

# Better Housing for Urban Squatters in a Greener City.

## *A Mechanism to Prevent Encroachments & preserve the Open Spaces in the City of Anuradhapura , Sri lanka.*



Bandula Ranathunga.D.M.

Provincial Director (NCP)

Urban Development Authority, Sri Lanka.

The city of Anuradhapura is located in North Central Province of Sri Lanka. It has 65000 inhabitants and it was an ancient capital of the Country. This city has been declared as a World Heritage City by the UNESCO.

The city is in danger due to critical issue of encroachment of open green areas. About 2000 professional squatters had encroached about 66 ha. Of green areas of the city. This is a continuous process which should be addressed immediately. Because, green lands will have disappeared if left untreated in next 10 years and town will become a heat Island with concrete jungle.

The main objective of this paper is to come up with strategy proposals with an action plan in order to prevent the encroachments of open green lands & to provide residential serviced land lots for affected families in a greener city.

## Shelter Situation Analysis

General background of Anuradhapura, Sri Lanka.

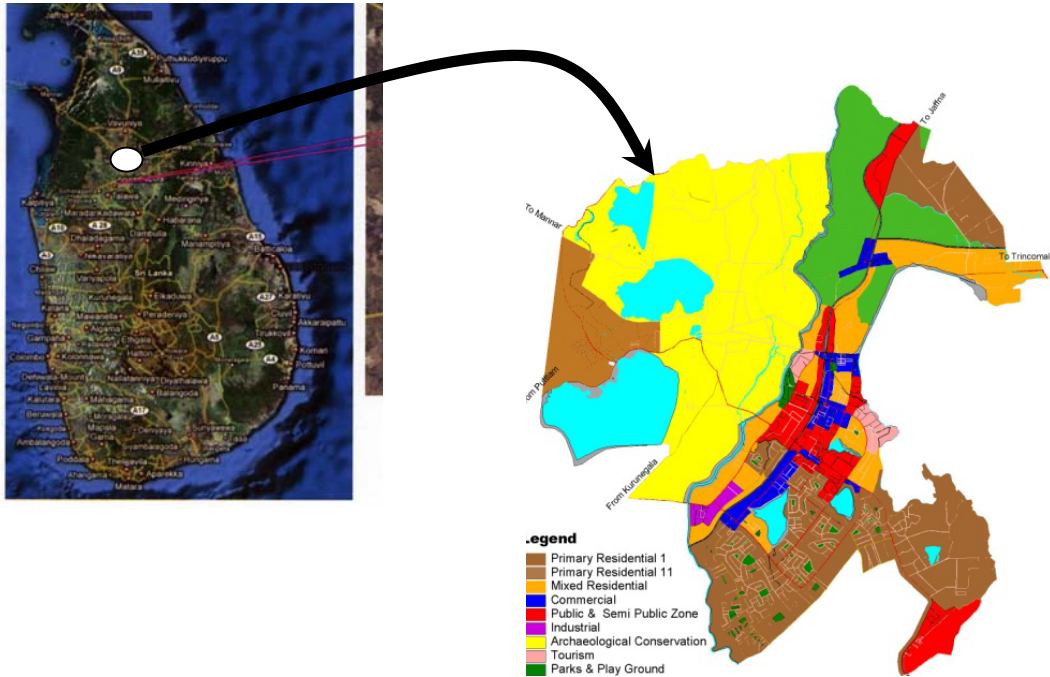
Geography and administration.

Anuradhapura is the capital city of the North Central Province which is the largest among the Province in its land extent. Further, with the existence of over 60% of Sri Lanka's agricultural settlements in the North Central Province, Anuradhapura town serves as the main agricultural, marketing and service centre. In addition, there exist the central administrative and commercial institutions of both the public and private sectors. While Anuradhapura town can be considered as one of the six metropolitan cities proposed by the National Physical planning Department (NPPD) it also earns an importance place as a cultural and economic centre.

