Densification as Solution to Housing Demand

A Case of Malawi Housing Corporation

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Shelter Situation Analysis for Malawi

Basic General Data

Geography and Administration

Malawi is located in Southern Africa. It is bordered by Tanzania, Mozambique and Zambia. Tanzania is to the North and Northeast. Mozambique is to the East, South and Southwest. And Zambia is to the West and Northwest. The capital city of Malawi is Lilongwe. Other cities include Blantyre, Mzuzu and Zomba. The country has a total area of 118,484 square kilometres. Land is about 94, 276 square kilometres and 24,208 square kilometres is water.

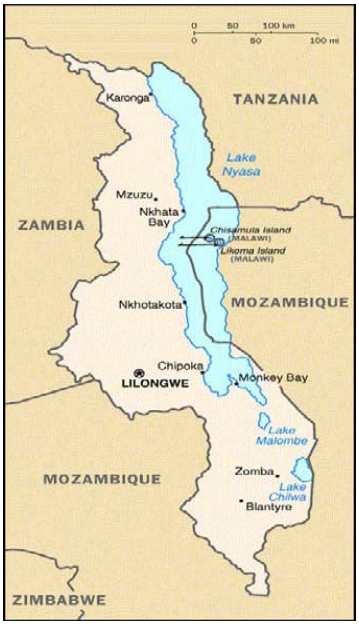

Figure 1: Showing Malawi in relationship to neighbouring countries

Demography

The human population is 13,603,181 (The World Factbook: 2008). An estimated 15% of the population live in urban areas and 85% live in the rural areas

(Zere et al: 2007). The average household size is 4.4 (Dambula & Chibwana, 2004:11). The population growth rate as of 2007 was at 2.383% (The World Factbook, 2008). In 1998 population density was 105 persons/ sq km (NSO, 1998). In Blantyre urban alone there are 22.8 people/hectare (Chikhwenda: undated).comparing the density of Blantyre to that of the optimum density as espoused by Poulsen & Silverman 2005[1], it can be seen that there is underutilisation of land in urban areas.

Economy

According to the World Factbook (2008) Malawi ranks among the least developed countries. The economy is predominately Agriculture and it accounts for more than one-third of GDP and 90% of export revenues. According to 2007 estimates GDP (purchasing power parity) is $10.47 billion, GDP per capita is at $800 and GDP-real growth rate is at 5.7%. The average household income is MK 50,000.00[2] and on average, housing and utilities expenditure in urban areas takes up 25% of the people's expenditure (NSO: 2005).

Shelter Facts and Figures

Access to Shelter/ Access to Basic Services/Infrastructure

Malawi has about 2,919,414 dwelling units. Out of this figure, 2,559,991 houses are in the rural areas while 359,423 houses are in the urban areas (NSO: 1998, Luhanga: 2007; 207). Out of the 2, 919, 414 dwelling units 12% are permanent[3]; 19% semi permanent[4]; and 69% traditional[5]. 42.8% of the urban dwellings are of permanent type. 38% are of semi permanent type, and 19% are of traditional type. (NSO: 2005; 81-82)

Near 66% of the human population lives in traditional structures and about 16 % lives in permanent structures (NSO: 1998). The average household size in urban

[1] The optimum population densities are between 150 to 450 people/ hectare.
[2] This takes into account wages, property, informal income generation activities and agricultural activities
[3] Defined as houses made from modern and durable materials such as roofs constructed with iron sheets, tiles, concrete or asbestos and walls made of burnt bricks, concrete or stones.
[4] Made from modern but partial lasting materials
[5] Defined as dwelling units made from traditional materials such as thatched roofs and mud walls or walls made of mud and wattle

areas is 4.2 (Dambula & Chibwana, 2004:11). About 51.8% of urban dwellings house are 1 person per room. 26% of the same are 2 persons per room. Another, 12.1% of the same is 3 persons per room. And 10% of the urban dwellings house is 4 persons per room.

Putting the issues in the above two paragraphs together and comparing them with the criteria[6] in the definition of adequate housing by UN-Habitat, it can be seen that most of the urban houses are inadequate.

Malawi Housing Corporation (2007-8) says the demand for their housing is estimated as over 100,000 in urban areas countrywide.

