

Unauthorized Alterations in Condominium Housing in Sri Lanka

Mechanism for Beneficiary Participation in the Design and Development Process



Lalithe Mirihagalle

Deputy General Manager (Planning & Marketing) Sustainable Townships Programme – Real Estate Exchange Ltd – Ministry of Urban Development & Sacred Area Development, Sri Lanka

Shelter Situation in Sri Lanka

Sri Lanka is an island situated in the Indian Ocean covering an area of 65,600 sq.km, lies in between 5^o 55' & 9^o 50' North latitude and 79^o 42' & 81^o 53' East longitude. It has a tropical climate in the range of 17^oC to 32^oC while it is 28^oC in Colombo. Annual rainfall in the year 2006 is 2,024mm. Sri Lanka has high bio-diversity experienced from coastal areas to up-country where the highest elevation is 2,524 meters.

Historically coastal belt of the island was invaded by Portuguese & Dutch in the 17th century and it was the British who captured the island in the 19th century. British ruled Sri Lanka for 138 years and granted independence in 1948. There after Sri Lanka remains in parliamentary democracy.

Demography and Health

Mid year 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.

There is a growth in the urban sector in Sri Lanka. Population in declared urban areas in 2006 is recorded as 30%. Where as 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 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%.

Govt. Provides health facilities to the public free. The impact of health sector investment reflects from the statistics. Crude birth rate in Sri Lanka in 2005 was 18.1 per 1000p and the crude death rate was 6.5per1000p. 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. In conclusion, health status in Sri Lanka is relatively in a satisfactory level.

(*Excluding three administrative districts where census was not conducted)

Economy

Tea as an economic crop shares large percentage of country's revenue. Sri Lankans who work abroad also make considerable contribution to the economy. GDP in 2005 at current market price was US\$ 21,907 mn. Average monthly household income was recorded as US\$118.5 in 2002. Unemployment is one of the critical issues of Sri Lanka, which was 7.7% in 2005. The present national poverty line is in US\$ 29. Govt. launches a subsidy programme for the absolute poor in the country.

Shelter Status

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. As a result the contribution of the building industry in housing remains below 10%.

Table 01 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: Dept of Census & Statistics)

Total housing stock in 2006 was 4.5mn, 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. 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. Investment on 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 02 **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: Dept of Census & Statistics)

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

Presidential Task Force on Housing and Urban Development (1998) revealed that the housing in extreme conditions within the Colombo Metropolitan Region was 150,000. Status of the City of Colombo is alarming as 51% of the city residential population (which was 0.7 mn.in 2000 and 0.8mn in 2006) have been living in slum and shanty type settlements* with insufficient basic amenities and mostly with no home ownership. Since they are short in basic services they are identified as “under served settlements”. Total no. of HHs settled down in these under served settlements was 66,000 by the year 2000. 1,506 such settlements were located in different sizes of land. The occupied land area of under served settlements was estimated as 390 hec. Which is 11% of the total land extent of the city? In conclusion ½ of Colombo population were packed in small extent 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.

* *Low Income Settlements Survey, 1999 -2000, Sustainable Townships Programme, Colombo.*

Housing Policies

There were no specific housing policy initiatives in the colonial era other than several micro interventions in plantation and agricultural sectors. After the independence the first comprehensive housing policy was prepared 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.

The dramatic changes took place by introducing participatory policies to the housing sector in 1978. It was a paradigm change from provider to facilitator. Participatory policy adopted was able to make revolutionary change in the decision making structures in national scale granting autonomy to people in deciding and doing. Urban and rural sector 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 individual basis. This was able to alter the housing development tools, responsibilities and processes significantly.

Latter part of the 20th century marked a drastic change in the world map making previously closed economies to recognize open economic policies. Sri Lanka has adopted these policies from 1977. The impact of privatization policies trickled down to the housing sector by 1998. Presidential Task Force on Housing and Urban Development (1998) pointed out the importance of formulating sustainable policy guidelines for housing and urban development, reducing the dependency on the state. As a result urban housing was analysed and understood within the 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 to address the urban housing problem through a market led approach.

Actors in Shelter Delivery and their Roles

National Housing Development Authority (NHDA) established in 1978, operating under the Ministry of Housing and Public Utilities provides an umbrella cover in the national scale to facilitate the incremental housing process through housing credit, infrastructure, land and technical advisories. Upgrading, land regularisation, site and services etc. are the popular strategies adopted by NHDA. Apartment housing is also constructed in sub-urban by the NHDA.

