

## **Rating Valuation Model for Residential Properties in Sri Lanka: Case Study in Homagama**

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### **Abstract**

Similar to the most countries, the property tax is the main source of income in local government authorities in Sri Lanka. Property taxes include a variety of taxes on land, building & other immovable property. Rating is one form of property taxes and it is the major property tax in Sri Lanka. The current practice of rating levying in the country is on the basis of Annual Value of the property. However, in some developed countries such as United Kingdom, it is calculated on the basis of the capital value. Hence, the aim of this research is searching for an alternative approach for rating valuation based on the capital value of the property. Data collection was mainly done with the help of Rating Cards maintained by the Government Valuation Department of Sri Lanka. Results indicate that six main factors significantly influence in calculating the capital value. Hence, the final model, which is based on both land and building values was calculated according to the six factors that were significant in the analysis.

**Keywords:** Rating Valuation, Capital Value, Annual Value, Mass Appraisal, Valuation Model

### **Introduction**

Valuation is the process of assessing the characteristics of a given piece of land and the estimate of the worth of landed property based on experience and judgment. Rating is one form of property taxes and it represents the main part of the property tax. A property tax is a levy on property that the owner is required to pay. The tax is levied by comparable properties on the valuation list. These rates are property tax levied by Local Authorities and it is collected on the basis of property valuations. Property taxes include a variety of taxes on land, building and other immovable property (UN, 1995). Mizanur (2006) mentioned that four characteristics of the property tax such as, visibility, inelasticity, inherent arbitrariness and the extent to which it reflects local autonomy.

The property tax is the main source of income of Local Authorities in the country in which the rating is the major property tax. The rating system in Sri Lanka begins since the country was ruled by king. Even in the colonial period there were evidences of collection of revenues from land, through “Thombu” system. Since, with the inception of local government institutions in 1861, the powers of collecting revenue from land and buildings were transferred through the respective acts. Those are the Municipal Councils under the Municipal Council Ordinance No: 17 of 1865, Urban Councils under the Urban Council

Ordinance No: 61 of 1939 and the Pradeshiya Sabhas under the Pradeshiya Sabha Act No. 21 of 1987.

“Calculation of the Annual Value is a systematic procedure and it is called Rating Assessment. Annual Value means the annual rent which might reasonably be expected by a tenant, taking one year with another, to pay for any house, building, land or tenement if the tenant undertook to pay all public rates and taxes, and if the land lord bear the cost of repair, maintenance and upkeep, if any necessary to maintain the house, building, land or tenement in a state to command that rent” (Roger and Wilks, 1984). The above mentioned ordinances of Sri Lanka also follow the same definition.

The current practice of rating levying in the country is done on the basis of Annual Value of the property. There are several criticisms in this system including data collection through rating cards up to the final value calculation. Further, the Report of the Commission of Inquiry on Local Government Reform 1999, it was pointed out that, present basis of rates (Annual Value) is complicated, cumbersome and not understood by the rate payer. The Government Department of Valuation in Sri Lanka is also seeking a new approach to calculate the rating value to accelerate the calculation, and timely collection of taxes. In developed countries such as United Kingdom, the rating valuation is calculated on the basis of the capital value. Hence, in order to address this issues this research attempted to work-out an alternative approach for rating valuation, which is based on the capital value of the property.

### **Problem Statement**

The collection of revenue in due time is necessary since rating is the main source of income of local authorities. The manual method of data collection for rating valuation is a slow process. Also there are certain conflicts involved in the definition of annual value such as no rationalization and standardization. The hypothetical tenant application is highly rejected by the people. Further, according to the land use pattern in all the Local Authority areas in Sri Lanka, the main usage is residential. There is a delay in determining the Annual Value and making periodic revisions as provided under the law. From the point of the rate payers' view, there is displeasure over the process.

At present the Government Department of Valuation prepares programs for revision of assessment in Local Authorities on request. It is the general practice to revise assessment in every five years' time. However, the reassessment is delayed up to ten years' time due to the above explained shortcomings. Countries like United Kingdom apply the capital value base for the purpose of rating. Hence, following a method in which the capital value is considered as the base than the annual value, the rating system would become more attractive and efficient. Additionally, it may help to increase the level of rating income of local authorities.

### **Objectives of the Research**

The main objective of the research is to develop a capital value based rating valuation model for residential properties.

### **Specific Objectives**

1. Literarily review the historical development of rating valuation.
2. To analyze the criteria relevant to Capital Value based model.
3. To develop a valuation model for rating valuation.

## Overview of Rating Valuation

**Property tax:** Property tax is a value based tax. It is a tax system that should provide adequate revenues to cover government expenditure and should be capable of producing more on short notice when circumstances require. It is based on the principle that the amount of tax paid based on the value of property owned. There are two basic forms of property taxation: the property tax may be levied on

- The annual or rental value of the property and
- The capital value of land and improvements.