There is no adequate data on the yearly percentage increase in number of dwelling and serviced plots. Be that as it may, MHC plans to build at least 500 units and develop 316 serviced plots in 2007/8 financial year. Assuming that this would be the annual increase in housing developments, it means that it would take approximately 106 years to meet their existing housing deficit.

The types of households' tenure include rental, sectional title and ownership tenure. NSO, 2005:93 says about 58% of the urban population lives in rented houses. However, Luhanga (2007; 208) puts the figure at 63%.

In terms of urban households access to safe drinking water [7] 89% has access to safe water. Only 14 % has piped water into dwellings. While 15% has piped water into yard/plot (Dambula & Chibwana, 2004:22). And 45% has access water from public taps. In addition, 15% access water from protected public well. However, only 63% of the urban low income households have access to water.

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[6] permanent structures that comply with building codes, standards and by-laws; a maximum of two people per habitable room or a minimum of five square metres of floor area per person; a documented and enforceable tenure arrangement (for example, ownership or rental)

[7] Which is one of the Millennium Development Goals (MDGs), and Malawi poverty reduction strategy targets (MPRS)

Near 78% of the urban population has access to proper sanitation[8]. 14% uses flush toilet, 3.9 uses VIP[9] latrines, 78.8% uses traditional latrines with roofs and 2.9% has no latrines. (NSO, 2005:92).

In case of waste disposal, 16.5% of the urban households have their rubbish collected, 44.9% uses rubbish pits, 7.1% burns their rubbish, 1% uses other means and 5.9% have no means of rubbish disposal.

Housing Policy

Malawi had no comprehensive government policy on housing from independence (1964) to the mid-1990s. This period was characterized by ad-hoc housing projects with little or no involvement of the private sector, NGOs, CBOs and FBOs. A comprehensive national housing policy was developed from 1995 to 1999. (Draft National Housing Policy, 2007)

However, this policy placed too much emphasis on housing for public servants, and the policy lacked an effective institutional framework to foster successful partnerships for shelter provision. (Draft National Housing Policy, 2007)

In response, Malawi undertook a review in 2005 and 2006 of the 1999 policy and developed new draft National Housing Policy that is in the process of being finalised. The Policy's overall goal is to increase access to housing by all income groups through improving urban land markets, enhanced access to housing finance, upgrading of informal settlements, better quality of rural settlements and housing, and adoption of a decentralized approach to housing delivery. The current draft still lacks clarity between actions needed for the implementation of the policy framework and strategies to be followed. It also lacks clarity of its recognition of the extent of the deficit of decent urban housing. (Draft National Housing Policy, 2007)

[8] Having a flush toilet or VIP toilet or traditional latrine
[9] Ventilation Improved Pit

Actors in Shelter Delivery and their Roles

At the central government level, there is the Ministry of Public Works and Housing, Ministry of Lands, Physical Planning and Surveys for the provision of policy direction, monitoring and land servicing. For house provision/production and land servicing, there is a parastatal known as Malawi Housing Corporation. At Local government level, there are the City and Municipal Assemblies for local policy, monitoring, delivery and land servicing. The current existing NGOs include Habitat for Humanity, and Centre for Community organization and Development (CCODE) for advocacy and house production. The community-based organization known as the Malawi Homeless Peoples Federation is involved in house production. In terms of research and development of shelter related delivery activities, the Malawi Polytechnic, and UN Habitat are involved. There are also Private Sector players and individuals who are involved in house production. (Luhanga: 2007; 208)

Shelter Design

Physical Planning standards, principles and guidelines

All housing developments in statutory planning areas are subject to town planning control, although there are certain exceptions in traditional housing areas. Some local authorities have building by laws, which govern the design and construction of permanent buildings. (Luhanga: 2007; 208-9)

According to Luhanga (2007; 208-9) the 1987 Town and Country Planning Guidelines and Standards, land is zoned for a particular type of housing development, however, mixing of types is normally permitted. Housing developments are classified into low density permanent detached, medium density permanent detached, terraced or multi-storey, high density permanent detached, or semi detached and high density traditional detached. Plot sizes are 2000–4000 m² (for low density), 1000–2000 m² (for medium density), 375–1000 m² (for high density detached), 300–500 m² (for high-density semi-detached) and 375–1000 m² (for traditional plots). From these plot sizes it can be seen that there are too big gaps between smallest plots and biggest plots in the categories.

There are identical planning principles governing the outlining of zoning schemes in all cities and municipalities[10].

