

Samarawickrama, Sumanthri, et al (eds), 2018, "Sustainability for people - envisaging multi disciplinary solution": *Proceedings of the 11th International Conference of Faculty of Architecture Research Unit (FARU), University of Moratuwa, Sri Lanka, December 08, 2018* Galle pp. 333–340. ©

URBAN WATER BODY DEVELOPMENT FOR RECREATIONAL PURPOSES IN SRI LANKA: A comparative study of public perception and willingness to pay

RATNAYAKE. R¹, WICKRAMAARACHCHJI. N² & WATTEGE. P³

¹Department of Town and Country Planning, University of Moratuwa, Katubedda, Sri Lanka

¹*rangajeewar@uom.lk*, ²*naduniwick@gmail.com*, ³*wattage@port.ac.uk*

Abstract

This study explores public perception and their willingness to pay for open water area recreational development in two distinct locations: Diyatha Uyana, Sri Jayewardenepura Kotte and Beach Park, Matara in Sri Lanka. A total number of 600 questionnaire surveys were carried out with users and non-users of the recreational areas in two locations. The monetary value of urban waterfront development was estimated by the Contingent Valuation Method (CVM) using payment card approach. Enjoying peace and relaxation, taking children to play and breath clean air was mentioned as the most important aspects of open water body in Diyatha Uyana area. In Beach Park, the most important activities were chatting or gather with friends and enjoy the natural landscape. More frequent visits occur to enjoy peace and relaxation, breath clean air and enjoy the natural landscape. In both cases, almost all the participants were agreed upon conserving open water body areas in urban settings. Willingness To Pay (WTP) was significantly associated with job and gender in Diyatha Uyana. It yielded a monthly average payment of Rs. Rs.476.93 per month for another five years. In Beach Park, participant's education level, have a child, housing type and time lived in the area were significantly associated with the WTP values. The monthly average WTP was Rs.211.53 per month for another five years. There were 81 zero bids in Diyatha Uyana while the same for Beach Park was 20. The limited budget was the main reason for not willing to pay in Diyatha Uyana. This program was not important to people in Beach Park and it was the reason for not willing to pay. In Sri Lanka, current urban development practice mainly promotes water body development in the Colombo Metropolitan area. The findings of this study argue that water body based planning initiatives are also useful for regional centres and such investments can be justified. Further, this paper is significant as there was no comparative CVM study had been carried on water body development in Sri Lanka.

Keywords. *Urban open recreational area, Valuation of Ecosystem, Willingness to pay*

1. Introduction

Promoting healthy lifestyle practices through city planning techniques has become famous around the globe (De Silva et.al,2017) as more and more concerns raised on decreasing physical activities as a direct cause of health problems. Provide sufficient open spaces for the citizens to engage in physical, social and recreational activities has become an indicator of the livability and the sustainability of a modern city (Chieura, 2004; Jim & Chen, 2006; Ratnayake, 2013; Ratnayake,2017; Butt, A., Ratnayake, R., & Budge, T. (2016). Following the planning concepts of healthy living, Sri Lanka has started the revitalisation of urban water bodies in recent history. Whistle the program gained public attraction and political attention, it lacks studies on estimating the monetary value of urban water body recreational facilities. Valuation of ecosystem services by attaching a monetary value to such services is more effective means of highlighting the importance of these natural resources and also a tool to justify the development projects on a common ground (Hanemann, 1994; Wickramaarachchi, Ratnayake, & Wattage, 2017).

This study aims to assess the monetary value and the willingness to pay (WTP) of users and non users for recently revitalised two open water bodies in two different provinces of Sri Lanka by using the state preference approach. The stated preference research techniques come under the environmental, economic valuation approach and commonly use in estimating the monetary value of non-economic goods such as greenery, water bodies, and parks. In this family of approach, the Contingent Valuation Method (CVM) has been increasingly used in valuing environmental goods (Lo & Jim, 2010; Wickramaarachchi, Ratnayake, & Wattage, 2017) including non-use values (Wattage & Mardle, 2008).

In this study, we have used a comparison of two WTP studies to find out regional differences in preferences over open water bodies using the same questionnaires. This would give us an indication of how utility differences in two distinctive regions would influence the WTP for similar environmental commodities. Both locations are an identical situation of city areas, yet economic activities are somewhat different mainly due to the regional differences.