Anuradhapura town is located at an elevation of 500 feet above mean sea level, between Latitude 8.40 and 8.43 North and Longitude 80.30 and 80.33 East. It has an average annual rainfall between 1000 and 1500 mm. with the highest rainfall received from the north east monsoons.

Over the 2500 year long and continuous history of the Island, Anuradhapura served as the capital of the country until the Chola invasion in the 10<sup>th</sup> century AD. Later King Pandukabhaya (377 – 307 AD) shifted the capital to Polonnaruwa. Anuradhapura has been declared as a World Heritage city by the United Nations Educational and Cultural Organization (UNESCO). Considering the importance attached to the archaeological remains in the sacred area. It has been estimated that there is a daily influx of tourists and pilgrims at an average of 55000. During the religious months of Weak, Poison and many places of worship this number increases approx. To 100000 daily and during the Poison Festival season it is estimated to reach around 500000.

Map No.01. LOCATION OF CITY OF ANURADHAPURA,  
SRI LANKA



### Demography and health.

During the last 10 years time Anuradhapura town has been increased at a rate of 2.1 percent. According to the census report of 2001, an annual average growth rate has increased to 2.8 percent. The factors that mainly contributed to the above has been the implementation of the accelerated Mahaweli development programme in 1997 and the development of small and medium size towns in the H area and environs, the expansion of service facilities in the town to meet the needs of the Army in relation to war situation in the North, as well as the growth in the tourist industry. Rural urban migration mainly due to better social and infrastructure facilities. Good living environment job opportunities and availability of undeveloped land in the city centre, ethnic conflicts in Northern area and peace fill environment. Taking the above facts into consideration it is predicted that the population would reach 85000 in 2016 on the basis of an average annual growth rate of 2.8% during the next 15 years.

The low population density in the existing developable lands is around 37 persons per hectare and in the sacred town it is 26 and in the new town 40 persons per hectare. This indicates that the highest density is in the areas where open land are located.

**Table No.1. Density of population – city of Anuradhapura-2001.**

Stage	Extent Hectares	Total population 2001	Density pp/Ha
I,II,III	523.32	45,195	86
IV	128.37	3,967	31
V	492.3.8	7,470	15
Total	1144.07	56,632	50

Source: Dept. of Statistics, Urban Development Authority (NCP)

When examining the composition of the population of Anuradhapura town, it is seen that there is a reduction in the sex ratio. The sex ratio (male to female) which was 165 in 1946 has during the recent census period gradually dropped to 124 in 2001. (This indicates that there has been an increase in the number of families seeking permanent residence rather than of individuals. With the improvement of urban facilities and the consequent formalization of property market, a tendency towards permanent migration as families is seen)

### Economy

The economically active population within the Anuradhapura Municipal Council Area in 2001 was 70% and in 1981 it was 65%. The dependent population was 30%. This indicates that the number of persons who could be engaged on economic activities in this area has increased. This could be made use to boosting the town's economic level.

### Revenue and Expenditure of the Municipal council

An important indicator in the level of the continuity of urban activities is the revenue base of the Local Authority. When the revenue of a Local Authority drops there is a corresponding drop in the level of urban facilities provided for the people.

In the year 2009 Budget Report of Anuradhapura Municipal Council 11% has been allocated for the up-keep and maintenance of the capital assets, 61.7% for salaries and other emoluments, the expected revenue stands at 88% of which 18.7% are rates and taxes. From the above, it is seen that over 50% has been allocated for salaries. This creates a very severe constraint on housing and urban development. As in most developing countries Anuradhapura Municipal Council invested budget for housing and maintenance of open spaces are extremely limited. The other responsible agencies such as National Physical Planning Department (NPPD) has also very limited budget for maintenance of archaeological reserves and squatter settlement relocation programme.

**Table No.02. Economic Activity of unauthorised occupants in open land 2008.**

Economic Activity	No of persons	%
Government sector	29	1.5
Tourism	40	2.0
Informal sector	10	15.0
Labour	1136	55.5
Unemployed	535	26.0
Total	2050	100.0

Source. Socio-economic survey-UDA

## 1.2. Shelter Related Facts & Figures.

### Access to shelter

Homelessness has been the main concern of respective governments, professionals and policy makers active in the field. In Anuradhapura many aspects of this problem have identified and solutions given , housing relocation programmes such as Shantha Gammana, Jayasiripura, Isurupura and Yasaripura are some of the examples. But it is major issue still remaining in the city.