The **annual rental value** system is the property assessment according to some estimate of rental or net rent, whereas the **capital value** system is based on market price. The property tax is regarded as the **fairest possible tax** (Eckert *et. al* 1990; Jessen *et. al.* 1999). The tax on land and property has been considered to be especially appropriate as a local revenue source to finance the local services. This is the primary argument for the property tax and it is called as rating taxes. The basis of assessment thus came to be the value of the land occupied, without much, if any, regard to ability or substance (Roger and Wilks, 1984). So the basis of calculating tax should be represented benefits received from the services. Therefore, annual value, land value or value of property can be identified as proper representation.

## History of Rating Assessment

Looking into the history of rating assessment, it seems to have a long history. In Britain, there was no systematic appraisal of supporting rationales for land taxation until the nineteenth century. A nationwide system of property taxation was introduced in the U.K. in 1601. By 1610 there had been some progresses. In Britain, from the latter part of the nineteenth century and from that time up through 1939, municipal authorities had made many attempts to persuade parliament to allow them to levy rates on land values, and, after 1950, with central government (in the form of the Valuation Office Agency) providing the taxable values. Over the centuries, this property tax, known as rates, evolved into an established and comprehensive system of raising income for local authority expenditure and was fixed annually by each local authority (Eckert *et. al.*, 1990).

The assessment function is the integral part of a property tax structure. According to various laws, the assessed value of property for tax purpose must represent either the full fair market, or cash value of the property or a specific percentage of such value. The simplicity of rating together with the certainty of yield make a rate particularly suitable for societies in which there is no machinery for collecting a more elaborated tax. Thus, rates were being levied at least from seven hundred years ago, and although the earliest on record – raised to maintain a sea-wall required payment by labour service instead of cash, it was not long before rate were collected in money.

The easiest form of tax to assess is the poll tax. With this tax, everybody pays the same amount. The advantage of this tax is that the total amount that can be raised from a community is limited by the sum which the poorest members of the community can afford to pay. According to this method, some members of the community had to pay the maximum amount that they could afford, whilst others could pay more. Hence, in order to raise large sums of money, it is necessary to adopt a method of taxation which takes into account a person's ability to pay. Such a system of rating, rates should be collected from persons who are enjoying the facilities provided by the Local Authority. It is very complicated process to determine the limits (Weddicombie, 1976).

Once this practice was established, the impression gradually formed that it was land which was rated and not persons. The basis of assessment thus came to be the value of the land occupied (Roger and Wilks, 1984). Basis of calculating tax should represent the benefits derived from the services. Therefore, Annual value, land value or value of property can be identified as proper representation. There are four main tax bases adopted by the countries for tax calculation. These are,

- i. Unimproved Value
- ii. Capital Value
- iii. Net Annual Value
- iv. Annual Value

The tax base is the object being taxed (Eckert *et. al.* 1990). It can vary, and some countries have several different taxes on property, each with a different base. In some countries, land and improvements are taxed; in other countries, only land is being taxed. The value taxed may be market value (the highest price a property will bring in a competitive and open market) or annual rental value.

The United States and Canada have one property tax, and the tax base is the market value of land and improvements. The United Kingdom has two different property tax systems such as the annual rental value of land and building as the base for non-domestic properties and capital market value as the base for domestic properties. France has three different property taxes, all of which are based on annual rental values. Denmark has a land tax, which is based on market value of the land alone and supplemented by a service tax based on the market value of buildings. Japan uses market value as base of taxes both land and improvements (Bird *et. al.* 2004). With the development of all sectors of the countries, taxation systems have also been amended to accelerate or control the development. As a result of that, rating systems also were changed and new methods have been introduced.

The choice between annual rental value and market value may not make a big difference if evidence is available on rent information or sale prices. However, annual rental values do not include the value of future development, and vacant land is not usually taxed. The usual standard of market value is that the properties should be valued at their highest and best economic use.

Except special cases, the normal ratable value is equal to net annual value. According to the annual value definition, hypothetical tenant assume to decide rental value of the property which are occupied by landlords or tenants. When it is considered the Annual Value of property using actual rented data, properties which are occupied by landlord does not represent the actual rental information. Therefore, assumption of hypothetical tenant is important to fix Annual Value to all properties (Roger and Hector, 1984; Bahl, *et. al.*, 1998). Comparison method can be directly applied for fixing annual value of the properties which are occupied by landlords. According to this method, it is assumed that, hypothetical tenant exist in the property. If the ratable value is the Capital Value of the property, then hypothetical transaction should be assumed with the prevailing condition of the property.

In the 20<sup>th</sup> century, new base of rating taxation was introduced from Rating & Valuation Act, 1925 and General Rating Act, 1967 in England. For properties other than domestic ones, the Uniform Business Rates (UBR) is applied as a tax. It is fixed by the central government based on the Annual Value of non-domestic property. According to the Local Government Finance Act, 1992, tax on domestic property is based on the capital value of each domestic

property. The value of any dwelling shall be taken as the amount which is defined as “dwelling might reasonably have been expected to realize if it had been sold in the open market by a willing vendor”. According to the above definition, Capital Value of the property is the current market value.