2. Study areas and Methods

2.1 STUDY LOCATION 1- DIYATHA UYANA, SRI JAYEWARDENEPURA KOTTE

Two study sites have been selected for the purpose of the study: Diyatha Uyana in Sri Jayewardenepura Kotte area (Hereafter known as Diyatha Uyana) and Beach Park in Marata MC area (Hereafter known as Beach Park) in Sri Lanka. Sri Jayewardenepura Kotte (SJK) is the legislative capital of Sri Lanka, located 8km southeast to the commercial capital of Colombo. Currently, a municipality governs and has developed into an urban area featuring a number of urban characteristics. SJK is a planned city with a number of government building including the Parliament of Sri Lanka and ministerial buildings. Despite the urban development of the area, SJK has still contained lagoons, swamps marshy lands and paddy fields. In terms of the demographic characteristics, this municipality has a population of 107,925 living in an area of 17 km². Age distribution of the population shows 70.3% of the population is in 15-64 year age group while 18.3% in 0-14 year age group and 11.4% of the population over 65 of years. The research site of Diyatha Uyana and surrounding areas are situated in SJK. It was established in 2012 under the guidance and close supervision of Urban Development Authority and the Secretary of Defense. The area sits between the Parliament complex and the Diyawannawa Oya. The marshy land on the banks of Diyawannawa Oya has been converted into parks with walking tracks, children's play areas, restaurants and small shops.

“Beach Park” is located in the Matara Municipal Council (MC) area. It is a major regional city on the coast of Southern Province, located 160 km away from the commercial capital of Colombo. It is the main commercial hub and the administrative capital of Matara region. It was gravely affected by the Asian tsunami in December 2004. Matara historically belongs to the area that was known as the Kingdom of Ruhuna, which was one of the three kingdoms in Sri Lanka. In the 16th and 18th centuries, Matara was ruled by the Portuguese and the Dutch respectively. Matara, as the commercial center of Sri Lanka's South, consists of high buildings with many business activities where many reputed companies from Colombo having their branches in the city. Matara's main tourists' attractions are its ramparts, Dutch architecture, a well-preserved fort, its street life and the beach area.

In terms of the demographic characteristics, similar to SJK area, Matara MC area has a population of 114,970. Considering the ethnic identities, Sinhalese are the majority ethnic group with 95% of the population. Age distribution of the population indicates that 65.1% is in 15-64 year group while 24.9% in 0-14 year group and remaining 10.0% is over 65 years. In Matara district total employed population is reported as 281,241. The research site “Beach Park” area has been developed to provide recreation, relaxation, refreshment, entertainment and physical wellness to all visitors irrespective of their sex, age and class. It spans a length of nearly one kilometre and has become a very popular leisure resort at Matara, particularly during weekends and public holidays. Many trip goers including school children and tourists also stop over at this beach park for a break and for partaking of meals.

The comparison of the two parks has used CVM to estimate WTP for preservation and management of the open water body recreational areas in two sites. User and non-user perspectives and attitudes on the development and conservation of open water bodies were also measured. Both studies were used a questionnaire-based approach to assess the economic value of non-market goods. CVM uses three different formats and their variations when eliciting monetary value: Dichotomous choice with and without follow-ups, open-ended, and payment card approach (Venkatachalam, 2004, Wattage & Mardle, 2008). Previously, both dichotomous choice and open-ended payment card approaches have been commonly used in assessing the economic value (Lo & Jim, 2010). However, both methods face practical limitations. The dichotomous method seeks participants' willingness or unwillingness (saying “yes” or “no”) to pay for a chosen amount. Even though this question is easy to understand by the participants, it requires a large sample size and also it restricts having an actual preferred value of the respondents. The open-ended method provides a better variety of participants' preferred value. However, it requires participants' understanding of the bidding system. Payment card approach has been emerged as a hybrid of these two approaches and has been adopted in recent studies (Jim & Chen,

2006). The current study used both open-ended and dichotomous without follow-ups approach.