### ***Housing in Anuradhapura Municipal Council Area***

According to the land use distribution pattern 37% of land within Anuradhapura Municipal Council Area is being utilized for Housing. For optimum use in the town this should generally stand at about 50%. This is due to the fact that compared to another town, a higher proportion of housing being found in areas around tanks (Wewa).

A further analysis of the housing situation shows that 77% of the houses are permanent, 13% are semi permanent, and 10% are temporary. The majority of semi permanent and temporary houses are located in open space which is not suitable for human habitation and they suffer lack of basic services & social amenities.

**Table No.03. Housing standards in Anuradhapura 2008.**

Housing condition	Building material used	No. of Housing Unit	Percentage %
Good	Cement floor, asbestos tile roof, brick walls.	5452	58
Fair	Iron sheets roof, cement floor, cement or mud blocks walls	3050	33
Poor	Cajon/tin sheet/tar sheet Roof, mud walls and mud floor	897	9
Total		9399	100

Sources: Department of Census & Statistics-2008.

The table No.03 is revealed that the total housing stock in 2008 was 9399 while about 41% was substandard, qualitatively poor housing. Out of the total, 41% of houses are less than 50sqm in size; 23% have only one room and 2.7% have no room for sleeping.

#### **Housing Needs.**

It is estimated that, at the end of the period of Anuradhapura Town Development Plan (2016) the population of Anuradhapura town could reach 85,000 with a household size of 5 persons, requesting a total of 17,000 housing units. Of the present housing stock of 9399 and assuming 20% of these may be subject to

change of use (commercial and services), in 2016, 9500 new housing units would be required of 630 units annually.

#### Access to basic services/infrastructure

##### ***Education***

The educational standards and the related facilities are at a very high level. There are 16 state schools and number of other educational institutions such as Rajarata University, Pali and Buddhist University, Open University and Technical and Vocational Training centres within the Anuradhapura Municipal Council area with a student population of 18,785 as at 1994. This number had increased to 33,304 in 2008. The number of teachers in these schools was 724 and 854 in 1994 and 1998 respectively. A land extent of 112.5 acres is allocated in the town for those schools.

Although the enough educational facilities are available in the city most of the children in the squatter settlements have limited access to the facility due to absence of legal ownership and low level of household income.

##### ***Health***

The Anuradhapura General Hospital functions as the main medical institution for the North Central Province as well Municipal Council area.

**Table No.04. Medical Institutions in Municipal Council Area (2003)**

Institution	No. Of patients	No. Of out patients	No. of Wards	Beds	Medical Officers
General Hospital	61790	224250	17	983	116
Ayurvedic Hospital	32120	116625	05	101	03

Source: Survey by Urban Development Authority with hospital records.

The specialist physicians' served in Anuradhapura General Hospital up to 2003 was along with other medical staff numbering 69. Specialist treatment was available for General Surgery, Tuberculosis, Psychiatry Leprosy, Paediatrics, Skin Diseases, Ear Nose and Throat diseases and family planning services. In 2003, 16

channel consultation practices and 2 private hospitals were established in the town.

***Sports and Recreational Facilities.***

According to the zoning plan, 57 acres have been allocated for sports and recreational facilities, such as; one Public playground, 12 Children's parks two Cinema Halls, 29 Open Spaces, one Sports Training Centre and a Public Libraries.

In addition to the above, the public spend their leisure time in Anuradhapura sacred town too. As large extents of land have been apportioned for residential units in Anuradhapura town, the people generally enjoy their leisure and sports activities in their own premises and the use of public space is low. And the amount of the land allocated for this purpose is more than the required planning standard. These unprotected lands are vulnerable to encroach by the people due to lack of proper security system and lack of maintenance.