## **Method of Assessment on the Basis of Annual Value and Capital Value**

### **Annual Value Base**

There are four basic methods for find the rental in terms of either gross value or net annual value, depending on the statutory requirements. These are,

- i. Statutory formula
- ii. Rental method ( Direct or Indirect)
- iii. Contractor’s method
- iv. Profit or Accounts method

### **Statutory Formula Method**

The use of a formula does not involve valuation in the generally accepted sense of the world. It merely lays down an arithmetical method of finding the gross value or net Annual Value for certain hereditaments. The formula always from an Act of Parliament and can only be used for those hereditament specified by Act (Roger and Hector, 1984). The statutory formulas are long and complex method of valuation. In Sri Lanka, this method is not applied for rating assessment.

### **Rental Method**

**Direct Rental Evidenced:** Direct rental evidence is the actual rent of the actual property which is to be valued. ‘Prima facie’ it is fair to say that as the actual tenant and the actual landlord agreed to the rent passing in the open market, that is evidence of the rental value. Due to some limitations direct rental evidence can’t be applied for rating valuation purposes. Hypothetical tenant is assumed to overcome these difficulties in practice.

**Indirect rental Evidence:** If the property is of a type commonly let in the open market, there is a volume of evidence which can be analyzed and then applied to similar properties which may themselves not be rented. This method clearly requires care in its application and to be of use in estimating a rental value, these rents must be adjusted to reflect the statutory terms of tenancy envisaged in the definition of gross or net Annual Value as the case may be.

### **Contractor’s Method**

The contractor’s method consists of estimating the ‘Effective Capital Value’ of the premises and applying to this a rate percent in order to estimate the rental value. This method is applied for properties which are not available comparables. But there are number of arguments for this method. Therefore, if the accounts details are available from the property which are not comparables efficient methods, the profit method can be applied.

### **Profit or Accounts Method**

The profit method is used in cases where there is no true open market rental evidence and where the contractor’s method is inapplicable. This occurs frequently where there is an element of monopoly, either factual or statutory in the property which the landlord is letting. If, therefore, a tenant wants to enjoy that monopoly in that locality he must be prepared to pay the hypothetical landlord a share of his profits. As its name implies, the method centers on a treatment and study of the accounts; in fact its purpose is to show how much of the

trading surplus is available to pass on to the landlord by way of rent (Roger and Hector, 1984).

Out of these four methods indirect rental method is widely use method for valuation for rating purpose according to the Annual Value basis.

### **Capital Value Base**

According to the Local Government Finance Act, 1992 in Britain, tax on domestic property is based on the capital value of each domestic property. The value of any dwelling shall be taken into the amount which on the assessments mentioned defined as “dwelling might reasonably have been expected to realize if it had been sold in the open market by a willing vendor” However this definition is built based on several assumptions. These are,

- a. That the sale was with the vacant possession.
- b. That the interest sold was the freehold, or in the case of a flat, a lease for 99 years at a nominal rent.
- c. That the dwelling was sold free from any rent charge or other encumbrance.
- d. That the size layout and character of the dwelling and the physical state of the locality were the same as at the date the valuation was made.
- e. That the dwelling was in a state of reasonable repair.
- f. In the case of dwelling the owner or occupier of which is entitle to use common parts that those parts were in a like state of repair and that the purchaser would be liable to contribute towards the cost of keeping them in such a state.
- g. In the case of a dwelling, which contains fixture to which this sub paragraph applies that the fixture were not included in the dwelling such fixtures are those;
  - Which are design to make the dwelling suitable for use by a physically disabled person, and
  - Which add to the value of the dwelling
- h. That the use of the dwelling would be permanently restricted to use as a private dwelling; and
- i. That the dwelling had no development value other than the value attributed to the permitted development (Bird *et. al.* 2004).

According to the above definition, Capital Value of the property is a current market value. However, market value of the property depends on its position of occupation (if there is a monthly tenet secured from rent Act value of this property less than the vacant position), condition (if the property is physically obsolete value of this building lower than the newly constructed one) and etc. Further when consider the development vale of the property, value may be higher than the present market value, because, if this property is not in the highest and best use. Therefore, it seems that considering all these factors in valuing property for rating is not possible as it is very complex task. Accordingly, the Capital Value which is calculated for rating purpose is made based on the above assumptions.

Capital value of the property depends on the extent, access, shape, situation of the land and if there is a building, then the floor area, condition of the building, conveniences and appearance of the building etc. Valuation theorem shows that referring all above factors, five principle methods have been developed. All of these methods approach to same answer. Different methods of valuation are applicable as per the data availability.