The design of the questionnaire is important in contingent valuation studies (Tyrvaainen & Vaananen, 1998). The questionnaire starts with a brief introduction explaining the aims of the survey. The first section of the questionnaire explored the respondents' level of participation in different activities in surrounding areas of Diyatha Uyana and Beach Park. First, eight groups of questions seek the importance of open water body for the users and non-users in different activities. Next question recorded the frequency of participation in the above eight activities. Final question under section one explored the challenges when using the open water body. Section two explored respondents' perceptions of conserving open water bodies. The first question asked whether conservation is important for the users and non-users. Next two sets of debriefing questions were used depending on the response to question 4, i.e., *Do you think the conservation of open water body is important to you?* If the answer was yes, they were given a scaling question with eleven statements to rank the importance of conservation of open water bodies. The negative respondents were also given a scaling question with nine statements to rank the negative effects of conserving open water bodies.

The WTP questions started with a hypothetical statement mentioning the reduction of public open spaces in both locations. Respondents were recommended to consider their financial circumstances before filling these questions. The respondents were asked to state their WTP for conservation and development of open water body of a given amount (Rs.1000.00 per month). This amount was selected as an equal average amount of normal monthly fee for a Gymnasium in this area. Then an open-ended question was given to participants to bid their maximum payment. After stating their WTP, positive bidders were presented with an open-ended question to know the motives of their action. Non-positive bidders (Rs 0) were presented another open-ended question to see the rationale behind choosing not to pay for the open water body revitalizing program. The questionnaire ends with 12 questions gleaning respondents' socio-economic characteristics. Such data helped to assertion whether socio-economic status affects the WTP. A total of 600 people were chosen for the survey in both locations. The simple random sampling procedure was used in selecting the sample. Ten university students were recruited to conduct the survey in August 2017 in Diyatha Uyana while the Beach Park study was conducted in July 2018. The survey was carried out on the site and also at neighbourhood houses. The data were analyzed using SPSS software. Linear regression models were constructed to identify the factors associated with the stated WTP.

3. Results

3.1 SOCIOECONOMIC CHARACTERISTICS OF RESPONDENTS

A total number of 600 questionnaires were completed by face to face interviews or by the respondents themselves in both locations. Socio-economic profile shows the variation of participants of the study. This may have some impact on the stated WTP values. Reflecting the Age difference of the sample, more than fifty percent of the respondents of the Beach Park was under 30 years bracket while more than sixty percent of Diyatha Uyana respondents were in 30-40 age group. In terms of income, nearly half of the participants fall within the Rs 50,000-100,000 monthly income bracket in Diyatha Uyana, but in Beach Park, it reduces to 9.2 percent.

3.2 IMPORTANCE AND CHALLENGES OF THE USE OF URBAN WATER BODIES

The survey gathered information on the importance of open water bodies, the frequency of uses and challenges faced by users and non-users. In general, visits to open water bodies are prompted by different activities. Participants were asked to rank the importance of the open water body against nine statements on a Likert scale. The aggregate score is calculated by summing the weights given starting from -2 for strongly disagree, - 1 for disagree, 0 for neither agree or disagree, 1 for agree and 2 for strongly agree. The results show the differentiation of the perspectives on the importance of the open water body in the two different locations. Provide peace and relaxation ranked as the most important aspect of the open water body among Diyatha Uyana participants, chat or being with friends was ranked as the highest important aspect in Beach Park (*Table 1*). Chat or gather with friends was ranked as the 6th at Diyatha Uyana may reflect the very busy lifestyle in the area and also may reflect the less social interactions among the urban dwellers. Exercise or stroll was the second most important activity at Beach Park, which is one of the major objectives of the developing these parks. Moreover, lack of such facilities can be observed in outside the Colombo. Take children to playgroup is the next important activity which is obvious due to the lack of such facilities in the area. Lastly, biking was least important

at both locations. Biking may be a good exercise, however, the lack of infrastructure and the danger of riding in main roads prevent people using them.

