

# Appropriate Building Regulations for Development of Underserved Settlements

## Recommendations for Formulation of Acceptable Building Regulations for Urban Poor



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## 1 Shelter Situation Analysis

### 1.1 Basic General Data

#### Geography and Administration

The Democratic Socialist Republic of Sri Lanka (formerly known as Ceylon) is an island in the Indian Ocean exists about 28 kilometres (18 miles) off the south-eastern coast of India. It is located in between 5<sup>o</sup> 55' & 9<sup>o</sup> 50' North Latitude and 79<sup>o</sup> 42' & 81<sup>o</sup> 53' East longitude. Average temperature in the island is in the range of 17<sup>o</sup>C to 31.7 <sup>o</sup>C while it is 28<sup>o</sup>C in Colombo. Annual rainfall in Sri Lanka is 2,024mm in 2006. The total land area is 65,610 sq km.

Sinhalese and Tamil kingdoms ruled the island from ancient times until the 1500s, when Europeans established the colonial rule. First the Portuguese, then the Dutch, and finally the British colonized the island. Sri Lanka was a Portuguese colony from 1517 to 1658, a Dutch colony from 1658 to 1796, and a British colony from 1796 to 1948. Sri Lanka has gained the independence in 1948.

## Demography

Midyear population in Sri Lanka in 2006 was predicted as 19.886 million. The population growth rate in 2006 was 1.1%, while it was 1.3% in the 2004 and 1.4% in the 2000. As reveals, population in Sri Lanka has been increasing at a decreasing rate. Population density in 2006 was 317 persons per sq km. which is a medium density in the region. The average household size in 2004 was 4.3.

Population in declared urban areas in 2006 is recorded as 30%. Whereas the non declared urban areas are concerned the actual figure may be near to 40%. Colombo, against the other administrative districts is much more urbanised as 60% of its population was urban by 2006.

Sri Lanka is a multi ethnic and religious society. Sinhalese, Tamil and English are the official languages in the country. As per the official statistics published in 2001, Sinhalese represented the majority of 82% while the Tamil was counted as 9%. Moors were 8% and the balance was Burgher and Malay. Sri Lanka is predominantly a Buddhist society. 77% of the population was Buddhist in 2001 and others are Hindu, Islam (Muslims) and Roman Catholics.

As in many other countries in the region 70% of the population in Sri Lanka is in the range of 15-64 in age. Since the education from primary to university level is free country's literacy level appears high as 91%.

## Health

Government provides health facilities to the public free. Crude birth rate in Sri Lanka in 2005 was 18.1 per 1000 people and the crude death rate was 6.5per1000 people. Infant mortality rate in 2004 was recorded as 12.0 per1000 live births. Life expectancy ratio in 2004 was 72 years for male and 77years for female.

## Economy

According to the statistics of 2005 GDP at current market price was \$21,907 million. Average monthly **household income was \$118.5** in 2002. Total labour force by 2005 was 20 million and unemployment rate was 6%. The present national poverty line is \$ 31 per month. In terms of employment Colombo urban area has been developed as a commercial and industrial hub of the island. Tea as an economic crop shares large percentage of country's revenue and Sri Lankans who work abroad also make considerable contribution to the economy.

## 1.2 Shelter Related Facts and Figures

### Access to Shelter

Housing in Sri Lanka has not been acting as an “object” or a market commodity, but it has been performing as a self maintaining process. Therefore dynamics of housing “needs” are represented by the housing policies in Sri Lanka rather than that of “demand”, which is resulting to have marginal intervention of the building industry to the shelter sector development.

Table 1 National Housing Stock in 2006

Status	Total	%
Permanent	1,884,600	41.88
Semi-permanent	2,324,250	51.65
Impoverished	291,150	6.47
Total	4,500,000	100

(Source: Department of Census & Statistics)

Total housing stock in 2006 was 4.5 million, of which 58% was sub standard, qualitatively poor housing. Further 2.6% have no room for sleeping while 23.3 % have only one room. 41% of houses are below 500 sq.ft. (46.45 m<sup>2</sup>) in size.

