

# Incremental House Construction Approach in Tanzania.



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## 1 Shelter Situation Analysis

### 1.1 Basic General Data

#### Geography and Administration

Tanzania is a United Republic in East Africa located 1° to 11°45' S; 29°21' to 40°25' E. It has 26 administrative regions, 21 forms the mainland (formally known as Tanganyika) and five that forms Zanzibar. United Republic of Tanzania (URT) finds its origin from the union of Tanganyika and Zanzibar in the year 1964. Zanzibar is semi-autonomous. Tanzania is fairly a peaceful country and has been the safe haven for most of refugees from conflict torn Great Lake countries. The climate ranges from tropical conditions, with temperatures averaging about 27°C (81°F), rainfall varying from 100 to 193 cm (40 to 76 in), and high humidity to semi temperate in highland areas, where the climate is healthy and bracing. There are two rainy seasons in the north, from November to December and from March through May. In the south there is one rainy season, from November to March.

Tanzania is approximately 945,100 sq. km, where the mainland is 881,000 km<sup>2</sup> and Zanzibar is 2,000 km<sup>2</sup>. Of these, 62,000 km<sup>2</sup> is water bodies and 3350km<sup>2</sup> of forest and woodland (National Business directory 2008). The administrative capital of Tanzania is Dodoma, where the parliament meets four times a year. Dar es Salaam is the commercial capital of Tanzania and this is where most of the ministerial headquarters, big companies, and Embassy and donor offices are found.

### Demography and Health

The 2002 census revealed the population of Tanzania to be 34,584,607 with growth rate of 1.83%. According to 2000/2001 household surveys, the average household size is 4.9 (World Fact Book Tanzania, 2006). More than 70 % of Tanzania's population is rural. Urbanisation is on increase with 70% of urban population living in unplanned settlement. The urban population is growing at a rate of 6% per annum about twice the national rate of population growth. Population distribution is 0-14 years: 43.5%, 15-64 years: 53.7%, and 65 years and over: 2.8% giving a maiden age of the total to be 17.8 years, (2008 est. CIA Fact Book). The life expectance is 51.45 years and population density on average is 39 persons per km<sup>2</sup> at national level, urban areas such as in Dar es Salaam is 1,793/km<sup>2</sup> (2008 est. CIA facts Book)

### Economy

Tanzania is one of the poorest countries with its economy heavily dependent on agriculture, which accounts for more than 40% of GDP, provides 85% of exports, and employs 80% of the work force. The rest of the labour force works in either service or industry sector. The service sector is not well developed but has great potential to the economic growth of Tanzania.

Topography, climatic conditions, poor technology and dependency on seasonal rains limiting cultivated crops to only 4% of the land area. Long-term growth through 2005 featured a pickup in industrial production and a substantial increase in output of minerals led by gold. Recent banking reforms have helped increase private-sector growth and investment. Continued donor assistance and solid macroeconomic policies supported real GDP growth of nearly 7% in 2007.

(CIA Fact Book) Per capita Gross Domestic Product (GDP) of Tanzania is USD 251, and that of Gross National Product (GNP) is estimated at USD 246.

## 1.2 Shelter Related Fact and Figures.

### Access to Shelter

Most Tanzanians opt to own houses rather than rent, however research have established that not all of those renting need to own a house, but will rather continue to rent. Housing construction is taking place in both planned and unplanned areas. Nationally, about 84% of the residents own the houses they live in (quantitative), although in urban areas over a third rent privately (Household Survey 2000/2001). About 75% of urban dwellers reside in informal settlements (HDM et al: 2007).

Land is state owned. Surveyed plots are acquired formally from the government on short and long-term lease bases (between 33–99 years). Surveyed plots are not necessarily serviced (with the exception of the sites and services projects, and the 20,000 plots project (which are partial serviced). The responsibilities of surveying and servicing plots for construction is the responsibility of municipalities; but due to scarcity of funds, the financial burden is shifted to the communities, and sometimes to donors in conjunction with the Government. When it comes to informal settlements, unauthorized individuals sell informal plots to other individuals. The pieces divided by the owner/seller consider few or none of the town planning ethics and codes of conduct.