Table 1 The importance of open water body in Diyatha Uyana and Beach Park

Categories	DU		BP	
	Score	Rank	Score	Rank
Exercise or stroll	114.4	4	88.7	2
Breath clean air	115.4	3	86.8	4
Chat or gather with friends	98.3	6	118.7	1
Take children to play group	126.4	2	87.7	3
Biking	-63	9	10.4	9
While away time	67.7	8	79.6	5
Enjoy the natural landscape	97.3	5	56.1	8
Add an economic value to the area	73.4	7	73.7	6
Enjoy the peace and relaxation	148.6	1	69.0	7

Most frequent visits were happened to enjoy the peace and relaxation, breath clean air and to enjoy the natural landscape in Diyatha Uyana (*Table 2*). This reflects the users and non-users desire for tranquillity in the middle of the busy urban lifestyle. However, most frequent visits were happened to chat or gather with friends, enjoy the natural landscape and while away time in Beach Park. While the enjoy peace and relaxation was the top-ranked participating activity in Diyatha Uyana, it was ranked as the second least participated activity in the Beach Park. This may be due to the difference of the lifestyles of the two selected locations.

Table 2 How often do you participate in the following activities – Diyatha Uyana and Beach Park

Categories	DU		BP	
	Score	Rank	Score	Rank
Exercise or stroll	184.2	4	162.7	5
Breath clean air	196.6	2	157	6
Chat or gather with friends	169.7	6	214.9	1
Take children to playgroup	179.2	5	162.9	4
Biking	34	8	90.5	8
While away time	159.9	7	164.6	3
Enjoy the natural landscape	185.6	3	185.6	2
Enjoy the peace and relaxation	220.8	1	151.3	7

The study is also analyzed information on the challenges of using Diyatha Uyana and Beach Park. This knowledge could be used to inform park designing and planning authorities to overcome existing weaknesses of this and similar parks. Inadequate parking spaces (28.3%) and sporting facilities (26%) were the most mentioned difficulties faced by participants in Diyatha Uyana. Too far from home (44.8) and the inadequate seats (42.7) were the major challenges faced by the sample population in the Beach Park. The findings of this study can be useful in proposing open water body development in urban areas to develop, as some (44.8%) mentioned that the Beach Park is too far from home. People tend to travel some distances to visit the Beach Park. Another key challenge is finding a suitable parking space (28%) in Diyatha Uyana, which could have avoided if it was considered at the planning stage of the park.

Under the *other* category, around 38 % of participants have mentioned issues related to the maintenance as an obstacle in using Diyatha Uyana. Fewer trees (27%), poor sanitation facilities (19%) and lack of shade (7%) were the most mentioned issues under other categories. Public concern about their safety has to take into consideration as it was mentioned few times under the other category. Some people indicated their concern about gang behaviours, drug problems as a primary concern on their security. Too many people, inadequate lighting and sports facilities are among the few challenges faced by the users in the Beach Park.

3.3 CONSERVATION OF OPEN WATER BODY

The survey seeks respondents' attitudes towards conserving open water bodies in urban areas. Almost all the participants (99%) agreed upon the conservation of open water body areas in their neighbourhood in Diyatha Uyana. The motivations behind their attitudes were measured using eleven debriefing questions as shown in *Table 3*. In Diyatha Uyana, people have encouraged outdoor activities and allowing more contact with nature. This indicates that people seek more places for outdoor activities and to contact with nature to relax in the midst of their busy lifestyles. Many respondents were encouraged to save open areas thinking on environmental benefits.

Table 3 Importance of conservation in Diyatha Uyana and Beach Park

Categories	DU		BP	
	Score	Rank	Score	Rank
Encourage outdoor activities	326.4	1	282.9	1
Increase the property value of the area	291.4	7	274.3	2
Enhance aesthetic quality	304	4	272.9	4
Present wildlife habitat	211.2	11	206.8	11
Good for public health	277.2	9	266.9	5
Strengthen community spirit	307.1	3	253.2	7
Reduce air pollution	281.3	8	230.8	10
Purify air and environment	295.1	6	239.7	9
Cools the atmosphere	296.7	5	245.8	8
Allow more contact with nature	310.5	2	256.4	6
A place for relaxing or whiling away from home	247.8	10	273.3	3

Average scores =- 0=Not at all, 1=Slightly, 2= Somewhat, 3= Very, 4= Extremely Important

People of the Beach Park area also appreciated the outdoor activities as the top value of the conservation of the park which is similar to the Diyatha Uyana. As expected, this would reflect in the increase of property value which is a motivational factor for conserving and protecting such assets. Although people in Diyatha Uyana has placed the lowest score for the park as a place for relaxing or while away from home, people in Beach Park considers it as the third most important attribute for conservation. Finding wildlife in Beach Park is not possible; hence, people considered it the least important aspect of conservation.