***Economic infrastructure.***

The table No.05 reveals that 9% of the households do not have access to pipe borned water. These families are living in open spaces without legal ownership of the land. The main problem they are facing is suffering from the water borned deceases due to used of ground water (well water) which has high content of calcium carbonate and not suitable for drinking.

**Table No.05 Availability of Basic services average % in 2008.**

<b>Service</b>	<b>Percentage %</b>
<b>Access to pipe borned water</b>	91
<b>Access to individual toilets</b>	90
<b>Access to electricity</b>	93
<b>Access to telecommunications</b>	46

Source: Department of Census & Statistics-2008.

**1.4. Key actors in Shelter Development.**

The key actor in the housing delivery in Sri Lanka is the Ministry of Housing. The Housing Ministry plays the major role in provision of housing to the Nation. Some of them are; Formulation of policies in relation to settlement planning,



Provision of housing, Housing financing, Housing constructions and other financial aid programmes.

Housing Development Authority (NHDA) which was incorporated by the NHDA act No.17.07.1979 is also play a very important role undertaking housing development activities in Sri Lanka. The vision of this Authority is to be the leader in facilitation of housing needs of the nation and the constantly monitor the housing sector of the country and develop programme to meet the short falls.

Urban Development Authority (UDA) is also involved in Housing sector as a policy formulator and a decision maker by preparing land use plan and the zoning plan for the urban areas.

Tsunami Housing Reconstruction unit is one of the institute established recently after Tsunami devastation in 2004 by aiming of rebuild 80,000 houses for the Tsunami victims in the coastal zone.

The National Urban Settlement Authority which was established very recently (in 2008) under the Ministry of Urban Development & Sacred Area Development is also play a major role in solving the housing problems in urban areas. It already launched a 10,000 housing programme call “ Kusum Niwasa” which is now being operating.

Ministry of Nation Building together with Ministry of Housing already launched a programme called “Uthuru Wasanthaya” to provide 20,000 housing with necessary infrastructure for the people who lost their houses and properties due to war in past 30 years. Ranaviru Housing Programme is also one of the housing programme which is operations in the North to cater the demand of housing and military personal.

## **2 Urban Development Authority (UDA) involvement in Shelter Development.**

The UDA is directly involved in shelter development in the country by preparing urban housing policies & land use policies and implementation of them. The housing policy plan consists of housing development guide plan and formulating & execution of housing schemes. Those plans are prepared by analysing of

existing issues in residential neighbourhoods, housing stock, housing backlog condition of housing access to infrastructures and future housing requirements. The second part of the housing development guide plan is the housing development proposal which includes;

- Identification and reservation of suitable lands for residential development.
  - Provision of infrastructure to the identified site for residential development.
  - Formulating and design action projects and implementation of them.
- Hence, it is revealed that, the UDA has a very important role in the shelter development.

### 3 Problem related to shelter development in Anuradhapura MC area (Study Area)

#### Problem definition

Anuradhapura is a well planned city and the master plan was prepared in the 1950's. The total land area is about 4218 Ha. It has been devoted for different land uses by its zoning plan. 640Ha (10%) of land in the CBD has been reserved for open spaces such as parks & playgrounds, archaeological reserves, canal reservations and open green areas with the aim of reducing the city temperature.(Map No.01) The purpose of allocating 10% of land to reservation is not to facilitate particular land use, but also so that they can be used as green lungs of the city.