The above mentioned principles were in some cases followed in the development of human settlements in the 1960s, 70s and 80s. However, recent practices (since 1990s to date) have ignored these requirements.

Shelter Quality

Considering some of the criteria (see footnote 6) in the UN-Habitat's definition of adequate housing and the facts under Access to Shelter section it can be argued that many housing units in the urban areas do not comply with the definition of adequate shelter (as most of them are traditional), are oversized considering that an average household is 4.2 persons and that most houses are 1 person per room, many people have insecure tenure (since most landlords are informal).

However, it’s also important to note that the criteria for assessing the achievement of basic services and infrastructure according to the UN Habitat definition of adequate shelter are met. On the other hand, it is noted that very small percentage of urban population has access to water and sanitation services inside their houses.

Organisations

Arch Point

Overview

Arch Point Habitat Profession and Research Consultancy support the infrastructure development initiative of the Malawi Government and the wish of the general public to have socially, economically, and environmentally sustainable habitats. The film

[10] According to Kawonga(1999) these are: (I) efficient use of land (right plot sizes, project scale, minimisation of infrastructure cost, & reduction of travelling distances). (ii) Consolidation of the urban form (developing vacant sites within the built-up area before new sites or areas are opened up for development so as to promote efficiency and reduces cost). (iii) More balanced pattern of development (to ensure that each sector of the Cities is economically & socially sustainable). (iv) to increase the supply of serviced land, so that sprawling of unplanned housing areas is controlled.

focuses on rural and urban developments which include housing, community facilities and mixed use developments.

The services offered are Architecture Design, Interior Design, Urban Design, Urban Planning, Project Management, Property Management, Property Development, Training and Research.

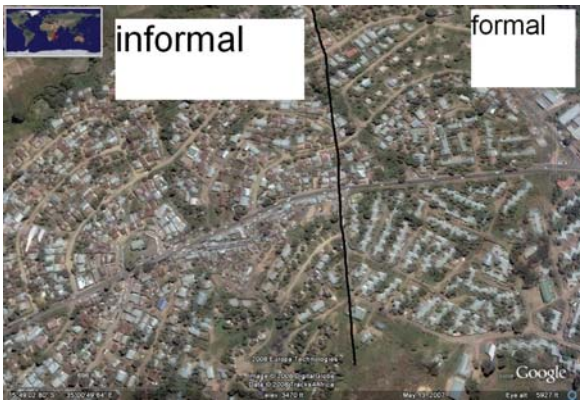

Figure 2: showing the comparison between the magnitude of informal housing situation and typical formal housing development interventions

The organisation's strength are that it has qualified and experienced staff in habitat planning, social housing design, low cost design, project management. In addition, it focuses specifically in habitat planning, design, management, and capacity building. Moreover, it has adequate resources to carryout shelter design and project management at low to medium scale level.) The only weakness for Arch Point is that it is a relatively new company. However, Arch Point work in an environment fully of opportunities such as the country's improving economic situation, availability of donor agencies interested in promoting sustainable urban development.

Malawi Housing Corporation (MHC)

Overview

MHC[11] offers its houses for rent. It also sells some of its housing stock to the general public. In the 1970s and 1980s MHC had vigorous housing construction programme due to economic situations at the time. But around 1980s and 1990s the economic situation was on the decline and international housing policies were changing (In the late1980s international donor agencies shifted their focus to the homeless and the

[11] MHC was formed by an Act of Parliament in 1964 under the Laws of Malawi Cap. 32.02 to construct houses and to provide serviced land that may be used by developers to build their own houses.

1990s they focused on the enabling policy other than direct housing provision), thus, MHC housing conventional programmes were affected.

To date MHC has built up to 6,000 which are located in the urban areas of Blantyre, Lilongwe, Zomba, Kasungu and Mzuzu. Some housing stock is still in the hands of the corporation which it lets out. Other stock was sold to its tenants.

The weaknesses that this institution has are that currently it does not have adequate human resource to carryout grand projects as it was the case in the 1970s and 80s. And it underutilises its available land. Cases in point are its flats in Sunny Side in Blantyre and Area 16 flats in Lilongwe which are of high-rise low density typologies.