Sustainable Townships Programme operates under the Ministry of Urban Development to resolve the housing problem of urban poor. Real Estate Exchange Ltd (REEL) was established in 1998 as the management arm of the above programme to provide apartments for urban under served dwellers on the basis of house to house exchange. REEL is functioning on prudent market principles managing the entire commercial, construction and social aspect of the Sustainable Township Programme. REEL facilitates to forge a business alliance between two traditionally polarised groups of slum dwellers and property developers.

Urban Settlement Improvement Project (USIP) established in 2000, comes under Ministry of Urban Development is involved in upgrading and provision of water and sanitary facilities to poor settlements in the national urban context.

Urban Development Authority (UDA) established in 1979 operates under the policy guidance of the Ministry of Urban Development is vested with the power to execute both land sub-division and planning and building regulations in the island. UDA is the regulatory authority of country's urban development. Preparation of urban development plans for urban local authorities is the key role of UDA. Apart from that UDA involves with capital development projects, providing housing for middle and lower middle income communities.

Condominium Management Authority (CMA) established in 2006 under Ministry of Housing and Public Utilities involves with the affairs of emerging condominium development of the country. CMA has the regulatory power to grant approval for condominium plans and provisional condominium plans. Provision of regulatory services to the management of condominium complexes is another vital service provided by the CMA.

Powers are vested with *Urban Local Authorities* for granting planning approvals for urban development projects. Other than that provision of infrastructure and basic utilities such as water supply, drainage, waste disposal etc. within their territory is another role played by ULAs.

Several *Non Governmental Organisations* (NGOs) are also active in capacity building and community mobilisation in urban under served settlements.

Shelter Design

Planning and Building Regulations: These are affected to 16 municipal councils, 52 urban councils and other declared urban areas in the island. 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. are given under the regulations. 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. However by-laws to create conducive environment for investment on low income housing has not been adopted.

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 construction 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.

Real Estate Exchange Ltd

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 1998 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, Low Land Reclamation and Development Corporation and the Colombo Municipal Council.

The mission of REEL is to fulfil the aspirations of slum dwellers in provisioning of housing with modern amenities in liveable environment in lieu of the possession of land occupied by them. This is a process of home to home exchange where urban poor would trade-off their encumbered land against a new apartment with full ownership. Apart from that REEL is engaged in re-development of fragmented lands occupied by slum dwellers through re-assembling and thereby promoting the endeavours of Colombo regeneration. 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. In this pro-poor shelter strategy REEL plays the lead role of “market maker” by facilitating private sector real estate development initiatives through the motto of “Home for people and Land for urban development”.

Cooperate Plan of REEL (2006-2011) shows the target of providing 20,000 vertical apartments for middle income groups and slum dwellers within the next 6 years.

Shelter Problem

Land is a scarce resource in Sri Lanka. Colombo today is facing to a critical land issue. Colombo’s current population density appears as 215 persons per hectare. Population density in low income areas in the city of Colombo is recorded as 1,000 people per hectare. Under the circumstances implementation of self-help housing strategies may not further applicable in finding sustainable solutions to the shelter problem in the city of Colombo. In this context provision of medium and high density housing seems to be the strategy being adopted widely in the present decade.

High density housing is a product of building industry, which involves many engineering and architectural inputs. The common phenomenon on vertical housing

development in all over the world is the domination of technocrats and bureaucrats in the decision making process. Allocation of Land, Adoption of Standards, Selection of Building Sites, Preparation of Layouts and Blocking outs, House Plans and Designs, Infrastructure Designs and Installations, Materials, Method of construction, Finishes, Planning, Maintenance and Management etc are centralised decisions in the process. As it is simply understood design is done on the norms and the standards pre-decided. Construction is carried out and monitored through comprehensive procurement procedures and guidelines. 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. When professionals take decisions on all of the above elements people apparently become beneficiaries since they are external to the process. This experience is common to the REEL housing development endeavours.

The imaginative question is, can the professionals and technocrats represent the individual interest of people in the above decisions? Turner (1976, 48) says “that centralised decision making systems are bound to generate standardised product in large scale, large organisations cannot respond to the diversity and complexity of personal demand”. What is really happening is the professionals generalise the interest of people at project and the programme level. As such conventional housing realises through the building industry is appeared as a material element, resulting many mismatches between people’s choices and centralised decisions of bureaucrats.