Most urban areas lack drainage channels (except for those residing near regional roads and few other roads). Waste disposal (solid) is commonly practiced in inner urban areas, and some very few areas far from the city centre. There are no services of collecting solid waste in rural areas. Liquid waste is either connected to central sewers, or disposed in oxidation ponds, or using septic and soak away pits. In rural areas, pit latrines are predominantly used.

Compared to rural residents, urban residents have serious shortage of housing due to rapid urbanization, which is mainly attributed to rural-urban migration. In recent years, the urban population has been growing at an annual rate of about 4.2%. The urban population increased tenfold from 1967 to 2002. In 1967, the urban population was 685,547 or 6.4 percent of the total population whereas it

rose to 7.6 million or 22.6 percent in 2002. Therefore, the housing demand (effective demand) was about 1,844,482 units. In 2007, the absolute number of urban population was estimated at about 9.5 million or 2.3 million households. Approximately 80,000 urban households are in need (entitled) of housing annually of which 61,040 of them are expected to be tenants. (URT: 2008 Draft Housing Policy).

The National Household Survey of 2000/01 revealed that the proportion of house owners is declining despite the societal pressure for homeownership implying that the proportion of tenants is on the rising side. Comparison of HHS of 1991/92 and 2000/01 shows a decline from 85.4 to 84.3% respectively, with the exception of Dar es Salaam city, which has the least proportion of house owners, which increased from 31.2% in 1991/92 to 32.4 percent in 2000/01. Private households still have shortage of bedrooms (National Population Census of 2002) giving the current occupancy rate is about 2.4 persons per room, which is slightly lower as compared to 2.6 in 1992. That occupancy rate is still above the acceptable national occupancy rate of two persons per room. About 70.5% of the households have one to two bedrooms; approximately 17.2 percent have three bedrooms; around 7.7% have four bedrooms; and only 4.5% have five or more bedrooms. There is no significant difference between urban and rural areas as about 70.3 and 71.0 % of private households in rural and urban areas respectively, live in houses with one and two bedrooms.

## Building Materials

National Population Census of 2002 indicates that at national level there is a slight improvement in the use of modern building materials for the main components of a house; even though the majority of houses are built with temporary materials. Out of all houses, 46.3 percent have metal roof; 15.5 percent have walls built with cement bricks and 26.4 have cement floor. There is significant variation in the use of modern building materials between urban and rural areas:

- About 67.5% of rural private households live in houses with thatch/grass/ mud roofs; in comparison to only 10.8% of urban
- About 89.3% of rural households live in houses with mud floor, where as in urban areas it is only 29.4 %

- Only 17.9% of rural households live in houses with stone, cement blocks and baked bricks walls while over 62% does so in urban areas

### 1.3 Housing Policy

The government endorsed its first housing development policy in December 1981.

The salient features of the policy statement were;

- The government recognised the importance of better housing for the people both in urban and rural areas. As such, the government stressed the necessity of intergrated economic planning and human settlement planning in development decision making. This would allow for realistic allocation of resources for human settlement development. The government agreed to make necessary legal and administrative adjustments.
- The government recognised that almost all housing in rural areas and more than 90% of those in urban areas have been constructed by the people with little or no public intervention. The government saw the need of encouraging the trend, and it viewed its role as that of facilitating housing development through the efforts of the people. In this endeavour, the government stressed the importance of;
  - i. Streamlining all the processes of surveying land in towns, land allocation process, record keeping, land transfer etc.
  - ii. Research and production of basic building materials should be given additional emphasis. Similary, building standards and regulations should be revised to facilitate housing development. It is believed that if appropriate technologies and standards are applied to human settlement development; little imported materials will be required and therefore a minimum of foreign exchange will be needed.
  - iii. Local authorities should produce definite programmes of surveying and servicing land for housing development. Further, the authorities should establish facilities for technical support to house builders.
  - iv. Financial institutions responsible for lending to housing development should be reviewed to make them more responsive particulary to the needs of the low income earners and, if need be new financial institutions should be created to increase lending opportunities for housing development.