4. Willingness to pay

The survey question 7 was targeted to measure household's WTP to support the development and conservation of urban water body program in both Diyatha Uyana and Beach Park. In this hypothetical scenario, people usually express their WTP for the subject to their income and other constraints in their family life. First, people were asked whether they are willing to pay a given amount of Rs.1000.00 monthly using a closed-ended WTP format in both locations. In Diyatha Uyana, roughly about 67 percent ($n=201$) of respondents showed their support for the program by saying "yes" as the answer. There was 33 percent of ($n=99$) zero bids for the WTP. Next, respondents were asked to indicate their perceived maximum amount of payment using open-ended WTP format. The mean WTP of households was Rs.446.93 monthly, which will amount to Rs. 5,363.16 per annum, suggesting that people are willing to pay a notable amount to develop and conserve open water bodies. Mean WTP in Beach Park was Rs. 211.53 per month which will amount to Rs. 2538.36 per annum. Multiple Linear Regression (MLR) model was used to estimate the factors affecting the respondent's WTP. The model R^2 value is very low (0.140), which usually vary between 0 and 1. R^2 is a statistical measure which describes how close the data are to the fitted regression line. It is also known as the coefficient of multiple determination in MLR. In some fields, it is entirely expected that R^2 values will be low. For example, any field that attempts to predict human behaviour, such as this study, typically has R^2 values lower than 50%. Human behaviour is simply harder to predict. The F value of the model is 3.775 which is good indicating the regression equation is good to explain the relationship between the WTP value and

the associated explanatory variables. As indicated in F test (or global test), the entire model for Diyatha Uyana is highly significant at $\alpha = 0.01$ (or 1%) level as the significant value of $0.003 < 0.01$. A F statistic is a value derive from running an ANOVA test or a regression analysis to find out if the means between two populations are significantly different. It's also similar to a t statistic from a t -test; A t test will tell if a single variable is statistically significant and an F test will tell if a group of variables are jointly significant.

ANOVA model is significant at 1% level as the significant value of F test is 1% level as significant value $0.003 < 0.01$. As indicated in coefficient table, some variables are significant and some are not, according to the t test. Among the other independent variables gender variable is significant at 1% ($0.001 < 0.01$) level and the job variable is significant at 10% ($0.067 < 0.10$) level. For every one-unit change in gender, the log odds of admission (versus non-admission) increases by 0.002. The expected sign for all independent variables chosen are positively contribute towards the WTP values except the age. Variables of age, income and being a member of an environmental group are however not significant.

ANOVA model and the estimated F value, 2.922 shows that the entire WTP equation is significant at 1% level as the sig value $0.004 < 0.01$. The global test shows the equation is good to explain the relationship between the WTP and explanatory variables. The coefficients estimated show the relationship between the WTP value and the individual explanatory variables.

Among the estimated β values education, have a child, time lived in the area variables are significant at 10% levels, as the sig values are smaller than 0.10 ($0.073 < 0.10$; $0.088 < 0.10$; $0.093 < 0.10$). Housing type is significant at 5% level as the relevant sig value, $0.049 < 0.05$. Unfortunately, all other variables used in the model are not significant. However, all the signs of the estimated significant model parameters are positive indicating that all variables are positively influencing the WTP values except the variable of time lived in the area. It is significant and negative implying that more time living the area influence for paying lower WTP value.

