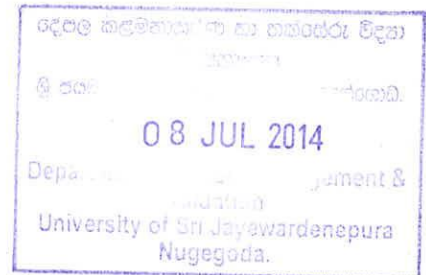


**Effect of Scenic View on Residential Property Values:
Application of Hedonic Pricing Model.
Special Reference to Millennium city- Athurugiriya**

**Dissertation Submitted to the
University of Sri Jayewardenepura
as a Partial Fulfillment for the
Requirements of the Final Examination of the
M.Sc. in Real Estate Management and Valuation
Degree**



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The work described in this dissertation was carried out under the supervision of Mrs. Janakie Edirisinghe, Head of the Department, Senior Lecturer of the Department of Estate Management & Valuation and Mr. H.M. Premthilaka, Senior Lecturer of Department of Estate Management & Valuation and any report this has not been submitted in whole or in part to any university or any other institute for another degree / examination or any other purpose.

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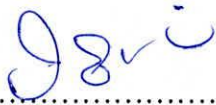

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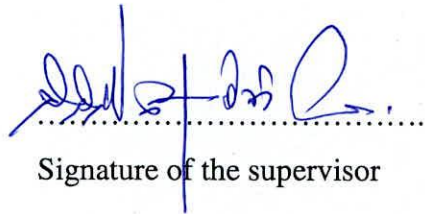
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Hereby we certify that Mr. Darshana keerthi Abeysekera, GS/M.Sc./REMV/3752/09, duly completed the research titled "Effect of Scenic View on Residential Property Values: Application of Hedonic Pricing Model (Special Reference to Millennium city- Athurugiriya)" under our supervision & recommended to submit for the final submission.

Also it is declared that, this final report has been completed according to the instructions and suggestions made by the board of examiners.



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ABSTRACT

The Millennium city- Athurugiriya is the pioneering project in mega township development for the first time in Sri Lanka. The township is made up with 1575 houses which are spread over an area of about 125 Acres. This study examines the effect of Scenic view on residential property values through the application of Hedonic Pricing Model. The case study of the research is Millennium City- Athurugiriya. A questionnaire was used to measure the willingness to scenic view on residential property in different stakeholders. The effect of scenic view on residential property values by analyzing sample of title deeds prices. A hedonic analysis was undertaken using a sample of 310 sales transactions in the Millennium City Athurugiriya. For comparative purposes values of these properties were used as an alternative dependent variable. While most of the earlier studies have used only a dummy variable for view, but more recent studies used both dummy and continuous variables measuring the view source. Hence both dummy and continuous variables were used to measure the view factor in this study.

Consideration on the scenic view depends on their employment, educational level and salary scale etc. The premiums on lots adjacent to the lake were Rs.1, 122,000 and Rs.446, 556 based on sales prices and values respectively. These premiums represented 24% of the average sales price of the homes, and 8.6% of the average value of the homes. Values were also found to decline significantly with distance to the lake (by Rs. 529 per meter from the lake). Results show that views of the lake in Millennium City has significant impact on home value in the study area. On average, a wide water view could increase the mean house value by 19.4% .while a home value could increase 12.9%, 6.46% with medium and narrow view scale respectively, compared with a no view property in the same area. The results lead to the conclusion that scenic views are multi-dimensional and can have a substantial impact on residential property values. This research facilitate to valuers, as another approach for valuation practice to minimize the personal judgment regarding scenic view value of property. And also this study provides information to incorporate environmental quality and amenity values in to future property valuations and environmental impact assessments.

This study is the first phase of the investigation into the impact of the scenic view on the residential property values. It is proposed that other submarkets be included in this study for comparative purposes.