- The government recognised the importance of the concept of community participation as being central to the success of the policy-action scenario on housing development.
- Realization of the housing stock already existing in squatter settlements (about 40% to 60% of all housing in towns in Tanzania), the government decided to invest on an upgrading approach. However, upgrading and regularization of this stock will have to be accepted as a pragmatic solution to an emergency situation, and should always be treated as such. It further emphasize that squatter –settlement upgrading should never be seen as central to housing programmes of as anything more than an expedient measure.
- The government decided to have a programme providing for selective rental accommodation.

In 1995, the Tanzania adapted “market friendly” Land Policy in recognition of urgent need for having properly functioning land market. A major objective of this policy was to improve access to land for rapid and sustainable socio-economic development. The policy was operationalization and Land Act 1999 was enacted in 2001 giving raised to land market reforms, key catalysts to efficient housing development.

Parallel to that was National Human Settlements Development Policy introduced in the year 2000 with objective of addressing broader issues of shelter and human settlements such as enabling environment to access adequate shelter for all. It advocated for efficient land delivery system, simplified building regulations and standards, upgrading of unplanned settlements, housing finance, infrastructure and service provision, and better rural housing. However, it also fall short of addressing the problems of the housing sector.

Currently, there is a government reform in the Ministry responsible for housing to create a fully fledged Housing Directorate. Before this, housing was just a section under Human Settlement Development Directorate. It is envised by many actors to have a full fledged Housing Ministry in the future.

This new department became operational in the financial year 2008/2009 and is working on a comprehensive housing policy, which is currently in the final

draft being reviewed by the cabinet and Parliamentary committee before it is passed. Policy vision is to see all housing consumers having access to affordable housing types of their own choice and of standard quality by 2025. Its mission is to guide the citizenry towards development of a non-discriminatory and efficient housing delivery system and creation of a healthy, aesthetic and decent living environment.

The policy directions aim at boosting the housing sector by redefining the roles of the government and other key actors. This involves taking positive and pro-active measures that nurture the creation and growth of a fair and demand-driven housing market system while safeguarding the interests of the marginal groups who are unable to compete under free market atmosphere.

#### 1.4 Actors in Shelter Delivery and their Roles

There are many actors in shelter delivery in Tanzania, such as Government through its Ministry of Lands and Human Settlement, UN-Habitat, World Bank, Private Sectors, Non-Governmental Organisations, Social Security Funds.

- Governments through its Ministry of Lands and Settlement Planning. It has to survey and allocate land to needy people. All land related matters in Tanzania are handled by this Ministry. Also the municipal council works hand in hand with the ministry, it gives the building permits and do site supervisions to ongoing projects to see if the standards are met.
- Social Security Funds, these are government agencies dealing with welfare of Tanzanians after retirement. They circulate money they get to building investments which at the end help Tanzanians. They invest in residential apartments, office buildings etc.
- UN-Habitat, this is a United Nations Organisation dealing with housing issues world wide. It funds many housing issues in Tanzania including squatter upgrading.
- World Bank, also gives grants to housing improvement and shelter delivery system at large. For example, in early 80's it supported low cost housing system in Sinza area where by it gave out small plots with foundations to help low income people.

- Non-Governmental Organisations, these play a big role in squatter upgrading in Tanzania. For example, Tanzania Gatsby Trust, works with UN-Habitat in squatter upgrading in some areas in Dar es salaam.
- Private Sectors, These plays a very important role in shelter delivery system in Tanzania. They construct buildings for renting and selling. Many of Tanzania houses are privately owned, without the contribution of private sectors, we would be in more crisis now.
- International organisations like Swedish International Development Agency (SIDA) also plays a big role in shelter delivery in Tanzania. They used to engage themselves in construction of secondary schools and do some renovations to buildings.

