

Accessibility towards Sustainability....

Providing a Habitable Environment for Differently-able People in Sri Lanka



Champika Samaranayake

Chartered Architect

Central Engineering Consultancy Bureau, Sri Lanka

Basic General Data

Geography and Administration

Sri Lanka is a small island in the Indian Ocean with a land area of 65332 sq.kms and its north to south length is 432km and west to east width is 224km. Topographically the island consists of a south central mountainous region which rises to an elevation of 2,502m and is surrounded by broad lowland plains at an elevation of 0-75 m above sea level. From the mountainous regions nine major rivers and 94 other rivers flow across the lowlands into the Indian Ocean.

Climatically Sri Lanka has no off seasons. Bright, sunny and warm days are the decree and are common even during the height of the monsoon. After won back her independence in 1948, Sri Lanka is now a sovereign republic, with membership in the common wealth of nations and the United Nations organizations. The main capital, administrative city of the country is Colombo and the other major cities are Jaffna, Kandy and Galle situated in different localities.

As an Island surrounded by beautiful tropical beaches, a wide range of echo systems with thousand of delights are protecting its beauty.

Mountains and valleys containing lush greeneries increase its tropical flavour. In addition to its Agricultural based rural economy; tourism immerge as an important industry due to the inherent beauty.

Demography and Economy

According to latest statistics, the total population of Sri Lanka is 19.6 million (2006).

The urban population in the country constitutes 30% of the total at present and it is likely to reach 45% and 65% by 2015 and 2030 respectively.

Present population density is in the Country is 317persons per sq.km (2006). Average household size in this context is 4.31sqm.It seems this rapid urban growth leads scaring resources for further development activities.

Life expectancy at birth, of a Sri Lankan is 71.7years for male and 77years for female. This factor is projected to increase. Disability due to aging will be a huge problem in near future.

Considering the health factors, Government expenditure on health is 2.1% of G.D.P. With its rapid growth of aged population, the expenditure to maintain their wellbeing will be dramatically escalating in near future.

The population component under the national poverty line in Sri Lanka has been reduced from 27% to 22% during the last five years, while the per capita GNP has increased from US\$ 858 to US\$ 1197. Furthermore, the annual growth rate of GDP of the country has been maintained at an average of 6% during the period from 1996 to 2000, while the average level of investment and savings during the same period recorded 25% of GDP. In the recent past, the ability of the Government to carry out development activities in order to accelerate economic growth and improve the distribution of income has been severely constrained by its involvement in unavoidable defense and security operations in the North and East of the country.

The macro economic impact of Tsunami manifested in reduced GDP by 0.5 - 0.6% points from expected 6% growth reflected in the first quarter of 2005. These conflicts have been severely affected on the country's economy by increasing poverty.

Disabled Population

Out of which around 11.4 million or 5% to 8% is estimated to be having some form of disability either physical, mental or both. Sri Lanka Armed Forces official statistics indicate 4500 disabled soldiers, whereas as unofficial data refer to more than 10,000 soldiers.

This does not mean that each and every disabled person is in need of rehabilitation services. According to the experience and knowledge gathered through Community Based Rehabilitation Programme (CBR) it has been found that at least 4% of the total population of the country falls under the category of the disabled who need immediate rehabilitation measures. They are unable to stand on their own, unless they receive effective support either through the Government or the Non-Governmental, self-help organizations.

. Hundreds of thousands of landmines still remain underground and continue to kill, disable and mutilate the people of Sri Lanka. The number of persons with disability is rapidly increased as the result of conflict.

People with Disabilities 2001 Census of Population and Housing By Type of Disability and Sex						
Type of Disability	Male	%	Female	%	Total	%
Disability in Seeing	35,419	17.0%	33,677	21.7%	69,096	19.0%
Disability in Hearing/Speaking	40,584	19.5%	32,759	21.1%	73,343	20.2%
Disability in Hands	31,070	14.9%	17,061	11.0%	48,131	13.2%
Disability in Legs	56,529	27.2%	34,047	21.9%	90,576	24.9%
Other Physical Disability	7,344	3.5%	5,931	3.8%	13,275	3.7%
Mental Disability	37,181	17.9%	31,845	20.5%	69,026	19.0%
Total	208,127	100.0%	155,320	100.0%	363,447	100.0%

Table 1: **Source:** Department of Census and Statistics

The disabled people are doubly handicapped due to their poverty. They need protection, employment, shelter, medicine and nutrition etc. There are grant schemes and public assistance, and other charities for the poor disabled persons. However, these grants are barely sufficient for their maintenance.

The National Secretariat for Person with Disabilities initiated special assistance projects for them.