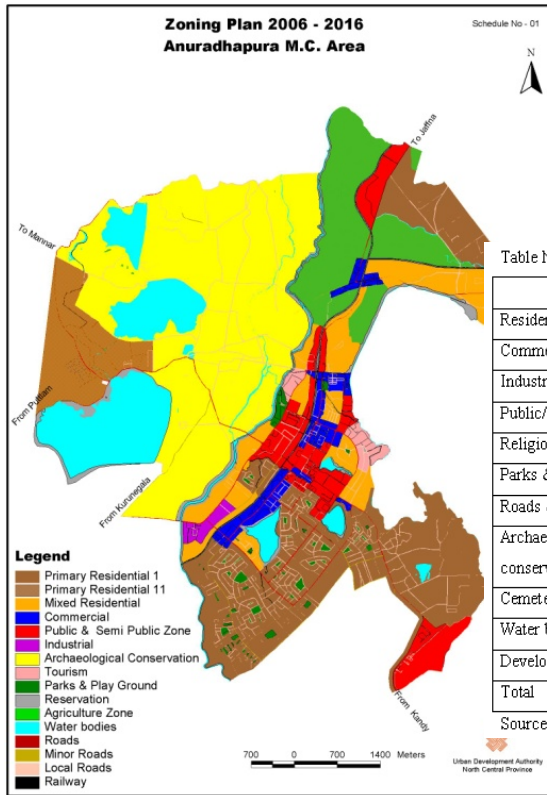


Table No.06 Land use Distribution in Anuradhapura Urban Council limits 2008.

Use	Extent (Hectares)	Percentage %
Residential	1550.83	36.77
Commercial	80.71	1.91
Industrial	42.02	1.00
Public/Semi public	304.41	7.22
Religion	24.04	0.57
Parks & playgrounds	166.37	3.94
Roads & Transport	485.70	11.51
Archaeological conservation	474.47	11.25
Cemeteries	17.43	0.41
Water bodies	637.02	15.0
Developable lands	435	10.42
Total	4218.00	100.0

Source: Urban Development Authority, NCP office

Those green areas are being encroached by people who build their houses haphazardly without any building permit. Thereby damaging the urban functions. By the year 2009, a total of 2050 unauthorised occupants (families) had encroached about 66 ha. Of green areas corresponding to (11%) of the reservation lands. (Map No.02) The table No.07. Shows that the numbers of families that have encroached open spaces and their spatial distribution.

Table No.07. Spatial distribution of unauthorised occupants.

	Location	Extent of land encroached (Ha)	No. of families
1	Archaeological reservation	36	950
2	Parks & play ground	18	775
3	Reservations Malwathuoya, Railway & road	12	325
	Total	66	2050

Source: Survey on unauthorised constructions 2008

Out of the total number of unauthorised occupants some of the families came from the Northern part of the country where there was civil war. This environment is not mainly because of poverty or homelessness as in most of them are in relatively well in terms of economic conditions. In addition there is no proper security system to guard and maintain these open lands. The remaining 850 families came the periphery of the city. This is the most critical issue of encroachment of open lands. The encroachment of the open spaces in the CBD is a continuous process which should be addressed immediately. Failure to which green city will have disappeared if left untreated in next 10 years town will become a concrete jungle.

The causative factors of this problem and the end results could be defined as follows;

***Causative factors.***

- Difficulty to enforce land and housing alienation policy due to political interference and other deficiencies of officials.
- Non availability of a proper plan to prevent new encroachments.
- Difficulty to implement the Planning and Building regulation due to political influence.
- Lack of coordination among the responsible authorities.
- Lack of resource in the Municipality.
- Previous favourable solutions given by the government.

***End results.***

- Violation of Planning and Building regulations by the unauthorised occupants. Because they can not get the approval for the house plan as they do not have land ownership.
- Non availability of basic infrastructure such as drinking water, electricity etc. As they do not have tenure which is a prerequisite service are to be provided
- Non availability of proper land ownership.
- Unhygienic living conditions.
- Disappearing the green lungs in the city.

The causes and effects mentioned above lead to core problem. That is *lack of proper mechanism to prevent encroachments of open spaces in the city.*