Motivation to pay or not to pay

Under question 9 it was aimed to understand the motivations behind the willingness to pay or not willingness to pay. It is important to know why exactly some people do but others do not willing to pay. First, participants were asked to mention *why would they pay that amount?* Findings indicate peoples' need for such places providing a green light for the policy makers and planners to build more open areas in urban settings. This reflects in almost half the sample in Beach Park and 45% of the sample in Diyatha Uyana ranked this program is important to them. People in Diyatha Uyana (44%) and 21% in Beach Park believe that it is their responsibility to protect open spaces. This reflects in their WTP amounts in both places. Some in both places believe that they want to contribute to a good cause. Participants were also asked the reasons behind their choice of zero willingness to pay for the water body development. Budget constraint was the major reason for the choice of not willing to pay in Diyatha Uyana while it was not that important in Beach Park. In overall sample, 27% of Diyatha Uyana and 7% of Beach Park were voted against the WTP.

5. Discussion

The survey results of both locations suggest people's strong desire for developing and conserving open water bodies in urban areas. This finding can be used to justify the planning decisions and also expenditure used upon developing urban water body recreational areas in cities. The importance and the occurrence of visiting open water bodies showed an overlapping ranking indicating people's high desire for having an attachment to the natural environment. The three top ranks for visiting open water bodies were related to acquiring environmental benefits in Diyatha Uyana and Beach Park. This may due to the reduction of open places in Sri Jayewardenepura municipal area and the Beach Park area of Matara with the rapid urbanization. With the busy lifestyle and the reduction of open spaces in a neighbourhood may have restricted the attachment to nature recently, however, the community and open water bodies have started to re-generate this behaviour. This behaviour pattern is somewhat related to the western people's motivations for visiting open green spaces. However, this is different from the findings from Hong-Kong. The changes of Sri Jayewardene Pura land use show the reduction of water bodies and marshy land. According to 2010 data of land use patterns show that this area consists 10.4% marshy land and 2.1% lakes which are very sensitive with eco-diversity. On the other

hand, the land area of Beach Park was secured by the location of the main Matara Hambantota road in one side and by the sea on the other side. The survey results in emphasis the need of developing and conserving open spaces in urban areas.

No parking places is a common issue faced by the users of both urban facilities. The increase of car ownership and peaceful environment after the civil war has accelerated people's mobility. The increase of public transportation would reduce the pressure on providing parking spaces. Lack of availability of open spaces seems to be an issue for the participants of the survey in both locations. There can be neighbourhood small potential places which have been neglected because of the more attractive urban recreational areas. Localizing some open recreational areas in neighbourhoods will reduce the pressure on city level places like Diyatha Uyana. Future urban recreational planning can use landscape ecological approach to maximize the spatial, social and environmental benefits (Jim & Chen, 2006). Overall, lack of infrastructure facilities was mentioned as obstacles in using Diyatha Uyana and surrounding recreational area. A requirement of more sporting facilities indicates people's increasing consciousness on health and wellbeing. This reflects the answers given to question one and two.

The findings of this study show the WTP for open water body recreational areas is high among the users and non-users of this study. It is significant for a developing country with people who have limited experience in applying a monetary valuation to eco-service systems. Currently, there is no entrance fee for open water body recreational areas in the country. Therefore, this research indicates that even people use these facilities for free for years, in-return they have a moral feeling to pay for the conservation of eco-service systems. The mean value of WTP in Diyatha Uyana is half of the amount usually people pay for an indoor physical exercise center in Sri Lanka. The value people pay in Beach Park was less than one-fourth of the charge of a physical exercise center. Budget constraint is also a key factor in determining the WTP. This phenomenon was also demonstrated in the results in two case studies. Diyatha Uyana average income was around Rs. 143080 which allows the sample respondents to pay a higher amount as WTP. The WTP amount was Rs.476.93 per month. The average income in Beach Park was Rs. 17223, consequently the WTP was Rs. 211.53. Budget constraint is one key factor in deciding the WTP. This study found that income and job had a significant positive influence on WTP for Diyatha Uyana. This is more compatible with some studies around the world regardless of the economic development of the country (Jim & Chen, 2006). This indicates that still Sri Lankan people consider recreational and amenity enjoyment as a superior good. However, education, have a child, housing type and time lived in the area showed a significant association with the WTP in Beach Park. The findings revealed that the moral and ethical considerations are not considered in valuing environmental amenities by the participants of both locations. This should be given more consideration when making policy decisions in future regarding enforcing fees for the use of natural resources. However, Tyrvaenen and Vaanane's (1998) study on the urban forest in Finland revealed that the income does not have any significant impact on people's WTP. Nonetheless, key factor of determining WTP is the budget constraint which makes us plan for a situation whereby income increases of poor people through employing them in natural resource areas. For the additional income, people live in the area could participate in activities geared towards environmental conservation. Eco-tourism is one such activity.