## 1.5 Shelter Design

Human settlements development and shelter delivery are inseparable and require a coherent and comprehensive policy that links them in a common framework. The need to develop a national human settlement development policy arises from the government's conditions in the country and its recognition and commitment to the decision by the United Nations Habitat Agenda II and the Instabul Declaration on Human Settlements Development. The government thus intends to facilitate adequate delivery of shelter and the development of sustainable human settlements in the country.

The mission of the government through its Ministry of Lands and Human Settlements Development is to facilitate and create a conducive environment and framework for the achievement of the goal of having equitable, safe and secure, healthy and efficient sustainable human settlements in the country.

In line with this mission, the Ministry will endeavour to harness existing and future initiatives and potentials on shelter delivery and infrastructure investment, management and maintenance of such facilities in partnership with various sectors and stakeholders in the public, private and informal sectors, and by Non-Governmental Organisations (NGO's) and Community Based Organisations (CBO's). In addition, the ministry will judiciously guide the rapid urban growth, urbanisation and the transformation of the settlement pattern so that these processes contribute to sound and broad based socio-economic development in the



country. Finally, the Ministry will capture the interdependent relationships between various actors and sectors in human settlements development as well as streamline their roles and functions so that human settlements development contributes effectively and meaningfully to the improvement of the quality of life of all Tanzanians.

### **Women headed households.**

There is a considerable increase in women headed households. Many of these women are widows, divorcees, or have been abandoned or have not been married. According the 1988 population census report, women headed households constitute 30% of all households in the whole country. The same report indicates that women headed households account for 31.6% of all households in urban areas and 29.6% of all households in rural areas. This rather high proportion can be an indication of changing gender relations or the breaking up of family ties. On the other hand, the growing role of women as heads of households raises the need of making women accessible to land and home ownership.

Almost all housing in rural areas and more than 84% of housing in urban areas is privately owned. However, existing customary laws and values, especially when it comes to allocation and inheritance of land and property in villages, still restrict house ownership by women although there are no such restrictions in law. Therefore, there is a need for an alternative construction approach so that more women can get access to head households as they have proved to do well on that aspect, only that financial assistance becomes a problem to them.

### **Affordable and Adequate Shelter Provision.**

In the absence of formal affordable housing, the majority of urban population has resolved to accommodate themselves in overcrowded and substandard dwellings mainly in unplanned areas. With a few exceptions, the authorities have paid little attention to the social and economic welfare of these areas. The housing problem in Tanzania appears to be two-fold:

- Adequate housing stock in most urban areas
- Poor housing conditions in rural areas.

## 2. Organisation

National Housing Corporation (NHC) was established by Parliament Act no. 45 of 1962. It was meant to be a centralized body which would deal with all aspects of the housing problem right across the crucial sector where the subcommercial housing market merged into the market for commercial housing finance. The aim was to improve housing conditions for the majority of the urban population, although it was not immediately clear how massive amount of resources required would be raised.

The Act established NHC required it to construct houses or other buildings and carryout approved housing schemes. With the inception of the first five year plan (1964-1969), NHC was required to carry out the bulk minimum standard housing on a large scale , and clearing slum and squatter areas and their redevelopment with modern houses. Morden houses were flatted accommodation of four to six rooms for multiple accommodation.

The vision of the NHC is to become a leader in real estate development and management and the mission of the corporation is to

The NHC is vested with the following responsibilities;

- To construct low cost houses for rent for urban low and middle-income people mainly under the slum clearance programme.
- To construct houses for outright sale or for tenant purchase scheme.
- To provide local authorities with housing finance.
- To engage in the production of building materials.