Past experiences of REEL were well evident of this situation. Dissatisfaction of some of the benefited household occurs on the layouts and designs which may directly affect to privacy, safety and comfort. Gravity of the dissatisfaction is increased due to relatively low floor area of houses built for relocation purpose.

The dissatisfaction of the occupants living in the condominium apartments reflects in different forms.

Unauthorised alterations

Changing of existing physical elements of a housing unit without having clearance from the Regulatory Authorities is defined as “Unauthorized Alterations”. Condominium unit is an end product of a housing complex in which an accommodation of desires of individuals is a difficult task. This may lead the HHs who are not satisfied with the design to make illegal changes within a unit.

Intention of attending such alterations may be to increase the net floor area, reduce the congestion and warmth, create an identity, enhance privacy etc. This is a growing issue in condominium housing and its impact to the structure of the building; regulatory status, ecstatic aspects, neighbourhood etc. are significant.

Encroachment of common areas

Approaching spaces allocated for public uses and converting them into a personal use illegally is defined as “encroachments”. In addition to the open spaces in the ground, public circulation places like corridors, stair cases, balconies, etc. are under threat in encroachments. There is tendency to encroach these common areas, ignoring and disregarding to their public uses. The intention of these encroachments may be to consume more space than given in the housing units and to use them for income generation activities, future benefits etc.

Ad-hoc improvements

Replacement of existing physical elements of a housing unit without considering the aesthetic aspect of the design and neglecting its impact to the building structure is defined as “ad-hoc improvements.” Since choice is a variable standardized housing may not satisfy the needs of people. Different people have different choices and desires. These choices and desires are reflected as ad-hoc improvements in their housing units. However many of these improvements are appearing as value additions.

Change of use

Conversion of existing use into another use without obtaining legal approvals is defined as “change of use”. Land use is determined by the Zoning and Planning Regulations. Hence change of use could not be an individual’s decision as it violates the regulations and affects to the neighbourhood as well. However people tend to change the existing use for different reasons. Generation of income is one of the common reasons for changing the use.

Dis-satisfaction occurred on the design and the layout of the housing units seems to be a common issue in condominium housing. Prevailing trend of disposing houses may also be an indicator of this dis-satisfaction.

Case Study - Sahasa Apartment Complex

Sahasa Apartment Complex is the biggest ever-single apartment building in Sri Lanka with 671 housing units. This was built by REEL in 2.4 acres of land in the City of Colombo in 2001. There are 04 house types in this 13 storied building as 300sq.ft. 400sq.ft, 500sq.ft. and 600sq.ft. Ground floor is meant for community facilities and retail outlets. Each floor has 54 housing units. About 30% of the built space is allocated for common uses like corridors, balconies, stair cases, elevators, fire escapes etc.



Beneficiary families selected from 16 slum tenements within the closed proximity have been voluntary re-housed in this housing complex. Houses were allocated on exchange basis without involving money transaction. Eligibility to house type was determined by the criteria like physical conditions and floor area of old houses, age of the house, services used family size etc. In the mean time beneficiary families were permitted to choose other house types subject to pay the construction cost between eligible house and the preferred one.

A survey was done in July 2008 to identify the no of unauthorised alterations, encroachment of common areas, ad-hoc improvements and change of use in this housing complex. The information gathered is summarised below;

Table 03
Summary of Unauthorised Interventions in Sahasa Apartment Complex

S/N	Type	Floors												Cumulative	
		1	2	3	4	5	6	7	8	9	10	11	12		13
1.	No of houses made unauthorised alterations	06	09	08	09	03	09	20	15	09	11	13	04	06	122
2.	No of common area encroachments	5	4	5	5	5	4	4	5	4	4	3	2	2	52
3.	No of houses made ad-hoc improvements	15	09	16	13	13	10	06	10	10	14	22	26	19	183
4.	No of houses changed the residential use	02	01	02	02	01	-	06	-	02	01	01	-	01	19

Source : Enumeration Survey done by Sahasa Management Corporation - July 2008

As per the above Table, no. of houses attended for unauthorised changes is 376 and it is 56% of the total housing stock.