Housing deficit in 2006 was 124,651 and the backlog was 415,801. Annual housing demand is estimated as 100,000. Yearly Percentage increasing no. of dwelling unit is 13.3% .There is a significant decline in the occupancy rate as it was 4.7 in 1996 and declined to 3.9 in 2004.

Owner occupied housing stock in Sri Lanka is significantly high. In the year 2006 privately owned houses are 87% and the balance 13% is owned by the state. Rental housing is rather weak due to several legislations active in favour of tenants. Private rental housing represents nearly 4% of the total housing stock in 2006 and it was 29% in the city of Colombo.

House Price to Income ratio is 75% at the national level and the 80% at the city level. Since the affordability is low incremental housing approaches are adopted in rural areas while the cross subsidy market based approaches are experienced in the urban.

Generally accepted building materials in Sri Lanka are clay bricks/cement blocks and river sands. It is tile or asbestos for roofing. In rural areas some percentage of housing was made in mud/wattle and doubt.

## Access to Basic Services

The investment on basic services in Sri Lanka is considerably increasing. Rural water supply and sanitation are one of the priority areas in development in the past decade. Simultaneously telecommunication sector obtains significant growth and it is further advancing under the privatisation policy.

Table 2 Availability of Basic Services (Average % in 2006)

Services	National	Colombo Metropolitan Region
Access to water	86%	90 %
Access to individual toilets	90%	80%
Access to electricity	80%	97%
Access to telecommunication	15.2	31%

(Source: Department of Census & Statistics)

However the city of Colombo still blocks with the over 100 years old sewerage network meant for 0.3 million population. Capacity of the water supply network in Colombo is also insufficient to meet the demand.

Enumeration Survey conducted by the Sustainable Townships Programme in 1998 reveals that the housing in extreme conditions within the Colombo Metropolitan Region was 15,000. Status of the City of Colombo is alarming as 51% of the city residential population (which was 0.7 million in 2000 and 0.8 million in 2006) have been living in slum and shanty type settlements with insufficient basic amenities and mostly with no home ownership. Since they were short in basic services they were identified as “underserved settlements”. Total no. of HHs settled down in these underserved settlements was 66,000 by the year 2000. These houses scattered in 1,506 settlements in the city of Colombo. The occupied land area of underserved settlements was estimated as 390 ha. which is 11% of the total land extend of the city. In conclusion ½ of Colombo population were packed in small extend of lands. They have been marginalised from the mainstream of the society. In addition to the burden of unemployment, they are exposed to hazardous environmental and health related conditions. Many of them live in jam-packed ill-ventilated and ill-equipped spaces. Children are socially depressed and many children do not have a childhood getting easily vulnerable to urban crimes. “Gender Equity” is just a term for the woman as they are socially and economically exploited. Researchers frequently assess these settlements as indicators of social decline.

### 1.3 Housing Policy

The first housing policy was prepared after the independence in 1954. Commissioning of the National Housing Act no.37 of 1954, establishment of Department of National Housing and the National Housing Fund were the significant actions taken within this policy. Department of National Housing was engaged in the provision of infrastructure and land while providing housing for middle and low-middle income groups on rent/perches basis. Local government were given grants for slum clearance.

The above policy framework continued until the new government came in to the power in 1971. It was the new government who implemented pro-poor policies has taken housing as an obligation of the state in order to maintain equity in the society. The consolidation and expansion of the housing law such as “Ceiling on Housing Property Law”, “Rent Control Act”, “Protection of Tenants Act”, “Apartment Ownership Law”, “Common Amenities Board Law”, and “Land Reform Act” etc. are the central features of the housing policy within this era. Simultaneously government initiated many rental housing schemes in Colombo. The government intension to focus on the urban housing problem seemed to be the salient feature of this policy.