### **Mass Appraisal System (MAS) of Property Valuation**

This is a new development of the science of valuation by the beginning of the 20<sup>th</sup> century. It concerns the appraisal of all taxable property in an assessment district. Hence, it is called as

“mass appraisal.” After the revolution of computers in the late 1960s, mass appraisal began to be referred to as “computer – assisted mass appraisal” or “CAMA” (Almy *et. al.* 1996). “Mass property valuation means the way of property valuation, when value is estimated not for an individual property, but value margins are estimated, employing the analysis of information collected about all the properties being valued.” (Bagdonavicius and Ramanauskas, 2004) Therefore, mass appraisal valuation can be defined as a systematic valuation of groups of real estate units performed on a certain date with the help of standard procedures and statistical analysis while individual valuation is focused on determining the value of individual property units. In 2001, the United Nations Economic Commission for Europe (UNECE) highlighted that the mass appraisal is performed in public interests and it is the systematic method to estimates of value.

### **Principle of Mass Appraisal**

Mass appraisal requires standardized procedures across many properties. Hence, valuation models developed for mass appraisal purposes represent supply and demand patterns of group of properties rather than a single property. Statistical methods are used to measure deviations of all sales within the population database from their mass appraisal values. Main advantage of this system is ensuring the valuation accuracy because formula-driven valuation methods minimize the reliance on the judgment of valuers and the honesty of tax payers (Dillinger, 1992). Mass appraisal techniques emphasize equations, tables, and schedules, collectively called models. Such models can be viewed as two-step processes, (a) Specifications of the basic models structure and (b) model calibration. In, Eckert *et al.* (1990) motioned three basic functions of mass appraisal system such as reappraisal, data maintenance, and value update. Mass appraisal techniques emphasize valuation models, standardized practices, and statistical quality control and it consists of four subsystems: (a) a data management system, (b) a sales analysis system, (c) a valuation system, and (d) an administrative system. These four sub systems are independent.

In the locational modeling, the traditional mass appraisal system has some limitations. It is needed to incorporate various methods to consider location as a factor within mass appraisal technique, and all which require the delineation of neighborhood or sub-markets. It is possible to derive individual models for each discrete sub- market or alternatively to employ an overall model encompassing several neighborhoods, where each neighborhood centers in the model as a dummy variable. The application of separate models for stratified homogeneous market subsets induces a problem of sample size, which could result in statistically unsound and biased results (McCluskey, *et. al.* 2000). Location attributes are the significant factor of the value of the land. However, there are some other variables which directly correlated with land and property values. Therefore, statistical analysis is essential to predict property value. This can be developed as a model.

### **Statistical Modeling**

Models may be physical, conceptual or mathematical and model is designed to test theories and predict the outcome of events (Eckert, *et. al.*, 1990). Property valuation model explain or predict the values of properties from real estate data. Therefore, Real Estate Models are constructed to represent the operation of forces of supply and demand in a particular market. There are three broad theories of value: the cost approach, the sale comparisons approach, and the income approach. For this research, cost approach is used which is based on the comparisons of sales and construction cost. In theory, there should be no difference between a tax on market value and a tax on rental value. Rahman (2006) mentioned that when a property is put to its highest and best use and is expected to continue to do so, rental value

will bear a predictable relationship with the market value; the capitalized net rental payments will be approximately equal to market value. The model structure developed in flexible and reflects the market and simple structure to produce satisfactory results.

### **Rating System in Sri Lanka**

After introduction of the Rating and Valuation Act 1925, and the General Rating Act 1967 in England, most of the other countries which are influenced by the English Law, follow these Acts for their local government taxations. As a result of the colonial administration in Sri Lanka, most of English enactments were introduced time to time. One of these enactments is the Valuation and Rating Ordinance 1946, which is based on England Rating and Valuation Act 1925. Section 01 this Act says that, “any Local Authority is empowered, authorized or required by or under the provisions of any other written law to make, impose or levy a rate or rates of the Annual Value of any property in any area the minister may, by order published in the gazette, declare that the provisions of this ordinance shall apply for the purpose of the making, imposition, levy, payment, collection and recovery of the rate or rates which may be made or levied by that authority for that area in respect of such year as shall be specified in the order and of every subsequent year” (Sri Lanka, 1980, Legislative Enactments of the Democratic Socialist Republic of Sri Lanka).

The rate percentage is decided by the Minister in charge of Local Government. According to the practice, all Local Authorities apply Annual Value basis for taxation purpose in Sri Lanka. With the evolution of local government administration system, Municipal Council Ordinance, Urban Council Ordinance, and Pradeshiya Sabha Act regularized the present local government administration system in Sri Lanka. These enactments are also imposed provisions regarding rates and taxes.

**Municipal Council Ordinance:** From the Section No: 17 of the Municipal Council Ordinance 1865, assessment for rating, collection of rates, penalties for tax evade etc are regularized. Section 140 says that tax should be based on the “Annual Value” of the property and Annual Value is defined in the Section 120 as mentioned below.