Of which unauthorised alterations take place in 122 housing units which are 18% of the total stock. Unauthorized alterations seem to be a growing issue in this apartment complex. Over 100 families have altered the veranda which was designed to provide light and ventilation to the house, illegally by positioning the house ill-light and ill-ventilate. In the mean time some alterations made in the veranda seems to be creative and attractive as well. Removing the middle wall exists in the bathroom to make toilet and bathing separated may damage to the water seal on the surface creating a water seepage problem to the house right exists the down. However it creates space to the bath room. Connecting the existing balcony with the living area by demolition of middle wall is another area of unauthorised alteration. It ruins the view of the building, but help to reduce the density and warmness of housing units. There are many cases of creating extensions by altering windows of housing units. Although the need is fulfilled it may destroy the view of the building. Canopies are not given over the windows in the original design, but many occupants have made ugly looking canopies in different materials and sizes. Thus, all of these alterations reflect the dissatisfaction of occupants over the design.

In the mean time there are 52 cases of public area encroachments. Front corridors of the apartment complex are frequently threatened by encroachers for parking bicycles, selling commodities and for any other uses. Common bathing places erected in the housing complex are abundant and they have been encroached by the occupants for different uses. Shop spaces, spaces under stair cases etc. provided in the each level are the other zones come under threats of encroachments. In addition to that there is a tendency to encroach open areas located out side the building without concerning its public use.

Table 03 further reveals that 183 households or 27% of the occupied housing stock have made ad-hoc improvements. Some have replaced the front doors and window slashes which are made in different materials and applied different colour schemes. Which may help to create identity but spoiling the uniformity. Floor and wall tilling and replacement of bathroom and electrical fittings are the other common areas made improvements. These improvements may upgrade the status of housing without disturbing the building and the neighbourhood.

Change of existing use is 2% of the total households. Some families tend to convert the frontage of their houses to a shop, cottage industry etc. blocking the access to other houses and disturbing the environment. Two houses have completely been converted to other

commercial uses. Since there was no provision in the design for potential change of use these illegal changes may create many issues to the neighbourhood.

Alterations and improvements may be introduced as value additions. But they may generate numerous issues to the design, structure and to the neighbourhood as well.

SWOT Analysis

SWOT analysis is done in order to understand the strength, weaknesses, opportunities and threats to intervene the problem of unauthorised alterations in the condominium housing complex.

As a conclusion REEL has the strength and the opportunities to prevent unauthorised alterations. REEL should 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 a human face to the process of conventional building industry in designing a tiny space for living has a vital importance. In this context creating maximum possible opportunities for beneficiary families to be active in the process of planning, implementation and management is a timely requirement.

Proposal for Change and Improvement

Improvements recommended to the development process

Modification of contractor selection procedures is one of the key areas to be taken into consideration. Against the conventional contractor selection procedures, short listed contractors can display their design proposals in three dimension forms to the beneficiary households. It is the responsibility of professionals to convince their design components and the advantages to the beneficiary families by using different techniques and tools. At the end of the exhibition beneficiary families can cast their votes against the preferred design. The design which takes the majority of votes could be selected for negotiation. This seems to be a more democratic way of selecting appropriate designs with public participation within the conventional design process.

Allocation of houses in different finishing stages is another way of facilitating the HHs. Allocation of houses without installation of electrical and bathroom fittings could be an option. Which is allowing beneficiary HHs to choose the fittings as they wish. Also there

is a possibility of providing a basic structure of a house, without even attending for floor and wall finishes. Then HHs can attend to the improvements if adequate technical assistance are given.

Public participation in construction management could not be a difficult task. In the conventional process construction management is purely done by the professionals. There is a possibility of appointing a community team to participate in the construction management process in line with the professionals. In addition to the task of construction management and monitoring they can attend to periodical progress meetings and discussions as well. This will help to orientate community groups and make on the job modifications in the building process.

Hiring labour from beneficiary HHs is another way of creating access for HHs to enter into the conventional building process. Conventional building process has skilled, semi skilled and unskilled labourers taken on the hiring basis. There is a possibility of creating conditions in the contractual agreement to employ some percentage of semi skilled and unskilled labours from the beneficiary HHs. Since REEL maintains a comprehensive data base of these communities selection may not be problematic.

Introduction of technical guidance to accommodate alterations will help to discipline ad-hoc alterations. Some times there may be a possibility to accommodate progressive alterations even after the construction. Printed guidelines with illustrations may be more useful in this context. These alterations are to be supervised by a technical team.

Community mobilisation is a requirement to transform the lives of poor in high rise living. Mobilisation is a continuous process. It would facilitate the occupants for collective living. When the occupants are empowered and committed they can play an effective role in management and maintenance of the building.

Establishment of an effective monitoring mechanism to control the unauthorised alterations and encroachments is a requirement. Powers and authority are to be vested with the Management Corporation to control and demolish unauthorised structures. Hence capacity building of Management Corporation to carry their business effectively is a timely requirement.