Before 1973, when the Tanzania Housing Bank (THB) started, The NHC used to get its funds for housing projects mainly from foreign grants and government subventions.

From there on, it was supposed to carry out its projects using loans from the bank. The corporation could not cope up with this new financing system because it had to repay the loans with high interests which did not match with the low rents it obtained from its rental properties and high administrative costs. Todate, National Housing Corporation accords priority to buildings for sale and very few for rental purposes.

### 3. Shelter Problem.

#### 3.1 Introduction.

Shelter is recognised as one of basic human needs. Few developing countries however have been able to deal with the effective ensuring adequate shelter access to all their citizens, especially a poorer segment. At the HABITAT II Conference in Instabul in June,1996, the world community committed itself to the full and progressive realization of the right to adequate housing. It recognized the obligation of governments to enable people obtain shelter and to protect and improve their dwellings and neighbourhoods.

Among the major obstacles to the shelter supply process is the central issue of finance. In this context, the General Assembly of the United Nations while reconfirming in its declaration on cities and other human settlements in the new millennium, goals and principles of adequate shelter for all as set out in the HABITAT Agenda, recognised that serious financial constraints give rise to acute problems of adequate shelter, housing and human settlements and that domestic resource mobilisation, as well as sound national policies are crucial for shelter and human settlements.

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By now, the reality is that NHC can not carter for middle and low income anymore because the construction costs have gone so high which led to high construction cost of houses and also there is also lack of housing finance in Tanzania, therefore if one has to own a house, self serving is the only way to have it. For example, in our recent constructed houses, there are two types of houses having 151 and 250 square metres and they are sold at 116,000,000 Tanzanian shillings (100,000 USD) and 240,000,000 Tanzanian shillings (200,000 USD) respectively. This is very expensive and unaffordable to many Tanzanians.

Type A (151 square metre house)

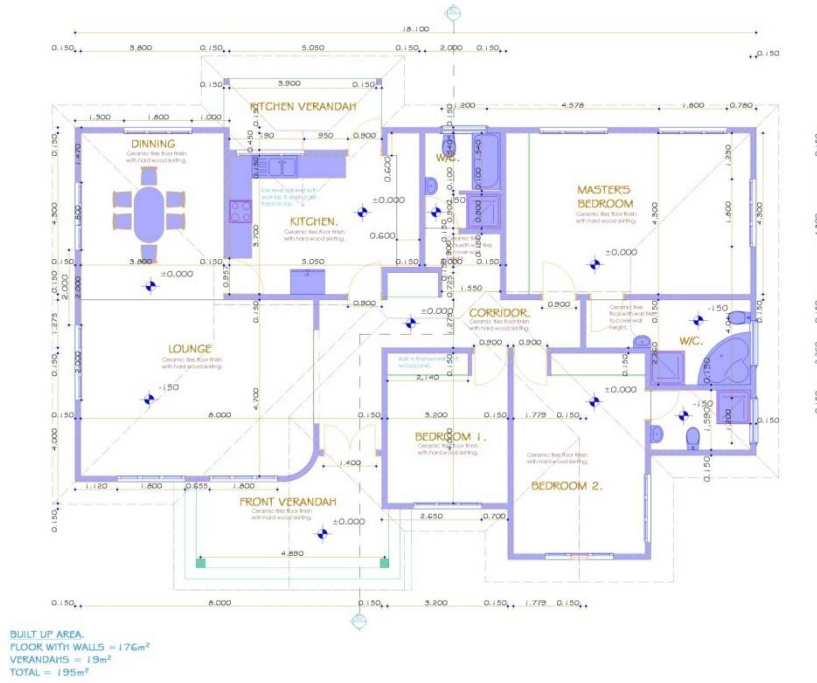


Figure 1: A ground floor plan.