“Annual Value” means the annual rent which a tenant might reasonably be expected, taking one year with another, to pay for any house, building, land, or tenement if the tenant undertook to pay all public rates and taxes, and if the landlord undertook to bear the cost of repairs, maintenance and upkeep, if any, necessary to maintain the house, building, land or tenement in a state to command that rent (Ceylon, 1865; Municipal Council Ordinance, 1865).

**Urban Council Ordinance:** From the Section No: 160 to 172 of the Urban Council Ordinance 1988, assessment for rating, collection of rates, penalties for tax evade etc are regularized. Section 160 (1) says that, tax should be based on the “Annual Value” of the property and the Annual Value is defined in the Section 249 (1) as mentioned below.

“Annual Value” means the annual rent which a tenant might reasonably be expected, taking one year with another, to pay for any house, building, land, or tenement if the tenant undertook to pay all public rates and taxes, and if the landlord undertook to bear the cost of insurance, repairs, maintenance and upkeep, if any, necessary to maintain the house, building, land or tenement in a state to command that rent” (Ceylon, 1988; Urban Council Ordinance, 1988).



**Pradeshiya Sabha Act:** From the Section No: 134 to 167 of the Pradeshiya Sabha Act 1987, assessment for rating, collection of Rates, penalties for tax evade etc are regularized. The Section 134 (1) says that tax should be based on the “Annual Value” of the property and Annual Value is defined in Section 226 (1) as mentioned below.

“Annual Value” means the annual rent which a tenet might reasonably be expected, taking one year with another, to pay for any house, building, land, or tenement if the tenant undertook to pay all public rates and taxes, and if the land lord undertook to bear the cost of insurance, repairs, maintenance and upkeep, if any, necessary to maintain the house, building, land or tenement in a state to command that rent (Democratic Socialist Republic of Sri Lanka, 1987, Pradeshiya Sabha Act, 1987).

Definitions of the annual value indicated in the Urban Council and the Pradeshiya Sabha Acts are almost the same but in the Municipal Council Ordinance it is different. According to the definition of Municipal Council Ordinance, insurance expenses should be removed from the cost bearing by the landlord.

In general Local Authorities have many numbers of properties which are eligible for the purpose of rating. Therefore, present manual method of valuation take very long period. Further a considerable amount of assessment cost should be spent to complete the assessment task. Computer based information technology can be applied to overcome these difficulties. This is called computer aided Mass Appraisal System. In mass appraisal system, spatial analysis is very important.

### **Drawbacks of the Present Rating System**

The ambiguity of the definition of the Annual Value itself is a serious drawback. It envisages a hypothetical tenant in general. It is difficult for people to understand this ambiguous situation. Further the definition envisages the position of the tenant occupying a property for a continuing number of years. It does not make any reference to the cost or the investment. The owner occupier always argues that, this property will never be let and is not prepared to place himself. In the form of the hypothetical tenant and his argument is that the principle of the Annual Value is ambiguous. The local authority is determining the Annual Value for levied tax. The Local Authority has no legal right to change an assessment since it is done by the government chief valuer.

The delays caused by a third party making the assessment on behalf of the Local Authority are another serious objection. Difference between the Annual Value of owner occupied and tenanted houses is not clearly shown in determining the Annual Value of different properties.

Further drawbacks debated by the government valuation department are (a) No general assessment for long period, (b) Lack of transparency in valuation and identification of the property, (c) shortage of trained staff, (d) No clear idea about the basis of property taxation of property owners, (e) Reluctant to pay tax by the people without knowledge and there is higher amount of tax arrears. Therefore, core problems of the present tax assessment system are delaying assessment and argument of lack of rationalization.

### **Study Area**

Homagama Pradeshiya Sabha area is basically taken as the study area. It is situated 21km away from the City of Colombo along the High-Level road. The land extent of this area is about 115 sq.km including 91 Grama Niladari Divisions (GND). This area has already been

declared under the Urban Development Authority (UDA) and for all development activities UDA has prepared a development plan, to regulate and promote proper development of the area to provide economic social and physical infrastructure to the betterment of people in this area.

According to the Colombo Metropolitan Regional Plan (CMR) Homagama town is identified as 4<sup>th</sup> level town. Homagama town is interconnected with other surrounding towns such as, Athurugiriya, Kaduwela, Horana, Padukka, Ingiriya, Hanwella. Colombo – Avissawella road (High Level) A4, runs through the Homagama town center.

Total land extent of Homagama Pradeshiya Sabha area is about 13,820 hectares. Out of that 48% (6572 Hectares) are used for residential purpose. According to the census data in 2001, total population in Homagama Pradeshiya Sabha area was 197, 227. In the year 1981, it was 110, 836. Therefore, during the 20 year period, population was increased with 2.92% growth rate. According to the data available at the Divisional Secretariat office, in the year 2001, there has been 45,485 housing units with a density of population of 4.33 per units.