There was a paradigm change from provider to facilitator by introducing participatory policies to the housing sector in 1978. Participatory policy adopted was able to make revolutionary change in the decision making structures, granting autonomy to people in deciding and doing. Housing under this policy was taken as a process controlled by people. Role of the state was to support in the areas where people could not act on their own. This was able to alter the housing development tools, responsibilities and processes significantly. Establishment of National Housing Development Authority was another important event took place in this period.

There was a world trend to adopt market principles within the privatisation policy framework. It emphasised the necessity of adopting sustainable strategies to address the housing problem. Presidential Task Force appointed in 1998 to prepare a policy frame work in Housing and Urban Development pointed out the importance of formulating sustainable policy guidelines, reducing the dependency on the state. As a result urban housing bends into market led policy framework while continuing participatory approaches in rural housing. The land mark event of this period is the establishment of Real Estate Exchange Ltd (REEL) to address the urban housing problem through a market led approach

## 1.4 Actors in Shelter Delivery and their Roles

Housing in Sri Lanka has not been acting as an “object”, but it has been performing as a self maintaining process. Hence the contribution of the building industry in housing is recorded very low. Houses are constructed mostly by consumers. Especially in the rural context, it is an incremental process. Therefore dynamics of housing “needs” are represented by the housing policies in Sri Lanka rather than that of “demand”. National Housing Development Authority provides an umbrella cover in the national scale to facilitate the incremental housing process through housing credit, infrastructure, land and advisories. In the urban context state intervenes through cross- subsidy approaches in application of market based principles.

Followings are the key actors in provision of urban housing;

- (a) Sustainable Townships Programme/ Real Estate Exchange Ltd (REEL) provides apartments for urban underserved dwellers on the basis of house to house exchange. Cost is met by disposing lands liberated through re-housing.
- (b) National Housing Development Authority is reaching urban poor through the strategies such as upgrading, regularisation of land, site and services etc. Apartments are also released to the public on concessionary rates.
- (c) Urban Settlement Improvement Project (USIP) is involved in upgrading and provision of water and sanitary facilities to poor urban settlements.
- (d) Urban Development Authority is active in providing housing for middle and lower middle income communities.
- (e) Urban Local Authorities are responsible for provision of basic utilities such as water supply, drainage, waste disposal etc.

## 1.5 Shelter Design

There are 16 municipal councils and 52 urban councils in the island. Urban Development Authority (UDA) established under UDA Law No.41 of 1978 is empowered to prepare development plans for the urban areas. Zoning and other planning and building regulations are part and parcel of these development plans. Accordingly development plans provide guidance for sub-division of land, preliminary planning clearance, safety, accessibility, parking, fire fighting, light and ventilation, mechanical ventilation and air conditioning, sanitation, water supply etc. Apart from that “Form C” of the development plan provides statutory guidelines for No. of floors, building height, road width, rear space, front space, space on other sides, plot coverage and floor area ratio.

*Access to land:* Private sector property developers are active in the land market. In general land sub division in suburban areas shows a rapid growth. High demand made by the middle income groups push the land prices up. Therefore access to land in immediate suburbs of Colombo seems to be difficult and unaffordable. Meanwhile the Colombo land market is beyond the reach of ordinary people. Cumbersome procedures involved in land alienation are a handicap to land development.

*Building materials/technology:* The cost of building materials are high in the country as it was increased double recently. Due to environmental control policies adopted in sand mining and transportation price of river sand increases significantly. Contrast to fast track modern technologies Sri Lanka still applies conventional technologies in larger scale which is time consuming and costly. Apart from that limited capacity of the building industry also affects to the housing industry.

*Housing Finance:* Relatively high Cost of finance (over 20%) discourages individuals in housing investment. However condominium housing development marks remarkable growth due to the demand come from foreign employees. Government also provides attractive tax concessions for investment of large scale housing.