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ABBREVIATIONS

ATD	Abstract of Title Deed
BOI	Board of Investment
CBD	Central business district
GDP	Gross Domestic Product
GIS	Geographic Information System
HPM	Hedonic Price Method
IVSC	International valuation standard committee
LR	Land Registry
UDA	Urban Development Authority
ICTAD	Institute of Construction Training and Development

CHAPTER 01

Introduction

1.1. Background of the Study

One of the most pleasant occurrences in life is the feeling derived from a view of a large body of water. Various bodies of water generate amazingly beautiful color schemes. It should come as no surprise, then, that people seek to be near water and have a view of it. It should also be expected that the view of water from homes has a positive impact on the demand for these properties.

Lang and Jones (1979) stated that the value of a residential property depends on its physical and locational characteristics. The number of rooms, age of the property, condition of the building, and size of the lots are important physical characteristics that are usually and easily measurable. Variables pertaining to the location of a property should comprise neighborhood quality variables, but also variables measuring the relative location of properties within a city. The quality of neighborhoods is often measured using socio-economic variables such as median income or the unemployment rate. Variables pertaining to the location of properties can in some cases be measured using a Geographic Information System (GIS). Examples of this include distance to the central business district (CBD), to shops, or to schools. Other variables such as the quality of landscaping require an on-site inspection.

Paterson and Boyle (2002) stated that assessing the quality of a view also requires an inspection of the property, although advances in GIS could permit the precise measurement of views in the future using topographical data.

Environmental protection is one of the principal concerns in the 21st century. The environment is a public good, meaning it belongs to “everybody” while it belongs to “nobody” exclusively (Gundimeda, 2006). The costs of protecting the environment can be substantial and also measurable, but there is always a question, how to measure the benefits of protecting the environment. If individuals want to buy a consumer

good, for instance a property, the benefit derived from the property will be at least equal to what the individuals are willing to pay for that. So the market price can be used to calculate the individual's willingness to pay and is indicative of the economic value of the good to that individual.

In the case of environmental goods and services, there is no market value. To measure the environmental value some market or nonmarket valuation techniques are required, which can be based on the same principle of an individual's willingness to pay for environmental derived benefits (Gundimeda, 2006). A number of techniques are available to value the environmental goods and services. These can be categorized into revealed preference and stated preference techniques. In revealed preference methods, individuals indirectly reveal the willingness to pay for environmental goods through market and surrogate market prices. In stated preferences, the individuals are directly asked what their willingness to pay is. These techniques can be classified according to the method used for valuation ie, market based, surrogate market or non-market based. The Hedonic Price Method (HPM) is a revealed preference method of valuation. The hedonic price method of environmental valuation uses surrogate markets for placing a value on environmental quality. The real estate market is the most commonly used surrogate in hedonic pricing of environmental values because it shows the willingness of the households to pay for a property.

Hedonic property models are predicated on the theory that the prices of heterogeneous goods reflect the component values of those goods' characteristics (Rosen, 1974). Households make their purchase decisions based on a number of structural, environmental and neighborhood characteristics. Market price as the equilibrium price shows the value of property attributes. The Hedonic Price Method is a tool to separate out the environmental component of value from the observed market price and use that as a surrogate for the environmental value. It is assumed that proximity to the beach and water views are among the most influential factors in a household's decision to purchase a property in coastal neighborhood areas. This method has been used extensively in the economics literature to measure the impact of a given resource, such as a beach, river, or lake on the value of locating properties close to the resource. This proximity consists of two separate benefits households derive from

living close to the resource, namely access and views. Historically, a view was sought primarily for strategic reasons: a dominating spot would enable the owner to be aware of possible intruders. Today, a view is sought mainly for aesthetic reasons (Bourassa, 1991). Although good views are often associated with easy access to nature, the two effects should clearly be disentangled. Access to nature permits various physical activities and can be measured using distance variables.

Mainly researchers have focused on the impact of water views (ocean, lake and river), with other types of views (e.g. mountains, parks, forest, etc) being examined less often. Previous research has demonstrated that an appreciable view tends to have a positive impact on residential values with very few studies finding no significant price effect for a comprehensive survey of past studies on the impact of a view on house values. While most of the earlier studies have used only a dummy variable for view, but more recent studies use both dummy and continuous variables measuring the view source (Bourassa *et al*, 2003).