Type B (250 square metres)

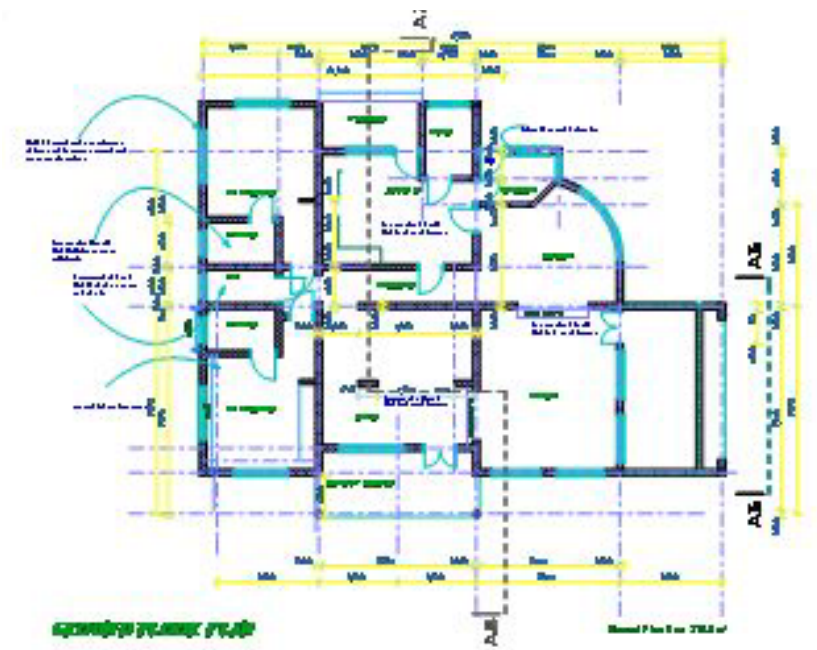


Figure 2: A ground floor plan

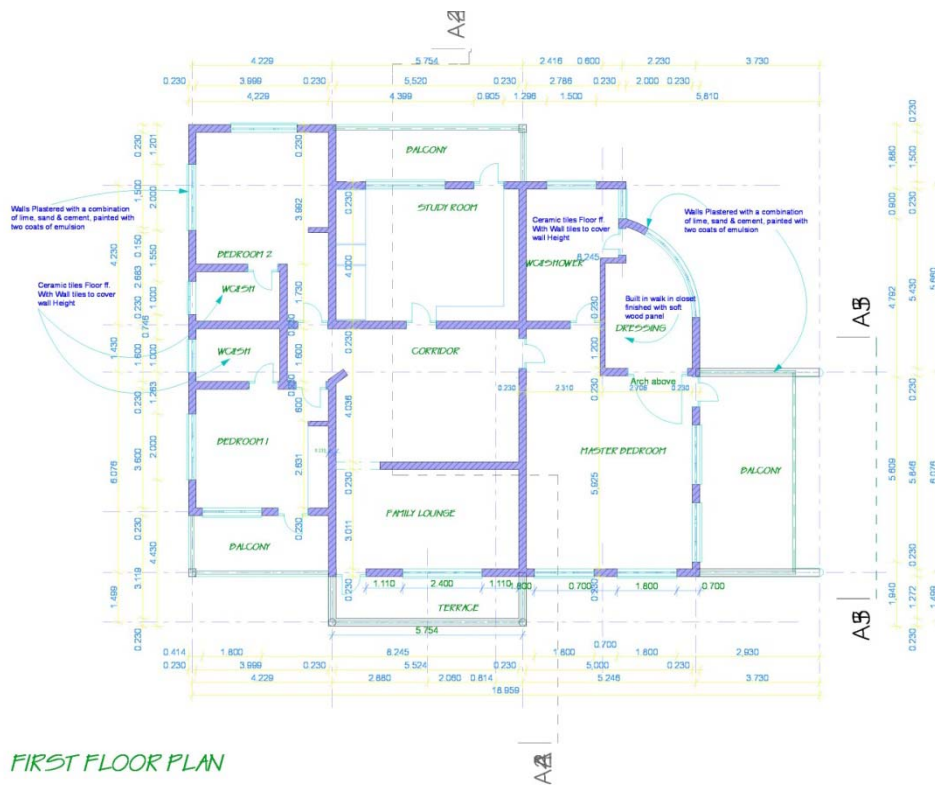


Figure 3: A first floor plan

These are very luxurious houses an unaffordable to most Tanzanians who get 300 USD in average per month.