## 2 Organisation

Real Estate Exchange Ltd (REEL), the operational arm of the Sustainable Townships Programme comes under the Ministry of Urban Development and Sacred Area Development was established in 1999 with the intention of providing sustainable shelter solutions to the growing housing problem in the city of Colombo. The share holders of REEL are Urban Development Authority, National Housing Development Authority, Sri Lanka Land Reclamation and Development Cooperation and the Colombo Municipal Council.

REEL operates within the city of Colombo on self finance basis by providing apartment housing for urban slum dwellers in lieu of the land occupied by them. Most prime lands released through re-location process are disposed at the public market in order to cross- subsidize the houses given to urban slum dwellers. Absolute ownerships for these houses are granted free of charge. Houses are constructed in planned townships where basic infrastructure is ensured.

REEL has completed its first housing project in Sahaspura Compact Township, Colombo 08. It is the ever largest condominium in the island containing 671 apartment units in 14 storied building. Beneficiary families selected from 16 slum tenements have been voluntarily re-housed in this housing complex while releasing 10 acres of land in the city of Colombo. The second

project of REEL is “Sinhapura” consists of 60 walk-up apartments and the third project; “Wadulu Sevana” has another 60 walk-up apartments. Both of them are located in Colombo.

### 3 Shelter Problem

Enumeration survey conducted in 2000 reveals that 51% of the residential population in the city of Colombo lives in extreme housing conditions, which in the traditional terminology are known as slums and shanties. Shanties are temporary structures while slums are built in permanent nature. Average floor area of a shanty is 250sq.ft (23.23m<sup>2</sup>). Many of the slums are arranged as back to back rows, built in the colonial era in the average floor area of 300sq.ft. (27.87m<sup>2</sup>) each. Many of these settlements are lacking basic amenities. Occupants are sharing basic services specially water supply and sanitation. Due to irregularity and high density environment ill-light and ill-ventilation are common features in these settlements. Lack of drainage and garbage disposal system helps to create a hazardous environment within the settlement.

Sri Lanka has been practising housing strategies over the decades to upgrade the living standards of urban poor. Site and services and upgrading are common among the strategies. 100,000 Houses Programme, Million Houses Programme and 1.5million Houses Programme are the examples of macro level interventions of the state to resolve the housing problem in Sri Lanka. But the impact of these programmes to find a lasting solution to the urban housing problem is marginal.

Since the year 2000 Sri Lanka has been trying to provide standard housing solutions to the urban housing problem. Due to scarcity of urban land high density vertical housing could be a solution to address the housing problem in the urban context. Condominium is a standard housing to be built on the planning & building regulations imposed by the Urban Development Authority (UDA) which is the statutory body established to promote integrated development in Sri Lanka. Condominium housing is a product of building industry which is controlled by the Planning & Building Regulations. Standards and norms in general are flexible tools to be formulated to match with the existing physical and environmental conditions in a given area. However the present Planning and Building Regulations prepared by the UDA seems to be rigid as they are applicable to the entire island irrespective of its climate, physical and environmental disparities.

The situation is worse when these regulations are applied for the underserved settlement sector. Since the same standard and norms are applied to the urban poor, delivering standard housing seems to be a costly solution beyond the reach of people and the stakeholders as well. Affordability is one of the key areas to be taken into consideration in improving the life style of

urban poor. If due-recognition is not given to the affordability, providing standard housing solutions to the urban poor is a dream. Can't we formulate appropriate shelter standards to build socially acceptable housing? In other wards can't we adjust the prevailing building regulations by taking the affordability level of urban poor into consideration? It doesn't mean that we are compromising with basic environments requirements. But our planning authorities should be flexible enough to understand the reality and come out with implementable strategies to finding a solution to the shelter problem in Sri Lanka. Otherwise regulations appear as a bottleneck blocking the access for housing the urban poor.