1.2. Problem Statement

Market price of a good determine through the market mechanism i.e. demand equals supply. So in the case of real estate market, market value is “the estimated amount for which an asset (property) should exchange on the date of valuation between a willing buyer and a willing seller in an arm’s length transaction after proper marketing wherein the parties had each acted knowledgably, prudently and without compulsion” (Definition of international valuation standard committee (IVSC)). So that the structural, neighborhood and location attributes are lead to determine the market value of houses. Land market is distorted by the heterogeneous nature of land, lack of market information and imbalance of knowledge and negotiating skills of buyers and sellers. On the other hand seller or investors do not have knowledge on how the market value of houses is determined and what is the most significant factor which determines the value of houses.

The value of real estate is based on several internal and external attributes. Location availability and access to facilities, surrounding environment etc are some key external characteristics that any person concerns on buying decisions. Especially the

environmental characteristics play a key role in determining value of residential properties. Though the weight given for such characteristics sometime depend on socio economic background of people, personal preference etc. People searching for better housing in urban or semi- urban environment are much concern on these environmental attributes. Hence they prefer to pay more for positive environmental attributes like scenic view, pollution free environment conversely the residential properties located in the areas of poor environmental quality have low value.

The conventional valuation methods applied to assess the value of properties have no mechanism or provisions to capture those increased or reduced value due to such environmental attributes. As a result the value addition or reduction due to environmental attributes is not explicitly declared through normal property valuation methods. Besides this issue in some occasions properties are undervalued (when positive environmental attributes are in existence) or overvalued (when negative environmental attributes are in existence) Due to these two weaknesses in the normal valuation methods, the value of properties (residential as per this research) in some occasions does not reflect the true value or the figures can be sometime distorted.

There is an inadequate of studies on the effect of scenic view on residential property market in Sri Lanka mainly due to general absence of data on marginal values. So Lack of studies on residential property market, scenic view value factor is the hidden value of residential property. Arbitrary decisions of real estate companies on fixing of scenic view value may further affect negatively to residential property market. Although the Hedonic Price Model is widely used by developed countries to overcome difficulties arises in identifying and quantifying the property attributes of residential property market, in Sri Lanka there is no evidence of using this technique in the field of property valuation. Hence this study attempts to analyze the effect of scenic view on single-family, residential home property values through Hedonic Price Model.

1.3. Significance of the Study

Structural, neighborhood and location attributes are lead to determine the market value of houses. But especially stakeholders are imbalance of knowledge in the real estate market in Sri Lanka. Thus the seller or investor do not have knowledge on the most significant factor which determines the value of house and what is the value of view factor determining the value of houses. So seller identified most value attribute properly then he can market that factor or changing adverse factors from the subject property and he can get the higher value to houses. Therefore it needs to identify the housing characteristics and their individual contribution on determining market value of houses. On the other hand, the buyers also may pay higher value than the market value of a property. This research facilitates the stakeholders in having a sense of balance of knowledge in the real estate market in Sri Lanka. And also this study provides some guidance to stakeholders to consider the environmental aspects in property valuation.

Valuers, planners, and local communities need quantitative information regarding residents' valuation of environmental amenities, including open space. What is the effect of scenic view on residential property values? This question is relevant for several reasons. The answer will help the valuers to value homes and properties. It will help developers, buyers and planners who make decisions regarding future communities. It will help local governments to make fiscal decisions regarding the provision of open space public goods. Consequently, studies on residential property markets are very crucial to policy making agencies to have an overview on the scenic view value of residential property market as well as for the valuation practitioners to identify and quantify the scenic view factor which affect the value of residential home property. The method followed by the traditional valuers is subject to their judgments. Therefore, another approach is needed for valuation practice to minimize the personal judgment at the same time to enable to accelerate market transactions. This research facilitate to valuers, as another approach for valuation practice to minimize the personal judgment regarding scenic view value of property. And also this study provides information to incorporate environmental quality and amenity values in to future property valuations and environmental impact assessments.