1. Self-employment assistance
2. Assistance for mentally sick persons
3. Housing assistance of SLR. 50,000/- for the construction of a small house for them to live
4. Assistance to construct toilets and other accessible facilities at the place they live
5. Distribution of required assistive devices among the disabled persons belonging to low income category.
6. Assistance for medical treatment.
7. Assistance to develop income generating projects

But the demand is very high and unable to cater for all.

Shelter Related Facts and Figures

The national ratio of home ownership in Sri Lanka is 80%. However, in urban areas it stands at 60% due to the high value of land, usage of large stock rental housing and other categories of shelter. The demand for houses & urban infrastructure is expanding rapidly with the population growth and urbanization. The population is growing at 1.1% annually; whereas the urban population is growing at a higher rate of 3%. Trends indicate that more than half the population of the country would live in urban areas by 2016, requiring rapid development of urban infrastructure. The annual new demand for houses in Sri Lanka is estimated to be around 100 000. In addition there is estimated housing shortage of 350 000. Further, about 30% (about 1.3 million) of the existing houses are semi-permanent or improvised or unclassified needing substantial improvements. Of the total number of about 114 000 houses destroyed or damaged from the tsunami,

construction of 61 000 houses has been completed by end 2006 and construction of balance houses was in progress.

The issue of sub-standard housing is one of the most serious development challenges facing Sri Lanka in the next decade. For instance, 51 % of Colombo's total population lives in slums and shanties, while only 42% of the National housing stock is permanent.

Sri Lanka is now in the process of increasing her national housing stock through private-public partnerships; encouraging individual house builders by creating a conducive social market and legal environments; and relocating slum and shanty dwellers in new compact townships. Condominium housing development backed by corporate property developers has become one of the recent trends in construction. Still it is a burning problem to cater for disability even in new constructions. Common trend in Sri Lanka is to keep ground level of the apartment, vacant for the disables. With the increasing demand, it is no more a success.

.To suit the Sri Lankan context and economy, common building materials using in housing sector are bricks, cement blocks, stones, cabook, timber planks for walls and clay tiles, asbestos, metal sheets for roofs and ceramic tiles, clay tiles, Terrazzo for floors. As to meet the cost constrains in construction, innovative materials such as compressed earth blocks, low cost slab systems, cement rendered flooring etc. are widely used in local context.

Access to cost of basic services/infrastructure

Water supply and sanitation remains still a challenge in Sri Lanka. Only 64% of population has access to safe water. Pipe-borne water is received by only 29% of the population. Sanitation toilet facilities are received by 77%.This is the greatest problem in the direction of accessibility in a developing country.

In terms of education, differently able children have to face lots of difficulties due to their inaccessibility to the main stream of education. Ministry of Education conducts special education classes to admit the disabled children and train them to be absorbed into formal education stream.

Disability Studies Unit for higher education has been established at the University of Kelaniya, number of years back, but so far no considerable expansion of those educational research programmes has taken place.

As a minimum, the ministry of Education stipulates that access to ground floor should be provided in all school buildings in order to make it accessible for physically disabled. This should provide students with access to all facilities that takes place in ground floor.

Housing Policy

The long term housing development policy, as indicated in the Ten –year Vision, envisages meeting a large part of the backlog and growing demand for houses. The policy aims at ensuring planned human settlements taking into consideration the population density, land suitability and environmental suitability. Adoption of vertical development approaches in high and medium density areas, implementation of participatory approaches wherever possible ,developing housing finance market with primary and secondary mortgage financing facilities and providing government assistance for needy groups also constitutes the housing policy. In addition to individual housing, government supported programmes and private sector investments are expected to provide 645 000 housing units during the 10 year period up to 2016.

To achieve sustainability in above programme, Sri Lanka declared year 2007 as the “year of Accessibility”. This will pave the path to create an enabling living environment to disabled. Under this, each and every individual including disabled person is guaranteed equal rights.

Organization

The Central Engineering Consultancy Bureau (CECB) was founded in 1977 as a statutory organization to cater to the growing need for multi-disciplinary consultancy services in Sri Lanka. It has a Wide Experience in designing and construction of all types of buildings from the simple to complex and entire townships. Its role varies from project identification and planning, detailed designing, implementation to completion.

It gives the full package of Architectural, Structural and other technical support for reconstruction programmes, mass housing programmes throughout the country, using its thirty years of experience in the process.

In catering to the current housing demand in Sri Lanka, our challenge is to look into the shelter development strategies in a more innovative way, for a sustainable future.

“Sustainable building design must seek to; reconnect humans with their environment for the spiritual, emotional and therapeutic benefits that nature provides.”

The Ecologde Sourcebook for Planners & Developers

Further it should provide equal access to the full spectrum of people with physical and sensory impairments while minimizing impacts on natural and cultural resources, is one of the major consideration for sustainable building design. Therefore our ambition is to provide every aspect leads sustainability...

This is also further enhanced with government declaration of year 2007 as the year for disables.