Therefore the study is focused on making recommendations by for appropriate building standards for the poor segment of the society enabling stakeholder agencies to reach the poor with lasting housing solutions. Further this study is focusing on following major areas of the building regulations;

- Minimum floor area of a housing unit
- Minimum room size
- Common spaces to be provided within the building
- Building height
- Provision of parking spaces

### Case Study – Garden No.198 (198Watta), Colombo 10

198 watta settlement is one of the typical underserved settlements in Colombo 10 with 166 housing units in 2.4 acres of land. This has been upgraded by National Housing Development Authority in early 1990s. But 60% of the houses are existed as shanties and others remain as slums. Some considerable number of commercial units can also be seen since this area is popular for motor spare parts business in the city. There is no common space inside the settlement and congestion, narrow pathways, back to back arranged row housing units, common toilet, common water supply, short of electricity etc. are critical environmental issues prevail.

A 100% survey was done in July 2009 to identify the housing and environmental conditions in the settlement. The information gathered is summarised below;

Table 03 Housing &amp; Environmental Conditions of the Case Study Area

Type	Category	No of housing units
<b>Floor Area of the unit</b>	Bellow 100sq.ft.(9.3 m <sup>2</sup> )	46
	100sq.ft. (18.6m <sup>2</sup> ) - 200sq.ft (18.6m <sup>2</sup> )	36
	200sq.ft. (23.23m <sup>2</sup> ) - 250sq.ft. (23.23m <sup>2</sup> )	28
	250sq.ft (27.9m <sup>2</sup> ) - 300sq.ft. (27.9m <sup>2</sup> )	17
	300sq.ft (32.55m <sup>2</sup> ) - 350sq.ft. (32.55m <sup>2</sup> )	12
	350sq.ft (37.2m <sup>2</sup> ) - 400sq.ft. (37.2m <sup>2</sup> )	10
	400sq.ft. (41.85m <sup>2</sup> ) - 450sq.ft. (41.85m <sup>2</sup> )	4
	450sq.ft. (41.85m <sup>2</sup> ) - 500sq.ft. (46.5m <sup>2</sup> )	1
	Above 500sq.ft. (46.5m <sup>2</sup> )	12
<b>Density</b>	Single storied units	141
	Two storied units	25
<b>No of rooms in the unit</b>	No rooms	110
	One room	41
	Two rooms	12
	Tree and above	03
<b>Housing Condition</b>	No of Shanty units	94
	No of Slums	72
<b>Access to infrastructure</b>	No of units access to individual toilets	81
	No of units access to common toilets	85
	No of units access to individual water supply	87
	No of units access to common water supply	79
	No of units having electricity	124
No of units haven't electricity	42	
<b>Vehicle ownership</b>	Motor bicycles	32
	Three wheelers	19
	Four wheel vehicles	03

Source: Enumeration survey conducted by REEL, 2009

## Summary of House Survey in 198 Watta Settlement

As per the above Table, no. of houses, below 100sq.ft (9.3m<sup>2</sup>) in floor area is 46 and it is 28% of the total housing stock. Total no of houses below 300sq.ft. (27.9m<sup>2</sup>) in size is 127 and it is 76.5% of the total housing stock. Houses between 300sq.ft. (27.9m<sup>2</sup>) and 400sq.ft (41.85m<sup>2</sup>) is 05 and above 500sq.ft. (46.5m<sup>2</sup>) is 12. Houses over 500sq.ft. (46.5m<sup>2</sup>) in extent are 07% of the total housing units. As per the survey results, affordable house type for urban poor is 300 sq.ft. (27.9m<sup>2</sup>) while 500sq.ft. (46.5m<sup>2</sup>) and above are beyond their reach. However the support structure may upgrade their affordability level.

In the mean time there are 41 units, having 01 room in their houses and it is 26% of the total housing stock. Further 12 houses have two rooms in the house and only 03 houses have three or more rooms within the housing unit. Majority of the settlement haven't any partition within the house. It is 66% of the total housing units.

The survey reveals that there are only 25 number (15%) of houses are 02 storied and rest is single storied houses. The density is 2.3 perches per unit. This indicates high congestion, which creates space for environmental services. Availability of basic Services such as toilets, water supply, electricity etc is a requirement in upgrading the lifestyles of urban poor.