In its 5 years strategic plan starting 2007/8 fiscal year, MHC plans to build 5000 houses and 5000 serviced plots. This is against the background of it's over 100,000 housing backlog and the ever increasing demand for its serviced plots. In addition, it will build 32 students hostels at the University of Malawi and Mzuzu. (MHC, 2007)

On financial performance, the corporation has turned around from a loss making to a profit making institution. From 2001 to 2002, MHC posted deficits of MK46.6 million and MK 119.3 million respectively. In 2006/7 financial year, the corporation made MK 58 million profit.

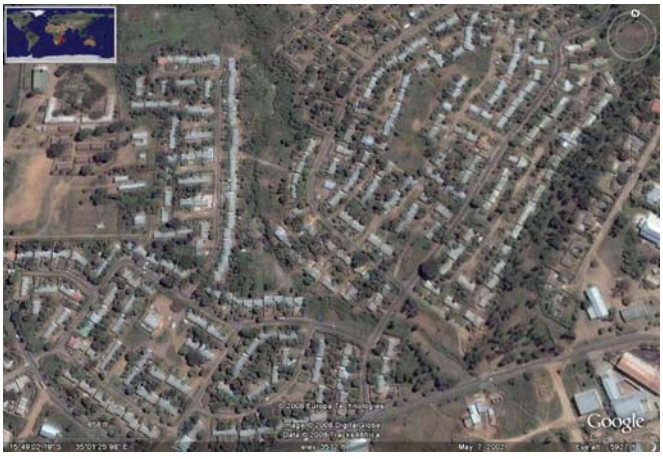

Figure 3: Nkolokosa Housing Settlement in Blantyre, showing the inefficient use of land because of availability of SLOAP

Shortage of Adequate Housing

The types of units and plots that MHC has developed this far have included low density, medium density and high density typologies. However, the number of housing units and serviced plots so far has not been meeting the demand considering the housing supply backlog of over 100,000.

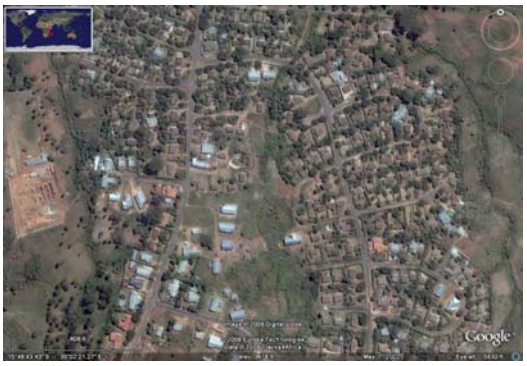

Figure 4: Showing consolidation of land form through perpetuation of one house per plot typologies

The causes of this shortage of housing and serviced plots include, lack of budgetary support from central government to develop new housing stock and serviced plots, declining economic situation (high interest rates and devaluation of Malawi Kwacha) of Malawi in the 1980s and 1990s, changes in international approaches to housing production[12], bottle necks in land titling and housing development[13], conflicts about the ownership of land between MHC and urban traditional leaders, and reduction of inner city land due to squatting, inefficient use of land, excessive plot sizes standards, the general promotion of one house per plot typologies and high-rise low density typologies.

The effects of these problems are that people further perpetuate squatting and informal settlement development. In addition, MHC continues to lose land both in the inner and the periphery of urban areas. Moreover, as a consequence of demising inner city open land, MHC is pushed to develop new settlement in the periphery of

[12] Housing production policies have evolved since 1945: public housing, rental control, 1970: John Turner; intermediate technology, 1975: WB 'Site & Services' & Upgrading, 1976: Habitat 1, Vancouver, 1987: 'Shelter for the Homeless', 1990: Global Shelter Strategy. 'the enabling policy' NGOs, participation, WB: Housing Finance, 1996: Habitat 11, Istanbul Habitat Agenda, 2000: Millennium Development Goals

[13] Malawi Housing Corporation (MHC) is required to submit its proposals for land and housing development to Government for approval. This affects its ability to develop land at large scale in order to reduce the land and housing deficit.

the cities where there are no social amenities and which are further away from sources of income for most residents.

Alleviating Problem of Shelter through Densification

The link between housing shortage and density

There is a relationship between housing shortage and density. As seen above housing shortage is to some degree influenced by, excessive plot sizes and promotion of one house per plot typologies. These factors also influence the type of density that may characterise a housing settlement. Therefore this study looks at the possibility of densifying habitat settlement by considering revision of plots size standards and housing type so as to solve the problem of housing shortage. MHC has considered this tactic but has met resistance from the city assemblies on the basis of environmental quality. As well as that it has overlooked the opportunities for densification.

