



THE DEVELOPMENT OF URBAN OPEN SPACE AND ENVIRONMENTAL DISRUPTION: A CASE STUDY WITH THE SPECIAL REFERENCE WITH CROW ISLAND BEACH PARK, COLOMBO

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Abstract

The world constantly moving towards its new expeditions, inventions and development. In the process of rapid development each and every country loses its concentration in natural and urban open spaces where multiple lives survive on the earth rather than humans. Public urban open spaces such as wetland, mangrove forest, beaches and parks are often being target on the thought of tourism development and urban development. Despite the economic gain for the country, there are multiple problems arising to the ecology due to the lack of maintenance and proper waste disposal management. The overall aim of this paper is to analysis economic and social well-being of Crow Island beach park development and investigate the ecological disruption and biodiversity collapse. Most of the economic benefits and social development has been analyzed with a questionnaire survey and unstructured interviews as well as the ecological disruption has been investigated on a field observation and published articles, reports and maps. With the analysis of the primary and secondary data, the results summarizes the both sides of the public urban open space development. The beach park duly becoming unattractive due to its lack of management and waste dumping. Most of the areas in the park abandoned by the visitors because of its uncleanliness. Proper environment management of the park could benefit to both economy and preservation of biodiversity. The sustainable development of any natural phenomenon could give its fruitfulness to both human and environment.

Keywords: Biodiversity, Crow Island, Development, Economy, Open space

1. Introduction

Urbanization is the trending evolution in the current world. It brings more changes in the environment, society, economy and human behavior. Most of the countries lost their greenery and open spaces due to the development and urbanization. Sri Lanka is being as a developing country for a longer period of time. In the past decade there have been lots of development activities conducted by the government with foreign aids and funding organizations. The development process taken place on the infrastructure, community development, tourism, etc. The ecological system of a city is made up of social, economic and natural systems where green spaces are the focal point (Huang and Chen, 2002). The commercial capital of Sri Lanka is Colombo. Which is a complex fast growing city. Colombo has much more green open spaces. Most of them have been build up for the economic gaining. And some recreational places such as parks and beaches built up for the leisure activities. But these are of variable quality and there is no coherent strategy for maintaining or planning, or a sustainable vision for the projects. Providing equitable access to green space is an important goal of health oriented urban policies (Braubach. et al, 2017). Since the world concentrating more on the economic development, most of the green spaces are being disrupted. This study investigating ecological disruption includes the loss of biodiversity and dynamic ecosystem along with the fruitful outcome of the urban green space development.

Crow Island Beach Park is a public park which is located in Colombo-15. Colombo has a richly mixed multi-cultural, multi-racial society. This park is developed under the Metro Colombo Urban Development Project funded by the World Bank. The park extend to 17 acres. The main objective of this development is to improve



the quality of the beach for recreation while preserving its natural scenic beauty and to provide ancillary facilities for users. By considering these aspects, the research aims to find two fundamental objectives. They are,

- To find the quality and maintenance of the park and its scenic beauty.
- To investigate the ecological disruption and economic gaining through the park development project.

2. Literature Review

A comprehensive review of the literature has been done in order to develop the theoretical rationale for the research. This literature review consist of two main refers. Public open space development in a global context and detailed review of ecological disruption and economy gain through development aspects.

Urban open spaces are the lungs of an urban area’s biodiversity. Since people could be attracted to greenery, the government always plans their public related projects in such places. Urban green space is an important aspect of urbanization (Wendela, Zargerb and Mihelcica, 2012), because it is an indicator of the quality of the city as well as quality of lives of the local community (Sumedha Kumari, 2016). Continuous process and development with the open spaces made them stress and leads to environment instability. The importance and the value of urban green space and its dynamic measured through researches (Talukder, 2012).

By developing urban cities, more green spaces are being targeted and changed. These green spaces are the most significant elements of any urban ecosystem, both due to its ecosystem dynamics and its essential contribution in well-being of human race (Padigala et al, 2012). It was observed in numerous case studies that major catastrophe’s occurring in developing nations was attributed to loss of biodiversity (Anil et al, 2014). Most of the studies underlined the unprecedented scale and magnitude of biodiversity loss and extinction of species in particular areas.