In addition 32 houses have motor bicycles within their premises and it is 19% of the total. 19 houses have three wheelers while only 03 houses have four wheel vehicles. 66% of the total is haven't any vehicle. Hence the existing parking regulation which is one for 03 families does not match with the real conditions.

## SWOT Analysis

SWOT analysis is done in order to understand the strength, weakness, opportunities and threats to propose appropriate building regulations for low income settlements. (Please see Annex I)

It is necessary to realize the internal weaknesses and external threats in strengthening the preventive measures. SWOT analysis highlights the importance of changing the conditions of conventional building process. Therefore introducing realistic parameters to the process of conventional building industry in designing a tiny space for living has vital importance. In this context creating maximum possible space for beneficiary families to create their living space in affordable manner is a timely requirement. Otherwise access to housing for urban poor is beyond the reach of poor and stakeholders as well.

## 4 Proposal for Change and Improvement

There is a need to introduce appropriate building regulations to overcome this situation and address the housing issue of urban poor through the building industry. In the circumstances, this study is focussed on introducing appropriate rules and regulations for high density affordable housing for low-income population to ensure the qualitative and sustainable development in our townships.

As concluded in the SWOT analysis the most realistic action would be to accommodate the adjusted building regulations maximally by creating flexibility and adequate spaces for beneficiaries.

### I Reducing the floor area of a housing unit

Enumeration survey reveals that the average floor area of a shanty is 250sq.ft. (23.23m<sup>2</sup>) and slum is 300sq.ft. (27.87m<sup>2</sup>) each. According to the UDA regulations minimum floor area is 500sq.ft. (46.45m<sup>2</sup>). But the provision of 500sq.ft. (46.45m<sup>2</sup>) unit is a costly solution for our towns. In the case study 76.5% are having below 300sq.ft. (27.87m<sup>2</sup>) units. Therefore it is appropriate both the technical and economical terms to accept 400sq.ft. (37.16m<sup>2</sup>) as the minimum floor area requirement for urban poor as it creates win-win situation to both beneficiaries and stakeholders as well.

### II Reducing the room area

Majority of low income houses do not have rooms and 26% of houses have one room which is almost less than 60sq.ft. (5.5m<sup>2</sup>) in extent. As per the regulations standard size of a room is 107sq.ft (10m<sup>2</sup>). There is a 40sq.ft. (3.7m<sup>2</sup>) different between the standard room and the existing room size. Therefore it is recommended to amend the minimum room size for 86sq.sf (8m<sup>2</sup>) in order to overcome the issues existed.

### III Minimise the common spaces within the building

UDA regulations stated that minimum corridor width is 1.5m in the condominiums and when it comes to the stairways it's about 2m in width irrespective of any physical and social conditions. More common area inside the building may not only creates high construction cost, but also enhances the cost for electricity (lights), safety and cleaning etc. Apart from that threat of encroachment of common areas is another growing problem. Front corridors of many low income apartment complexes are frequently threatened by encroachers. Common areas created in the

design for public telephone booths, garbage collection points, shops, bathing places, etc. are the other zones of threats for encroachment. Irrespective of any physical and social conditions to minimise the cost and provide acceptable solution it's proposed as minimum corridor width to 1.2m and minimum stairways width is to 1.5m. But when consider the high-rise apartments it's important to follow-up the fire regulations.

#### **IV Enhance the common space outside the building**

That there is a growing tendency to encroach open areas located outside the buildings ignoring and disregarding the public use. It is caused to increase the density and congestion. Therefore it is proposed to create minimum common spaces within the building and provide maximum open space in the ground as much as possible to overcome the issues arising. Present regulation needs to maintain 50% of open spaces in the ground and it is proposed is to open up 60% in ground and minimise the common spaces within the building. This would improve the environment which reducing the cost of construction for social housing.

#### **V Provision of core house**

Planning clearance is granted if the construction is in-order to the gazetted regulations. As such the salient feature of the conventional building industry is the dictatorship of professionals and bureaucrats in deciding and doing. In this process there is no room to accommodate peoples' desires and affordability levels and they apparently become beneficiaries since they are external to the process.