As leading consultancy & construction organization, we have our own, academic resources to deal with this issue further. As a result of that, our organization has been involved in introducing an appropriate guide line format for accessibility, a corporate effort developed in hand in hand with other state sector organizations.

Now this phenomenon is gradually becoming a backdrop in mass housing or public buildings which should be analyzed for further developments. The focus of this article is to analyze the present condition of state sponsored public housing programmes in relation to the available schemes, codes & practices.

Shelter Problem

"At some point throughout every life span -- even if only for a little while with a broken leg -- everybody is going to have a physical disability, That's why universal design makes so much sense. We're trying to create a stock of housing that can be used by

people who are disabled and older in the future. And that's going to be a lot of us."

David w, Dunlap

As architects, our aspiration in shelter development should be cater to the human being. It is not a matter of Disability. It should be a sustainable approach. Every house, every built entity must be a visit able place to everybody. But this authentic statement would be a miracle except for proper studies and research.

Persons with disabilities in Sri Lanka are defined as follows in Protection of the Rights of Persons with Disabilities Act, No.28 of 1996:

“Persons with disabilities” means any person who, as a result of any deficiency in his/her physical or mental capabilities, whether congenital or not, is unable by himself /herself to ensure for himself/herself, wholly or partly, the necessities of life.

Considering the Sri Lankan context, concept of barrier free design, is still in its development stage. Due to the prevailing condition after the recent disasters of the country, Accessibility is becoming as an important and unavoidable factor in designing shelters.

As a result of this, a specific legislature has formed to protect disable rights. It is denoted in the Constitution of the Democratic Socialist Republic of Sri Lanka that the state shall ensure equality of opportunities to all persons. Stipulated regulations as a result of corporate effort have been published by gazette notification no: 1,467/15 dated October17, 2006, which now becomes physical accessibility a mandatory legal requirement. But how far is this practically successful despite the fact that one person in four is affected by disability, by having a family or community member who is disabled?

Critical analysis of the current situation

The ideal of a 'barrier-free environment' is promoted in developed countries as a means of increasing the independence and mobility of disabled people. The adoption of this concept for developing countries requires critical analysis. Sri Lanka, for example, has formulated a physical access code, but has not succeeded in the implementation.

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There are several constrains towards this aspect under present social, economic condition of the country.

Case study -1 Nawadivipurawara, Tangalle - Sri Lanka.

This project is an ideal model housing scheme addressing disable needs, donated by Christopher Blinden Mission in Germany for Tsunami victims. In the rural sector, closer to coastal belt this scheme is nicely placed blending with nature accommodating accessibility to its every nook and corner.



Built in harmony with nature...

Providing ramps with resting areas and hand rails to every nook and corner....





Accessible toilet

Nawadivipurawara is the one and only scheme available in Sri Lanka catering the demands of differently able people, at the same time integrating user friendly environment with the development.

With this back ground, it is totally acceptable project. Analyzing the project further, it depicts some constrains which could be developed for the future prospects.

To be sustainable, as it has been quoted earlier, it is essential to reconnect people with environment and its benefits as far as possible.

To my knowledge, this factor is missing in this development to a greater extent. Therefore it is visible that some of the occupants attempted to leave the place reluctantly, during day time and during week days for their economic activities. This again creates a barrier to the disable community. They are again isolated from economic activities, decision making process and other social activities.

This problem is not solved by providing mere accessible shelters.



According to the **habitat agenda goals and principles,**

“Encountering disabilities is a part of normal life. Persons with disabilities have not always had the opportunity to participate fully and equally in human settlements developments and management, including decision making, often owing to social, economic, attitudinal and physical barriers and discrimination. Such barriers should be removed and the needs and concerns of persons with disabilities should be fully integrated into shelter and sustainable human settlement plans and policies to create access for all.”

State sponsored Housing for the low income category in urbanity

This is a yet another issue in accessibility. Finding a locality for development is a critical factor. In the other way, allocating finance for development is a greater barrier. Government strategy in this regard is to build walk up apartments with bare minimum facilities to the available funds. The most economical way according to the government strategy is to construct four to five storied apartment schemes violating certain regulations and codes stipulated by Urban Development Authority and other governmental organizations to a certain extent. This relaxation is imposed stating them as special projects.

In this regard, accessibility codes are easily violated considering certain projects as special projects.



State sector resettlement scheme for low income group in closer proximity...

As a result of these factors and the current unstable social, economic and political conditions in Sri Lanka, barrier-free design is not a priority in most planning and design and seems ineffective in its realization.

Proposal for Change and Improvement

-It is advisable to think of the potential of disabled people to participate in the community, to contribute to society, to contribute to the economy...

-Therefore it is essential to develop settlement patterns encouraging communal activities and vocational training programmes leading to sustainability.

Action Plan

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