Rating area of Homagama Pradeshiya Sabha consists with seven wards No: 1 to Ward No: 7. Wards No: 1, 2 & 3 can be identified as more commercially and residentially developed area than other wards. Number of properties for each ward is given in the Table 3.4, according to the assessment of 1996.

**Table No 3.1 Area under rating and number of properties**

Ward Number	Area	Number of properties
Ward No: 01	Homagama West	3,540
Ward No: 02	Homagama South	2,410
Ward No: 03	Mawathagama	1,677
Ward No: 04	Habarakada	2,413
Ward No: 05	Panagoda	1,870
Ward No: 06	Godagama	1,269
Ward No: 07	Pitipana	1,851
<b>Total</b>		<b>15,030</b>

Source: Government Valuation Department

These numbers of properties are according to the reassessment of 1996. Normally reassessment should be carried out within five year period. But in Homagama Pradeshiya Sabha reassessment had not been carried out up to year 2008. However, after, the reassessment in 2008, it was expected to have increased the ratable properties by 25% to 30%. In the year 2008, 16 GNDs were declared as rating area of Homagama Pradeshiya Sabha out of its total 91GNDs. According to the Budget report of 2008, main income sources of the Pradeshiya Saba was rating tax in the year 2007 and they also targeted to collect highest amount of their income from rating in the year 2008. It was Rs 18, 049, 100/-

**Present Rating valuation system in Homagama Pradeshiya Sabha**

According to the normal procedure, the reassessment process follows several steps, which are given as mentioned below.

**Step one:** Preparation of 'current list' including assessment number, owner & description of the property by the Local Authority and sending it to the Government Valuation Department requesting to carry out a reassessment.

**Step two:** Local authority informs to property owners or occupier regarding new assessment through issuing letters to individual property owners or displaying a notice in common places or announcing.

**Step three:** Establish a special unit as a Rating Valuation Unit with Assistant District Valuers, according to the number of property existed in the related Local Authority with the supervision of District Valuer and establish a temporary office for valuation activities in the Local Authority.

**Step four:** Valuation officers inspect each property with the current list prepared by the Local Authority & drawing sketches of buildings with other information's regarding each property noted down in specially prepared rating cards or field book. (Annexure 03)

**Step five:** Prepare 'norms' indicating surrounding rental details and calculating rent per square foot for each ward separately.

**Step six:** After preparation of norms, a senior valuation officer inspects each property and fixed annual value for each property considering floor area conveniences condition & other factors analyzing with the norms.

**Step seven:** Valuation Department prepares 'property list' including assessment number, owner, description of property & revised annual value and send it to the local authority.

**Step eight:** Local Authority sends written information called "K" form to each property owner including assessed value of property and tax.

**Step nine:** Any person who has been assessed to a tax may raise objection to the valuation or assessment by a petition in prescribed form to the Local Authority within thirty days from the date of receipt of the notice. The petition is heard and decision is given by an Assessment Review Board (ARB)

According to the above assessment steps, both Local Authority and the Government Valuation Department should have a proper coordination to success this task.

### **Data analysis**

For this study the basis of model building is a combination of cost approach and the comparison method. Land value and building value has been separately calculated on the basis of data collected through the comparative method. Finally both values merge together to find the property value. The land value was collected from the land sales within the Homagama Pradeshiya Sabha area where as the per square foot value of the building is the standard value applied by the Government Valuation Department. It is the Depreciated Replacement Cost (DRC) of the square foot of the each building calculated according to the collected sales of property data with the bench mark price report. The value is adjusted in accordance to the knowledge of available information on building cost. The data for other variables were collected from the rating cards maintained by the Government Valuation Department. Accordingly the following attributes were considered. Extent of the land (EOL), Accessibility of the property (AOP), Location of the Property (LOP), Distance from the city center (DFC), Nature of the construction (NOC), Condition of the Building (COB), Floor area of the building (FAB), Age of the building (AOB), Type of the floor (TOF), Design of the building (DOB) Type of the building (TOB).

The selected sample consists a total of fifty residential properties, collected from three clusters on random basis. The clusters were selected where the cadastre maps have been

completed. Data was collected through semi structured interviews held with land sales and property owners as primary sources whereas rating cards used as the secondary sources.

The two equations are as follows.

$$Y_1 = b_0 + b_1 (AOP) + b_2 (LOP) + b_3(EOL) + b_4(DTMR).....(1)$$

Where, Y1 is the estimated value of the land and b1 to b4 are the regression coefficients of independent variables. The independent variables are.