Above mentioned researches and works are focusing on the loss of biodiversity and the usage of urban green space in different part of the world. Most of the studies related to the development of urban green space are in the developing nations. As a developing country, Sri Lanka also face the same issue while concentrating on the urban city and tourism development. Therefore, this study has been conducted to explore the loss of biodiversity, environment degradation due to the improper waste management as well as the condition of economy growth of the park development.

3. Materials and Methods

Methodology of this research combined both qualitative and quantitative methods such as unstructured interviews, questionnaire survey, field observation and rely on both primary and secondary data collection.

Observation was used as the major primary data collection to identify the ecological state, economic related activities and investigate the maintenance of the park. Several field visit has been made for the thorough observation of the site. Continuous field visit made it easier to the development of questionnaire survey.

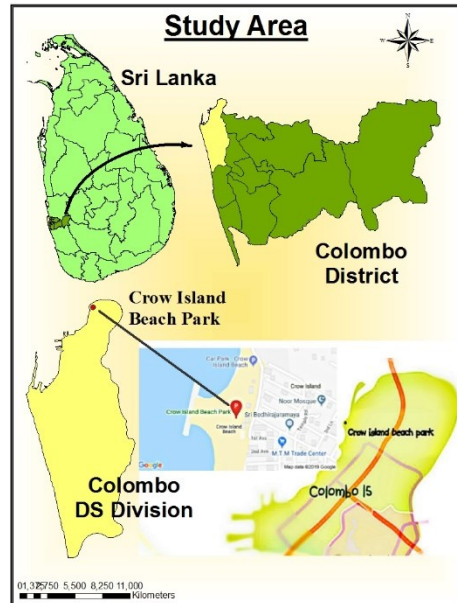


Fig 1: Spatial location of the Research

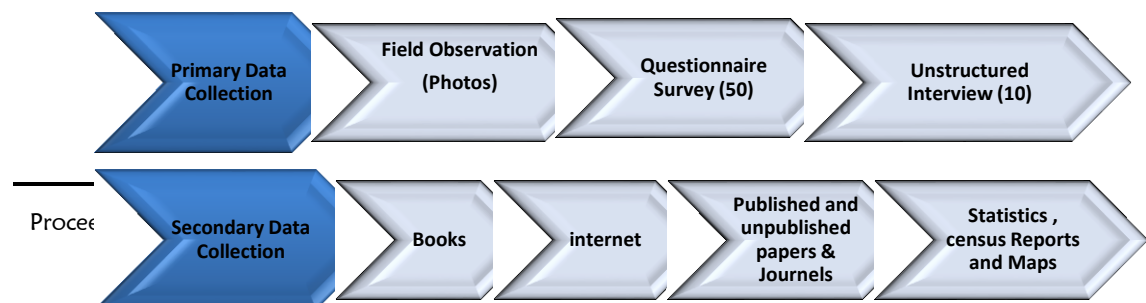




Fig 2: The Methodology Framework

To find out the public opinion towards the park development in various aspect, the researchers decided to carry out a questionnaire survey. The questionnaire survey conducted to identify the environmental consideration and people's awareness regarding the protection of urban green spaces. Therefore, 50 questionnaires have been provided accordance with the simple random sampling to the people who visit to the park, work in the park and maintaining the park. Another primary data collection done with the unstructured interview method. 05 people were selected for the interview who economically depended on the park and 05 people have been interviewed as they are maintaining the park.

Secondary data such books, data form published and unpublished sources, internet sources, reports, etc. have been used for more information gathering. Collected data have been analyzed through MS Excel and Arc Map 10.3.

4. Results and Discussion

Through the Metro Colombo Urban Development Project, the park has been built to attract more local tourist. Therefore the park has more facilities such as:

- Beach Park
- Restaurant and resting pavilions
- Kiosks
- Summer and picnic tables
- Open air theatre
- Board walk and viewing decks
- Viewing tower
- Balance beam
- Rock climbing area
- Log climbing area
- Rat run tunnel
- Children play features
- Swing units
- Pony Riding
- Walk ways

Those were the indicated facilities that should be seen in the location. But unfortunately there are few facilities only available nowadays. Due to the lack of management and proper maintenance, most of the leisure activities have been abandoned. With aid of primary data collection most of the faiths regarding the plot explored.