As reveals in the case study majority of families live without any partition in the house. They may have movable partitions as they are adopted for social living. Further it is observed that finishes of house are depended on people's choice which may vary to each other. Therefore it is recommended to amend the regulation to introduce a core house. It means fully completed exterior with unfinished interior product. Interior partitions, wall and floor finishes, light and water fitting installations etc are left to the occupant. This would help to accommodate the choice of people into the conventional building process. Also it would reduce the construction cost, minimise the wastage and enhance the affordability level of beneficiaries. However provision of a technical advisory service to assist the occupants to make improvements in their houses is a requirement.

## VI Reduction of Building height;

“Form C” of UDA Building Regulations reveals that walk-up apartment should be 11.25m in height or otherwise it’s limited G+2(3 storied apartment). It is above the standard height, elevators and backup generators have to be installed. This would significantly affect to the low cost housing process. Therefore it is proposed to reduce the floor height from 3.5m to 3m and grant permission to build walk-up apartments in G+4 without installing elevators and backup generators.

## VII Reduction of parking space

The present parking requirement in condominium is one for 3 housing units (for 500 sq.ft. houses) and one three wheel parking space for every 02 housing units. But the survey conducted in the case study reveals that over half of the housing units haven’t even a motor bicycle. Therefore the provision of underutilised parking may add additional costs to the housing unit creating an over burden to the dwellers. Therefore it is recommended to amend the parking requirements as follows;

- 01 four wheel parking space for every 08 housing units
- 01 three wheel parking space for every 05 housing units
- 01 motor bicycle parking space for every 03 housing units

## Mobilisation of Real Estate sector for affordable housing?

These proposals are aimed to reduce the cost of construction while increasing the affordability level of low income community to ensure a better house for them. The reason for deviation of private sector from the affordable housing is the growing cost of construction which avoids providing a standard house at a reasonable price range. It is realised that there is a significant demand for affordable houses in our cities. Especially 2 member families or young families demand a small house at an affordable price. But the supply is zero due to regulatory bottlenecks. As a result social housing always seems to be an overburden to the public sector. Therefore the appropriate building and planning regulations create a room for private sector investors to come and invest in housing market. This will ensure the qualitative and sustainable development in our townships.

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**Annex 01****SWOT Analysis**

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<p>Maintaining a comprehensive database includes the details of the present housing conditions of each and every slum dweller in the city of Colombo.</p> <p>Flexibility to accommodate adjustments of regulations in the development process as pilot projects.</p> <p>Ability to provide technical guidelines for proper improvements</p> <p>Functioning of a Management Office at site level for monitoring and to ensure better functioning of the housing scheme.</p>	<p>Standard housing to be constructed through the guidance of Planning and Building Regulations.</p> <p>Mis-matches between the cost of standard house and the land liberated by the slum dweller.</p> <p>Tendency to dispose their houses or rent them once they were not affordable to the house.</p> <p>Keeping the residents away from the development process while generalizing the interest of people at project and programme level.</p> <p>Poor communication and lack of social awareness on the impact of illegal alterations and encroachments.</p> <p>Inadequate design options to accommodate people's choices.</p> <p>Provision of ill-functional, isolated common spaces within the building.</p> <p>Provision of additional parking spaces according to the regulations.</p>	<p>Get some involvement of private sector to social housing</p> <p>Voluntary re-location instead of forced eviction</p> <p>Reducing stress by provisioning of more sharable space within the neighbourhood</p> <p>Possibility to have effective communication due to relatively high literacy/education level of dwellers</p>	<p>High inflation and the fast growing construction cost.</p> <p>Lack of orientation among the dwellers in space management.</p> <p>Lack of orientation and technical knowledge of dwellers on the adverse impact of improvements.</p> <p>Tendency to do alterations by the people who purchase houses from re-locatees.</p>