### 3.2 Major constraints to the sustainable operation of a functioning housing finance system in Tanzania.

In pursuant of the economic reforms, the government of Tanzania made reasonable strides to stabilize both the financial sector and macro-economic framework. This stability is one of the primary conditions for developing an efficient and sustainable formal housing finance system. The major banks are still resistant to venture into into such businesses. For example, the cooperative and rural development bank (CRDB) Ltd, which since 2000 indicated its desire to start a short and medium term housing loan facility, is yet to do so due to current land law while other banks have not shown interest in investing in this sector. The hesitation by the banks and financial institutions to invest in housing finance is an indication that the risks related to housing finance investments and related

institutional, legal, regulatory, financial and economic environmental are still high.

### **Land law.**

Land is treated as a reliable form of collateral that can facilitate reliable lending. Such land, however, must be easy to transact. The title must be clear and transactions must be smooth. Impediments to using land as collateral affect general lending, but given the importance of land in housing finance, land law is considered under specific constraints.

There has been protracted debate regarding the ability of Land Act no.4 of 1999 to propel the growth of the country's financial sector and, therefore, the economy. The Land Act is a translation into law of the official National Land Policy of 1995. The broad mission of this Act, as provided in the Statement of Objectives and Reasons which introduced the Bill in parliament, is to overhaul the entire land tenure system and to enact a more simplistic and full bodied Land Act which will be more readily understood and responsive to the needs of modern Tanzania in the context of the liberalised economy and the emerging land market.

### **Value of undeveloped land.**

The new Land Law doesn't recognise the value of undeveloped land and prohibits the sale of such land. Section 37(8) of subpart 3 on Disposition of Right of Occupancy states that: "Unless otherwise provided by this act, the sale of land without unexhausted improvements shall be deemed to have no value and the sale of such land shall be deemed to be void ab initio". This legal stance has two adverse economic implications. Firstly, the non-recognition of pecuniary value of undeveloped land will continue to render lending and especially mortgage lending a risky business. This is because, for greater lending, land needs to be the principal security.

Tied to the above, is the fact that the transfer of land is not allowed unless development conditions are met. That is, unless land is fully developed to the satisfaction of Commissioner of Lands. This means that the lender has a valueless property during the whole process of development. As such, it is only those who have completed houses that can legally put up their property for mortgage.

Without property developers who can offer complete houses for sale, the ordinary Tanzanian who develops his house on an incremental basis can not use their land, or the incomplete developments on this land, to get a loan. This puts the majority of would-be house owners at a disadvantage.

#### **4. Proposal for Change.**

In tackling the shelter problem in Tanzania, we should use an incremental design approach as the solution in reducing the construction cost so that it becomes possible for people to construct using their own savings.

##### **Incremental Design Approach.**

This will be in such a way that the design will be flexible to allow the house to be built in phases. A developer can start with one room, then the second room after a year etc depending on the availability of funds.

For example, the plan provided below is a proposal on achieving an incremental design approach, the plan has 49 square metres and needs to be completed after three phases. The first phase has 26 square metres, this will roughly cost 20,000,000 Tanzanian shillings (15,000 USD). The second phase has 13 square metres, which will cost about 10,000,000 Tanzanian shillings (7500 USD ) and the last phase has 10 square metres which will cost about 7700,000 Tanzanian shillings (5,000 USD). Therefore, this plan will cost about 37,700,000 Tanzania shillings in total.