Extent of the land (EOL), Accessibility of the property (AOP), Location of the Property (LOP), Distance to the Main road (DTMR)

$$Y_2 = b_0 + b_1 AOP+ b_2LOP+ b_3 NOC + b_4 COB + b_5 FAB+ b_6 (CONB).....(2)$$

When Y2 is the estimated value of one square foot of building and b1 to b5 are the regression coefficients of independent variables. These independent variables are,

Convenience of the Building (COB), Accessibility of the property (AOP), Location of the Property (LOP), Nature of the construction (NOC), Condition of the Building (COB), Floor area of the building (FAB), Age of the building (AOB), Type of the floor (TOF), Design of the building (DOB),Type of the building (TOB)

Y<sub>1</sub> and Y<sub>2</sub> are multiplied from the extent of the land and extent of the floor area of building respectively, to derive the value Y, for each property as property value.

$$Y = Y_1 \times (EOL) + Y_2 \times (FAB) .....(3)$$

### Descriptive Statistics of the Variables

This section summarizes the distribution of the variables such as the range, minimum and maximum distribution as well as the mean values.

**Table 4.1 Descriptive statistics of variables**

Variable	Minimum	Maximum	Mean
Floor area of the Building	516	3260	1644.70
Extent of Land	4.50	32	17.48
Value of land	223500	325000	265560.80
Value of Square foot of Building	1500	2200	1773.00
Distance to the Main Road	22	482	248.04
Age of the building	05	30	15

Source: Compiled on the basis of survey data

Accordingly it indicates that the floor areas of the buildings are more than 1500 sqft, and the extents of the land lots are more than 15 perches. The average land value of each plot is above Rs. 250,000 and the reinstatement cost of building value per sqft is above Rs. 1500.

All the properties are around 240 meters away from the main road. The buildings are around 15 years old.

**Table 4.2-Coefficient of each variable of Land value Model**

Model	Description	Un standardized Coefficients		Standardized Coefficients Beta	t Sig.	
		B	Std. Error		B	Std. Error
1	(Constant)	299027.88	4626.709		64.631	.000
	Distance to the Main Road	-134.92	16.255	-.768	-8.300	.000
2	(Constant)	280447.35	9555.246		29.350	.000
	Distance to the Main Road	-120.78	16.916	-.687	-7.140	.000
	Extent of Land	861.83	392.148	.212	2.198	.033
3	(Constant)	235524.95	24131.614		9.760	.000
	Distance to the Main Road	-117.54	16.468	-.669	-7.138	.000
	Extent of Land	828.88	380.312	.203	2.179	.034
	Accessibility to the property	462.69	229.531	.175	2.016	.050
4	(Constant)	163090.29	34768.385		4.691	.000
	Distance to the Main Road	-116.50	15.419	-.663	-7.556	.000
	Extent of Land	894.42	356.763	.220	2.507	.016
	Accessibility to the property	643.99	224.790	.244	2.865	.006
	Location of the Property	581.69	212.272	.232	2.740	.009

Source: Compiled on the basis of survey data

**Table4. 3- Model summary of Land Value model**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.768(a)	.589	.581	16046.37882
2	.792(b)	.628	.612	15442.13078
3	.811(c)	.658	.636	14962.20019
4	.841(d)	.707	.681	14004.12193

Source: Compiled on the basis of survey data

Distance to the main Road (DTMR) represent 58.1% of the land value in the model (a). it is significant at 1%. The adjusted R square in the model (b) is 0.628 and it indicates the two

variables account for 62.8% of land value variations. Entry of Extent of the land into the model increases the R square value by 3.9%. Accessibility to the Property is the third variable to enter the equation (c) and its explanatory power of the regression equation increases to 65.8 percent that means the entry of ACTP in the model increases R square by 3%. The final model, the explanatory power of the regression equation increases 70.7 percent and the last variable to enter the equation is LOP. Entry of LOP in the model increases R square by 4.9 percent.

**Table 4.4-Coefficient values of Building Value model**

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	1281.374	46.456		27.582	.000
	Condition of the Building (1)	7.003	.629	.849	11.129	.000
2	(Constant)	1196.961	42.795		27.970	.000
	Condition of the Building	5.183	.654	.628	7.922	.000
	Age of the Building (2)	2.972	.636	.371	4.672	.000

Source: Compiled on the basis of survey data

**Table 5- Summary of Building Value Model**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849(a)	.721	.715	101.66035
2	.900(b)	.809	.801	84.89400

Source: Compiled on the basis of survey data

Condition of the Building (CONB) represents 72% out of the variation of the building value. The second variable to enter the equation is the Age of the Building (AOB). This is the second most important variable in explaining building value. The adjusted R square in this model 0.809 means that the two variables account for 80.9% of building value variations. Entry of Age of the Building in to the model increases the 8.8%.

However, through this stepwise regression analysis, the other factors measured were insignificant in explaining variations and excluded from the final model. These are, Accessibility of the property (AOP), Location of the Property (LOP), Nature of the construction (NOC), Type of the building (TOB), Type of the floor (TOF), Design of the building (DOB) and Condition of the Building (COB). Since the property value is the

addition of both land value and the building value the following model is suggested as the final.