4.1 Observation



Primary data collection played a vital part in the successful development of this research. Through the field observation, the virtual image of lack of maintenance of the park is visible as well as most of the shops in the plot are abandoned due to the low income. There are so Many reasons behind the fact. But the first cause is the lack of cleanliness and poor maintenance. Garbage dumping can be seen in the mangrove forest part of the park. At the same time people who visit the park also don't care about the trashes they throw on the beach. Since the waves are making a depositional process lots of plastics and other wastages are accumulating in the sore side. And the sea water also in an unpleasant grey color.

Accordance with the photos below which taken from the field observation, it is visible that most of the green spaces in the park has been dumped with trashes and garbage. Due to its lack of management, the open green space has lost its beauty and attractiveness constantly. Not only its actual characteristics but also it couldn't act as the home for the species which used to live under its benefits. Therefore, the situation is worse by the time.



Fig 3: The current nature of the Park environment



Fig 4: Small shops in the park

At the beginning stage of the park, the shops seems to be filled with small businesses. They were successful but now most of the shops have been vacated and abandoned without enough income and beneficiaries.



Fig 5: Abandoned leisure activity areas

4.2 Questionnaire Survey

For the most reliable information gathering, public questionnaire survey was conducted among the visitors to the park and the public who make a living through the park. People visit to the for various reasons Table 1 shows the different reasons and aspects of the visitors to the park. At the same time one participant allowed to express more than one purpose for their visit.

Table 1. Given reasons by the participants for visiting the park

	Reasons for visiting the Park	Percentage
i	For a walk and relaxation	65%
ii	Family gathering	20%
iii	Friends get together	21%
iv	Function photography	05%
v	Meet a person	15%
vi	For children’s leisure	65%
vii	As a picnic tour	30%
viii	For work	15%

Most of the participants have said that their main purpose of visiting the park is for the relaxation and walk. Since the park has more walking path with better environment people visit the place to spend their time peacefully. But the same participants also complained that unpleasant odor coming from the water bodies near the pathways make them to leave immediately from the place. And the same percent of the participants said that they visit the park weekly once or monthly thrice because of their children’s leisure activities. They usually bath, play kite and engaged in other activities. Most of the parents agreed that the park is no longer in the state that used to be. It changed a lot due to the lack of management and it became unattractive.

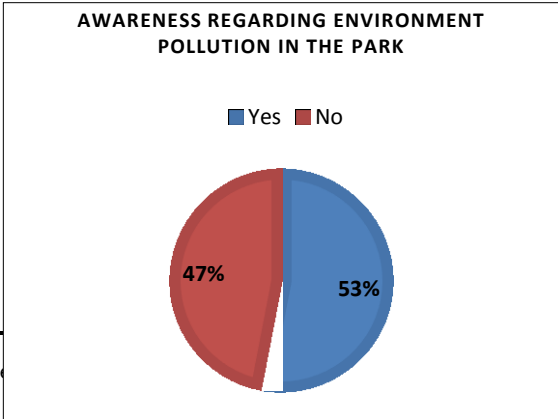




Fig 6: Participant’s response to the knowledge & awareness they have regarding the environment pollution in the Crow Island park

Therefore, There are half of the people who visit the park doesn’t aware about the environment pollution even though they could see the garbage in the alongside of the pathway. At the same time there is no any boards or notice visible inside the park indicating “Do not litter” nor “Protect your environment”. Yet the park polluted halfway, the maintenance team should have taken an action to mitigate the disaster long ago. It is sad to see that most of the visitors does not put their trashes in the allocated places. Sue to the heavy windy in the shore area, all the trashes taken by the air to here and there. And the place seems to be wasted.

Most of the people who visit the park are live around Colombo. So the place is not quite famous outside the city. And only the local tourist visit the park not the foreigners. According to trip advisor website, lots of foreigners reviewed the park with low stars and indicated it as a trash filled area with untidy water.

And the following table providing details regarding the questions made to the participants in the questionnaire survey and their responses. Accordance with that, most of them believe the park indeed attractive with the scenic beauty despite the garbage accumulation. Well maintenance of the park is very much needed and the participants think the same.