The advantage of this approach is to construct in phases, therefore you don't need to save the whole amount for you to own your own house. Also the number of square metres are much reduced compared to the floor plans we provide in our offices, we should also cater for low income people, someone can not think of owning a very big house while he doesn't have money, he would rather have a small house at an affordable price.

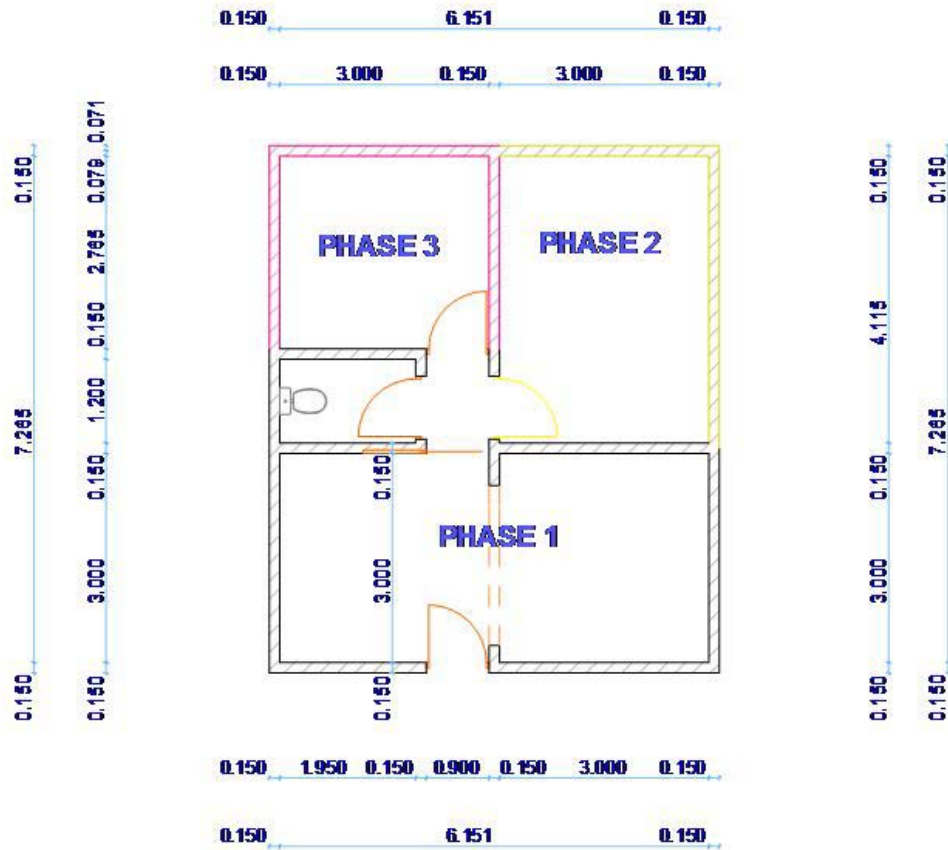


Figure 4: the proposed plan for incremental design approach.

### Use of Local Building Materials

Building materials and appropriate construction technology are important inputs in the settlement sector. The production and supply of local building materials and constructions equipments to meet the need of the human settlement are therefore important inputs.

Reduction in construction costs can also be achieved by improving the traditional building production techniques and by promoting and maximizing the use of locally available resources and skills. Equally important, developing countries must restrain from importing technologies which do not take into consideration the objective realities of their local conditions and also those which do not assist in capacity building for sustainable development.

Extensive research has been conducted in the country and arrest the above and ultimately reduce the cost of construction. Dissemination, acceptance and change of attitude are the issues to focus on.



## Conclusion.

NHC should take an incremental design approach and the reduction of areas of its house units in order to provide affordability of houses, this approach will give an opportunity to medium and low income earners in Tanzanian to own houses. This is because the costs of the units will go down compared to the ones that NHC provide now.

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