Relaxing the procedures to dispose houses will reduce the pressure upon the occupants. Residents may do alterations when the house is not catering to their needs. Hence rules and procedures can be relaxed to permit HHs to dispose their houses at the time of dissatisfaction without doing any alterations.

Conducting orientation programmes for beneficiary families in basic civil engineering matters, adverse impacts on alterations, common area management, nature of high rise living etc. have a vital importance in strengthening the process.

Improvements recommended to the design process

Participatory workshop is recommended for community consultation in the view of obtaining opinions, desires, and requirements into the design. Proper positioning of kitchen, bathroom etc. avoiding of deserted community areas in the building, creating of different design options and textures, introducing of cost minimisation techniques etc. are important elements in designing a tiny living space. Further, sketch designs can be developed through group discussions with the help of relevant resource persons as Architects, Engineers etc. Ultimately Professionals shall prepare conceptual design proposals by taking the inputs of these consultations in to consideration.

Design for future expansion will help to eliminate unauthorised alterations. This may be a challenging task but nothing impossible. Pre-determine expansion limits can be given in the house design. This would provide an opportunity for the dwellers to attend an incremental development.

Introduction of deferent housing typologies may be another way of addressing the choices of people. Options may be in quantitative and qualitative forms. It creates opportunities for HHs to choose a house over their entitled house type even after paying for extra space and facilities given.

Change of use is another area to be taken in to consideration. House for the poor has to be multi purpose use. Possibility to change the use without disturbing the neighbourhood is a requirement to be considered in the design phase

Introduction of low cost, flexible building materials may help to avoid the wastage of resources. It would help the occupants to make internal changes as they wish.

These measures may create maximum possible space to accommodate people's views and opinions into house building and design processes which will ensure the qualitative and sustainable development in our townships.

References

- *Central Bank of Sri Lanka; Annual Report , 2006*
- *Deepika Fernando; Sustainable Housing for Urban Poor; Design of a Participatory Maintenance Mechanism for Urban Housing Schemes; Paper Submitted to HDM, Lund University, Sweden; 2007*
- *Department of Census and Statistics; Housing and Population Data Profiles 2001-2006 Sri Lanka*
- *K. Locana Gunarathna; Susil Siriwardane; K.A. Jayarathne, Janiki Edirisinghe; Shelter in Sri Lanka; 1978-1991; An Overview of Policies and Performance; National Housing Development Authority; 1991*
- *Lawson, B ; How Designers Think. The design Process Demystified, Third Edition, 2001*
- *Ministry of Urban Development; Presidential Task Force on Housing and Urban Development, 1998 Sri Lanka*
- *Ministry of Urban Development; Istanbul + 5, Sri Lanka country Report, 2001*
- *Ministry of Housing; Housing Policy of the Ministry of Housing, Ceylon 1954;*
- *Ministry of Housing and Urban Development; Perception on Relocation and Attitudinal Survey in four Selected Underserved Settlements in the City of Colombo; 1999*
- *Ministry of Housing, Construction and Public Utilities; Human Settlements and Shelter Sector Development in Sri Lanka; National Report for Habitat II Conference; The City Summit; 1996*
- *M.K.L.C. Mirihagalle; Enabling and Empowerment in Support Based Housing; The Case of the Million Houses Programme in Sri Lanka; MSc Dissertation Submitted to DPU, London; 1994*
- *Nirmala P. Herath, Devshriyani Jasundera; Colombo Living High; A City in Transition –, 2007*
- *Turner F.C. John; Housing by People, 1976*
- *Urban Development Authority; Colombo Metropolitan Regional Structure Plan, 1998*
- *Urban Development Authority; Colombo Development Plan , 1999*

Annex 1

Illustrations of Unauthorised Alterations



Figure 4: Over 100 families alter the veranda, positioning the house ill-light and ventilate



Figure 6: Connecting the balcony with the living area by demolishing the middle wall



Figure 7: Shop's extension disturb the access to houses



Figure 1: Altered bathroom after breaking the middle wall



Figure 2: Damaging the water seal on the surface creates water seepage problem



Figure 5: Creating space by altering the window



Figure 3: Ugly canopies made by people



Figure 8: Abandon bathing place converted to a personal use



Figure 9: Encroachment of corridors for bicycle parking



Figure 10: Floor tiling improve the quality



Figure 11: Value added pantry



Figure 12: Change of use- from home to dispensary