Table 2: Public responses to the questions from the survey

No	QUESTIONS MADE TO THE PARTICIPANTS	YES (100%)	NO (100%)
i	Do you think the park is attractive?	74%	26%
ii	Are you enjoying your visit here every time?	56%	44%
iii	Do you litter each time of your visit?	58%	42%
iv	Would you recommend the park to other’s visit?	79%	21%
v	Are there multiple species can be seen around the park?	85%	15%
vi	Would you like to bath in the beach?	20%	80%
vii	Do you think the park need to be well maintained?	92%	08%

58% of the participants in the questionnaire survey agreed that they litter every time of their visit to the park even though they knew the result will be disgusting. Therefore, it is not the awareness but the rules and regulation need to be amended by the park maintenance to control the trash littering. At the same time 15% of the people does not aware about the species live and survive in the mangroves.

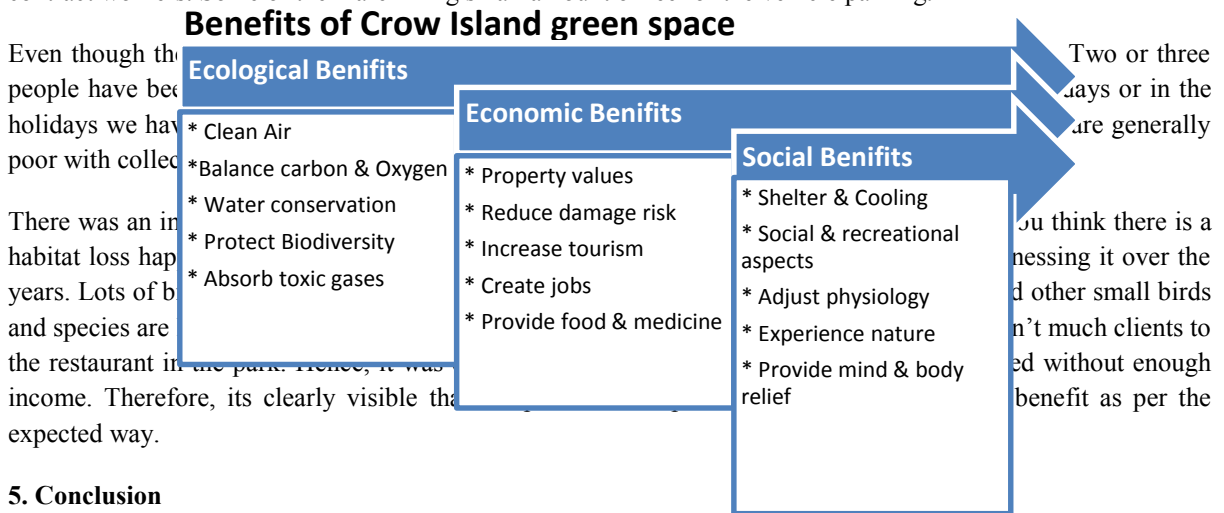
4.3 Interviews



Interviews conducted through 10 respective people from the Crow Island beach park. Five of them are from maintenance team and five of them are the people who economically depending on the park. According to their statements Figure.7 is showing the benefits gain through the park. They classified into three aspects.

Fig 7: Identified benefits of the park given by the interviewees

The people who economically benefit by the park work there as small shop owners, Balloon sellers, Ice cream sellers, Kite sellers, horse riders and fortune tellers. At the same time the ones who maintaining the park are contract workers. Some of them are hiring small amount of fee for the vehicle parking.



5. Conclusion

Based on the questionnaire survey and field observation it was found that the green space of the park being disrupted by the dynamic engagements and poor maintenance. Though the starting period of the park was successful in such expected way, now economically and environmentally it was seem to be unsuccessful. With a proper maintenance and management the ecological disruption could be fixed. And the number of visitors to the park also would be rose up.

There we have to recognize a thing that urban public open spaces are only part of a city's total urban ecological network (Sumedha Kumari, 2016). These open spaces have to be effectively planned, designed and maintain sustainably for an efficient outcome. Despite these tensions and complications, there is evidence that urban parks



can and do play a role in protecting biodiversity and ecological process, functioning and services (Forsyth and Musacchio 2005, Ibes 2016). Development only provide short term benefit to a nation, but sustainable development will bring the permanent fortune for any nations.

Urban green space strategies should be made to each and every planning. Formulating such a deliverable and practical strategy is very much the current need of urban green space planning in Colombo. Well plan and smart establishment of a project can be collapsed due to the lack of maintenance. Therefore, one of the main outcome of this research was finding the lack of management of the park led to an extended level of failure. Having a strategic approach to planning and management of sustainable development of urban green spaces could benefit more than expected.

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