6. Conclusion

CVM studies are not very common in using for policy studies in Sri Lanka. The idea of applying a monetary value for the environmental good seems to be unusual for some participants which make some difficulty in fieldwork. As a new concept, it takes some time for the participant to understand the hypothetical situation. The describing hypothetical situation for participants to understand clearly is also a big challenge in carrying out a CVM survey. Some people might have thought of actual payment and could have given a lower amount regardless of their actual willingness (Wattage, & Mardle, 2008). Therefore, careful consideration should be given in drafting the survey and should give special emphasis to highlight the hypothetical situation in the survey. Training survey team is vital to getting reasonably good field data. Questionnaire design is also a challenge to capture real situation and creating a hypothetical situation to get real WTP value. Adopting a monetary value for eco-service systems could provide a justification for policy makers and planners. Development plans can be incorporated with public views and monetary value. By understanding people's motivation and incorporating those into planning decisions (Ratnayake & Butt, 2018) in return would attract more support in maintaining and conserving rather neglecting eco-service systems, thinking or criticizing

them as a government project. Finally, the current study provides a green light in conducting more CVM studies for valuing not only water body recreational developments in the country but also for the other environmental goods such as forests, biodiversity, eco-tourism and water resources. More and more economic valuations on urban open spaces would influence the policy and planning decision in the country. Therefore, it is important to conduct this kind of studies and then the people also would use to adopting an economic value for environmental goods.

7. References

- Brefle, W. S., Morey, E. R., & Lodder, T. S. 1998, Using contingent valuation to estimate a neighbourhood's willingness to pay to preserve undeveloped urban land. *Urban Studies*, 35(4), 715-727.
- Butt, A., Ratnayake, R., & Budge, T. (2016). Planning education and inter-cultural collaboration: awareness, innovation, reflection and preparation for practice. *Bhumi, The Planning Research Journal*, 3(1).
- Chieura, A. (2004). The role of urban parks for the sustainable city. *Landscape and Urban Planning*, 68(1), 129-138.
- De Silva, C. S., Warusavitharana, E. J., & Ratnayake, R. (2017). An examination of the temporal effects of environmental cues on pedestrians' feelings of safety. *Computers, Environment and Urban Systems*, 64, 266-274.
- Hanemann, W. M. 1994, Valuing the environment through contingent valuation. *The Journal of Economic Perspectives*, 8(4), 19-43.
- Rahim, K. A. 2008, *Contingent Valuation Method*. Paper presented at the Regional Training Workshop: Economic Valuation of the Goods and Services of Coastal Habitats, Thailand
- Ratnayake, R. (2017). Sense of safety in public spaces: university student safety experiences in an Australian regional city. *Rural Society*, 26(1), 69-84.
- Ratnayake, R. (2013). Environmental features and sense of safety. *WIT Transactions on Ecology and the Environment*, 179, 377-388.
- Ratnayake, R., & Butt, A. (2018). Encounters with the unfamiliar: international planning education. *International Planning Studies*, 23(1), 51-64.
- Salazar, S. d. S., & Menendez, L. G. 2007, Estimating the non-market benefits of an urban park: Does proximity matter? *Land Use Policy*, 24, 296-305.
- Shang, Z., Che, Y., Yang, K., & Jiang, Y. 2012, Assessing Local Communities' Willingness to Pay for River Network Protection: A Contingent Valuation Study of Shanghai, China. *International Journal of Environmental Research and Public Health*, 9, 3867-3887.
- Wattage, P. and Mardle, S. (2008) Total economic value of wetland conservation in Sri Lanka identifying use and non-use values, *Journal of Wetland Ecology and Management*, Volume 16, Pages 359-369.
- Wickramaarachchi, N., Ratnayake, R., & Wattage, P. (2017). Willingness to pay for open water body recreational facilities: A case study at Diyatha Uyana. Paper presented at FARU international research conference, University of Moratuwa, Sri Lanka. 8-9 December 201