**Property valuation Model:** This model can be interpreted with the combination of above two models, Land Valuation Model and Building valuation Model,

Example : (Valuation of the land & building bearing assessment No: 20)

$$\text{Property valuation Model} = \text{EOL} [163090.29 - 116.502 (\text{DTMR}) + 894.442 (\text{EOL}) + 643.995(\text{ACTP})] + 581.694(\text{LOP}) + \text{FAOB } 1196.961 + 5.183 (\text{CONB}) + 2.972(\text{AOB})$$

$$\text{Property valuation Model} = 19.5 \ 163090.29 - (116.502 \times 200) + (894.442 \times 19.5) + [(643.995 \times 100) + (581.694 \times 80)] + 1419 \ 1196.961 + (5.183 \times 100) + (2.972 \times 80)$$

$$\text{Property valuation Model} = 5,229,217 + 2,771,307$$

**Property value of Assessment No: 20 = Rs.8, 000,524/-**

### Conclusion

The information proves that the present rating system is arguable. Hence, in order to overcome the deficiencies involved in the rating valuation process followed by the annual value method a new approach is in need. The developed countries applied the capital value approach. Therefore, the possibilities to apply the same capital value approach was evaluated in Sri Lanka. On the basis of factors influence such as spatial and physical factors to determine the market value this value calculation was developed. As the Government Valuation Department primarily continues the data collection on the basis of rating cards that same data is considered to precede the capital value. The analysis indicates six main factors effect on the land value and the building value. Hence, the total of both values can be regarded as the property value. The calculation is easier than the annual method and as the capital value is somewhat higher than the annual value, the amount of rates collected is increased. Further, by developing land value base maps for selected areas the method is accelerated and become more efficient as well as improve the unity in the valuation.

### References

- a) *Almy, Gloudemans & Jacobs, (1996), Analysis of Assessment Practices (http:// Google Scholar Accessed on 10/10/2012*
- b) *Bagdonavicius, A. and Ramanauskas R., (2004), Introducing a computerized Market Value based Mass Appraisal System for real property Taxation in Lithuania, FIG Working week, 2004 May 22-27, Athans, Greece*
- c) *Bahl, Roy W., (1998). Land Taxes versus Property Taxes in Developing and Transition Countries. In Netzer, Dick (ed.) (1998). Land Value Taxation. Can It and Will It Work Today? Lincoln Institute of Land Policy. Cambridge, Massachusetts, USA.*
- d) *Bird, Richard M. and Slack E., (2004), International Hand book of land and property taxation, Edward Elgar, Cheltenham, UK*
- e) *Ceylon, (1988), Urban Council Ordinance.*
- f) *Ceylon, (1865), Municipal Council Ordinance.*
- g) *Democratic Socialist Republic of Sri Lanka, (1987), Pradeshiya Sabha Act*
- h) *Democratic Socialist Republic of Sri Lanka, (1987), General Rating Act*
- i) *Dillinger, W., (1991). Urban Property Tax Reform. Guidelines and Recommendations. World Bank - Urban Management and Municipal Finance. Washington D.C., USA.*

- j) *Eckert, J.K.; Gloudemans, R.J.; and Almy, R.R., (1990), Property Appraisal and Assessment Administration, International Association of Assessing officers, Chicago, USA*
- k) *Gloudemans, (1999). Mass Appraisal of Real Property. The International Association of Assessing Officers. Chicago, USA.*
- l) *Homagama Pradeshiya Sabha, (2008), Annual Report, Homagama Pradeshiya Sabha, Sri Lanka*
- m) *Jessen, Christian, Soderberg, Bo,(1999), Estimating Market Prices and Assessed Values for Income Properties, Urban Studies, 36(2) 359-376*
- n) *McCluskey WJ, Deddis, WG, Lamont, Ian G and Borst, Richard, A, (2000), The Application of surface generated Interpolation models for the prediction of Residential Property values, Journal of Property and Finance Vol 18(2) 162-176*
- o) *Mizanur Rahman, (2006), "Development of Valuation Model for Residential Property, integrating self-declaration, Dhaka city", Unpublished M.Sc. Thesis, ITC , Netherlands*
- p) *Roger Emeny, Hector M. Wilks,(1984), Principles and Practice of Rating Valuation, The Estate Gazette Limited, London, UK.*
- q) *United Nations, (1995), Municipal Land Management in Asia, United Nations, New York, USA*
- r) *Sri Lankan Government, (1999), Report of the Commission of Inquiry on local Government Reform, Government publication, Colombo, Sri Lanka.*
- s) *Widdicombe, D., Trustrum, D., Eve, Anderson, A., (1976), "Ride on Rating, London", U K.*
- t) *UDA, (2003), Homagama Pradeshiya Sabha Development Plan, Planning Division, Urban Development Authority, Sri Lanka*