The objectives of this study are to clarify the issues connected with density, show the benefits of high density, demonstrate the problems of one house/plot typologies, and recommend approaches to dealing with density and shortage of housing.

Method

The study is based on review of extant literature. In addition, it’s based on local housing settlements case studies. And, its complemented by the authors own experience of housing issues.

Limitations

Density is studied with the use of number of plot/unit area and/or population/unit of land. However, such data was not available for the case studies and to collect data would have taken more time and money. Nonetheless, aerial maps (which allow for quick comparative access) were used.

Generalisation of recommendations would have been more appropriate if the case studies were carried out in all urban areas in Malawi. On the other hand, due to time

and budget constraints this was not possible. Other than that the characteristic of the cities are generally the same hence the generalisation are somehow accurate.

Housing Density overview

Urban theorists (Poulsen and Silverman:2005, Acioly and Forbes: 1996 etc) have identified low-density development as one of the critical factors inhibiting the creation of sustainable settlements: Low-density settlements are problematic in that they generate: Inadequate population thresholds which are unable to support viable public transport, shops or social facilities; Vast distances between neighbourhoods forcing residents to rely on motorised transport which in turn contributes to unsustainable use of fossil fuels and results in high levels of air pollution; Inconvenience for residents who have to spend large amounts of time commuting from one part of the city to another; High costs for municipalities who are obliged to deliver services to far-flung areas; and Infrastructural inefficiencies that arise when relatively few people utilise available resources. Still, they also note that low density settlements do not create strain on the public services, they are quiet and less pullulated.

Further, Poulsen and Silverman (2005), Acioly and Forbes (1996) and others note that there is high crime, infrastructure overload, pollution, environmental hazards, and congestion in high density settlements. Nevertheless, they also note efficiency of infrastructure provision, efficient land use, community life, economics of scale, high revenue generation, more social control, high access for consumers, and good access for employment.

According to Senior (1984) environmental quality varies independently of density but physical, economic, social and political factors are linked to density. Besides, Acioly & Forbes (1996), as far as relationship between density and health is concerned, espouses that housing density and crowding are, but, different aspects; ‘it is possible to have a high density without overcrowding’. By the same token it can be argued that increasing densities by building new units on open spaces of existing residential neighbourhoods and promoting mixed use of plots (as long as good design

principles are followed and proper investments on public services are done) cannot affect the neighbourhood environmental quality.

Mufuru (2006) interpreting Tower (undated)says that on the same size of a residential plot, the same density can be achieved through different urban form, for example, high rise low-plot coverage, low-rise high coverage and medium-rise medium plot coverage. It is in the same vain that I argue for densification either through low-rise high plot cover and medium-rise medium plot coverage.

Case Studies

Soche East – A success story of Densification

Soche East was developed in the 1970s. Soche East is a low-rise high coverage estate in Blantyre, Malawi (see figure 5). It has mixed family size typologies, ranging from two bedrooms to three bedrooms units. The units are a high bleed of row units and detached units as roofs of one unit carport abuts to the wall of the adjacent unit. The units are located middle way from the front and back sides of the plots. The units form an L-shape. The Location of the units, and the shape of the units together create interesting outdoor space thresholds. More importantly, the settlement achieves high density as there are more units with small plot sizes as compared to other housing settlements in Malawi of the same size. The layout and pattern of this housing settlement make efficient and balanced use of land as envisaged by the planning principles for outlining zoning schemes. The standard plot sizes are about 450m² (15mx30m configuration). The roads are 4.5m wide and have a one meter road reserve from the lot boundaries. The location of the estate is near to social amenities such as market, shops, schools, hospitals. Besides, it’s located near to the Central Business District of Blantyre. Sadly, recent housing developments do not take this approach.

