demand for housing in the settlement. On the other hand, increased rental charges could also be caused by the cost of constructing, rehabilitating or maintaining the individual houses.
settlements in areas that they consider affordable, in the process increasing on the sprawl of informal settlements.

The second category of tenants comprises those who are willing to pay the increased rent but have to do something so that they can get extra money to meet the additional rental costs. These are residents who forego other things they consider to be less important than housing and so they are able to save money to pay the higher rent. Some residents take the initiative to increase their sources of income to cover for the extra cost of housing through varying ways such as multiple employment opportunities and working for longer hours. However, a few residents have been known to resort to illegal ways of raising extra income.

CONCLUSION AND RECOMMENDATIONS
The study revealed that upgrading of the informal settlement of Hanna Nassif improved the affordability of some residents, especially, homeowners who improved their houses and incomes, in addition to the infrastructure and services provided to the area. This means that housing affordability of many homeowners improved since many acquired better housing under the upgrading exercise. Others improved their employment opportunities with the new skills acquired which contributed to better prospects for employment. Some homeowners sold out after upgrading of the area on envisioning it a better option as a matter of priority. On the other side, as there were fewer tenants who participated in the exercise and the improved environment led to a rise in the cost of living in the area, one can conclude that to the majority of tenants, the settlement upgrading reduced their housing affordability as the contribution to housing rose as a result of the improved environment. This made many tenants to move from Hanna Nassif to other cheaper informal settlements. The results also show that the concept of affordability is a complex one because it is determined by many factors.

The following recommendations are posed as option for considerations for improving the housing conditions and further achievement of the upgrading objectives of Hanna Nassif. However, they could also apply to other informal settlements with similar conditions to those found in Hanna Nassif.

Communal title deed
To discourage the practice of ‘selling out’, upgrading programmes should include the provision of a single communal land title that caters for the whole settlement. This would mean that settlement dwellers would not be at liberty to sell their property as they wish. However, this approach limits the use of plot for individual economic gain. Furthermore, the communal title may have provision of using individual residence/flat as collateral for getting loans but with the condition that the lender cannot sell the residence/flat in case the mortgagee fails to pay back the money. In this case the mortgagee may use the collateral to get back the unpaid money through, for example, renting out the property for some time until the amount due is recovered before releasing it [the collateral] back to the owners.

Reconstruction of the settlement
The settlement could be reorganized, planned and serviced for a new development with multi storey blocks of flats to accommodate all the existing residents. In this case, all tenants and house owners would be considered equally in terms of having a flat to own. To minimize service cost such as provision of lifts, the proposed blocks should not be more than four storey structures. Consideration should be given to households with occupants with special needs such as people with disabilities to have flats at ground floor.

However, in the process of re-organisation and planning of the settlement, some qualities and opportunities may be compromised. For instance social interactions and home-based enterprises which are commonly carried out at ground level may prove to be difficult to undertake at higher floors of the buildings. Nonetheless, the development of storied houses ensures that at least both tenants and home owners have equal opportunities of enjoying their improved settlement. Also tenants, who are the majority, are given the opportunity to become owners or at least to access decent housing.

At the same time, reorganization of the settlement would provide open space for social facilities such as schools, hospitals, markets, churches and mosques. It would also facilitate the provision of infrastructure and services for the settlement.

Income generation
Income-generating opportunities must also be an element of an upgrading programme. Improved economic prospects not only increase the quality of residents’ lives, but they also improve households’ affordability and reduce the temptation of original households to sell their rights to wealthier households. Apart from using the title deeds as collateral in getting loans, there is a need to ensure that credit facilities are provided with affordable interest rates, together
with the provision of training in entrepreneurship skills as a way of encouraging people to become self-employed. As argued by Tipple (2000) the Government of Tanzania should support private sector initiatives in the country to provide bridging loans to builders at a reasonable interest rate as a way of improving residents’ access to credit.

**Mobilization of settlement dwellers**
Lastly, residents in Hanna Nassif should be mobilized and guided by professionals so that they incrementally improve the infrastructure in the area with less dependence on financial assistance from external sources such as the government and NGOs. Residents should be encouraged to establish strong CBOs and educated on settlement upgrading issues affecting them. They should be mobilised to undertake the upgrading process to guide the settlement’s development. A successful experience of this strategy was evident in Kambimoto settlement in Nairobi.

**CITED REFERENCES**