## 4 Strategy proposals for change and improvements.

**To overcome the problem prevailing in the city, the following strategy proposals are formulated.**

1. Establishment a steering committee to implement the policies rules and regulations and the monitoring and feedback of implementation of action plan.  
The committee will consists of a member of all responsible line agencies such as GA, Urban Development Authority (UDA), Anuradhapura Municipality, National Physical Planning Department, National Housing Development Authority, Forest Department, and Sacred Area Development Committee etc..
2. Establish a security system to avoid the new encroachment.
3. Organise the staff of the maintenance unit in the municipality to maintain the open spaces properly and use them for economically viable recreational uses such as parking open market. Gathering places. Open meeting points etc.
4. Appoint field officers to visit all sites everyday especially at the weekend and get information regarding the new encroaches.
5. Remove the all unauthorised occupants from open spaces with the assistance of police.
6. Provide access to physical infrastructure (drinking water, electricity, telecommunication etc.) and social amenities (schools, religious places and places for community activities)
7. Amend the existing planning & building regulations which are not favourable to the general public. The zoning plan of the city also required to be amended in order to facilitate more residential uses. The Malwathu oya (river) reservation will be reduced from 100m to 75m and add this

land to residential zone in order to accommodate additional 150 housing units.

8. Resettle the 800 families presently occupying in archaeological lands in reserved for future residential development area in the periphery in the city.
  - i. Main objective of the project is conserve the currently occupied archaeological site by resettling 800 families lives in a land which is rich collection of ancient ruins at a new resettlement scheme with necessary facilities.
  - ii. The NPPD will provide 15 perches of housing blocks with services in appropriate locations by considering their livelihoods. The settlers will be allowed to build their own houses and finance assistance upto Rs.843, 750/- (US\$ 800) will be provided to each family to build their own houses. The infrastructure facilities will be provided by the respective line agencies such as Electricity Board, NWS & DB at Elayapaththuwa Pradeshiya sabha. The land lot will be allocated with legal right and ownership. The settlers should prepared building plan according to the planning and building regulations and the building permit should be obtained from the local authority before commence the construction of houses should be done by the resettlars.
  - iii. This resettlement programme being a government sponsored project that is based on its policies on archaeological conservation, involuntary resettlement and urban development, the project and all its components will be financed by the general treasury. The approximate total financial commitments are Rs.1, 044 million.
  - iv. Advantages.
    - Improved social & economic freedom for people.
    - Help to conserve National heritage that are currently threatened.
    - Enhance environment outlook.
    - Visual pollution impacts will reduce.
    - Improve living condition with better organizational, social & economic infrastructure facilities.

**Benefits:**

- 800 families will get new good homes with ownership.
- Archaeological department will get valuable archaeological lands ready for excavation.
- The people of Sri Lanka will benefit from archaeological excavation that would be exposing the ancient city of Anuradhapura.
- Scholars will get the opportunity to study the ancient town planning system.
- Economic benefit will set the people in surrounding areas.

## **5 Action Plan**

To implement the strategy proposals a plan of action with time framework has been prepared. The action plan is consist of main tasks, activities related to tasks, responsible agencies for each tasks, cost involved & funding methodology and the time target.





## The Action plan

No	Task & Activity	Responsible organization	TEC involved (Rs.M.)	Time Frame																	
				2009		2010				2011				2012				2013			
				Q 1	Q 2	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
01	Establishment of Steering committee	NPPD, GA, UDA, PC	10		■																
02	Establish & operate a security system to prevent encroachments	LA, UDA, NPPD	5			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
03	Organize & operate maintenance programme of open space	LA	6			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
04	Carry out a field visit to detect new encroachments	UDA	8			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
05	Legal actions to remove the unauthorised constructions	UDA, LA, NPPD	10			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
06	Amend the existing planning & building regulation & revised the zoning.	UDA, NPPD, LA	2			■	■	■	■												
07	Resettle the 800 families presently occupying in archaeological lands	NPPD, GA, LA, NWS&DB,UDA	1044																		
	a. Handing over 80 Ha of land by Department of Forest & surveying & blocking out.	Steering committee																			
	b. Planning & finalize resettlement policy & EIA.	NPPD ,Survey Dept.					■	■	■	■											
	c. Estimating & setting out approvals	NPPD & Steering committee									■	■									
	d. Finalised the settlers list.	NWS&DG, CEB,RDA,											■	■							
	e. Construction of water supply, electricity, roads	NPPD, LA												■	■	■	■				
	f. Construction of houses, public building,& landscaping															■	■	■	■	■	■

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