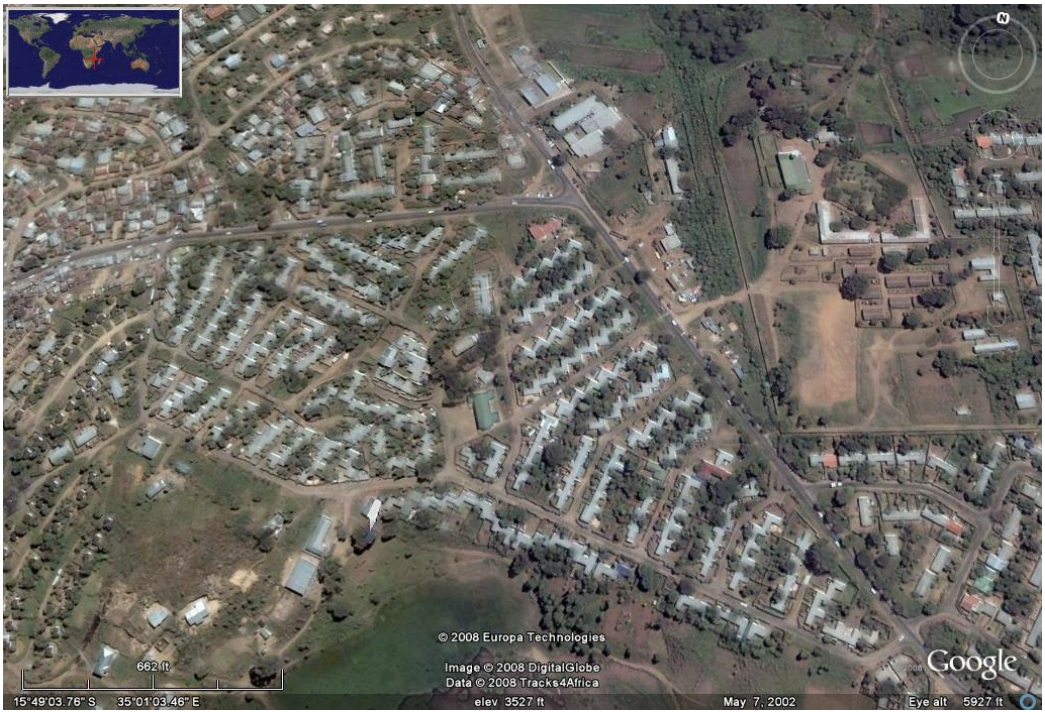

Figure 5: Showing an aerial map of Soche East.

Ndirande Malabada Housing Estate ('Malaysia')

– A good example of a bad housing settlement.

Ndirande Malabada Housing developed in the 1990s. It is a small high density housing estate in Blantyre, Malawi. It has mixed family size typologies, ranging from two bedrooms to three bedrooms units. The units are detached. The units are located middle way from the front and back sides of the plots. The units have rectangular shapes. The Location of the units, and the shape of the units do not create interesting outdoor space thresholds as side yards are sometimes left unattended. The widths of the plots create inefficient use of services and road network. As well as that, together with the 12 meter road reserves it compromises the achievement of optimum high density. The layout and the pattern of the housing settlement is not in line with planning principles as envisaged in the outline for zoning scheme for cities and municipalities. The standard plot sizes are about 600m² (20mx30m configuration). The location of the estate is not near to social amenities such as markets, shops, schools, hospitals. Besides, it's not located near to the Central Business District of Blantyre. Sadly, there are more such housing estates being developed lately.

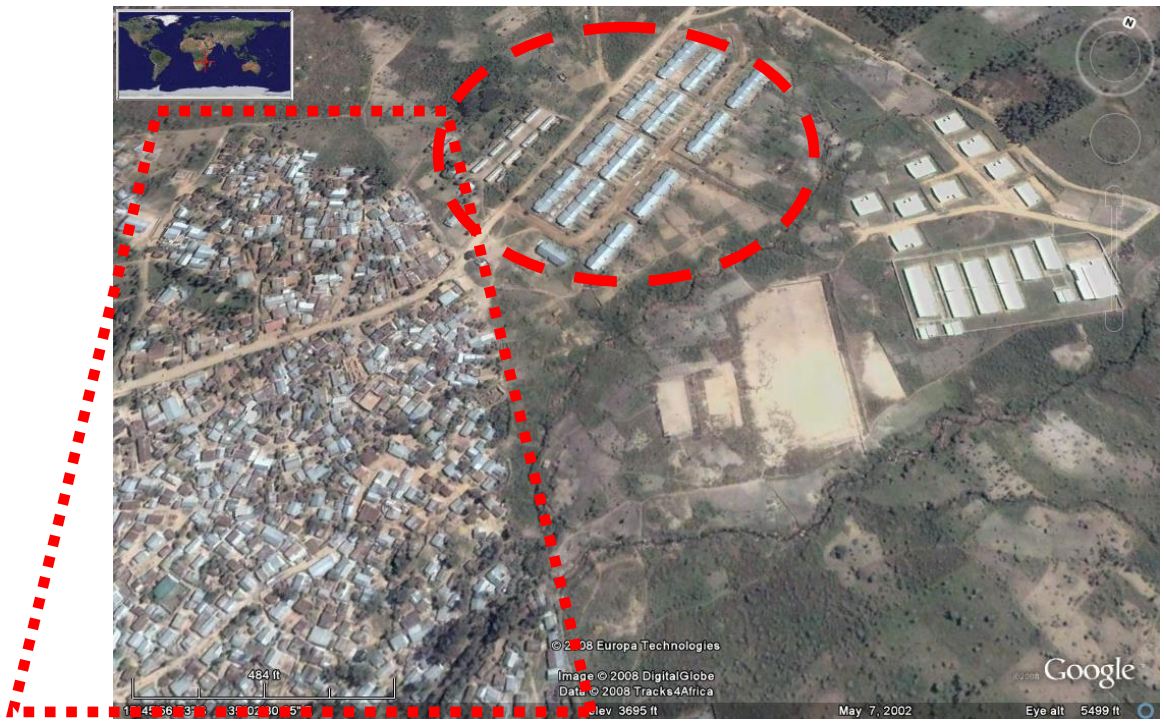

Figure 6: Showing an aerial map of Ndirande Malabada ('Malaysia') in dashed circle. The picture also shows the relationship between the magnitude of conventional housing development and an informal settlement (inside the dots) they try to address

Lessons for MHC

The following are the implications of Malawi Housing Corporation housing design and development approaches as they stand.

- Location of some of its settlements especially recently developed ones are poor. The locations do not connect effectively to transport routes and nodes and economic activities centres.
- Most of the new housing settlements are mono functional that they do not promote sustainable living which mixed use settlements promote.
- There is no direct relationship between high density and poor environments.
- The rate of housing supply will not meet demand for a long time

Is there a just cause for Densification by MHC?

Recap and evaluation

The above discussion has shown that there is a big housing deficit in urban areas of Malawi. This deficit has an implication on informal settlements development. The informal settlements are bigger than conventional housing estates next to them.

As well as that it has shown that most units are underutilised as few people live in relatively bigger houses. This implies that there is inefficient use of services as espoused by Acioly and Forbes (1996) and others.

More also, the paper has shown that there is a wide gap between the smallest high density plot and the biggest high density plot. In addition, it has been pointed out that there are more detached high density units. This also implies inefficient use of services in comparison to semidetached or terraced units. Further, it has been indicated by Acioly and Forbes (1996) and others that high density location have more benefits that disadvantages. Furthermore, it has been shown that density does not affect on the environmental quality directly (Senior, 1985). Therefore city assemblies as well as MHC must see densification as a way of improving urban environment.

In relationship to the Housing Policy, one of the Policy's goals is to improve urban land market. Densification would improve the value of land as a result of the knock off effect of improved environmental quality just as espoused by Acioly and Forbes (1996).

Moreover, it has been exemplified, through the case study of Soche East that housing settlement near the CBD offer opportunities for access to social amenities and economic opportunities as opposed to periphery housing estates such as Ndirande Malabada. Therefore overall, it can be deduced that densification is a right approach in order to provide decent, adequate and sustainable housing to the population of urban areas in Malawi. The housing will be decent because they will be formal housing with good standards. Adequate, because houses built will be to UN-Habitat

requirements for adequate housing. And sustainable because they will promote social and economic development. Of course, it’s important to note the trade off that need to ne considered as a result of densification agenda. Capacity of services such as water and electricity may have to be improved in order to maintain satisfaction of the users with the services.

Way Forward for MHC

In a situation of housing backlog, squatting, high cost of managing sprawled housing estates, and where MHC plans to build new houses, it is important that future housing takes into account densification strategy. It is in this recognition that the following recommendations are made.

Promote consolidation in order to meet demand and confront defragmentation of existing housing settlements. This should done through building of more, terraced, semidetached, or medium rise high density typologies instead of detached one house per plot typology.

Mixed use housing settlements should be promoted in order to promote social and economic sustainability of housing settlements.

In order to address the problem of capacity so that it quickly addresses the housing backlog, MHC should engage consultants to carryout new projects.

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