

Parks and playgrounds in Dhaka: taking stock and moving forward

A report on the characteristics of parks and playgrounds in Dhaka as well as recommendations for their improvement

Work for a Better Bangladesh (WBB Trust) 14/3/A, 3rd Floor, Jafrabad, Rayer Bazar, Dhaka, Bangladesh Phone: 88 02 9112446 Email: info@wbbtrust.org Web: wbbtrust.org

August 2015

Table of contents

1 Introduction	4
1.1 How this study is organised	4
2 Context and definitions	5
2.1 Definition of parks for the purpose of this study	5
2.2 The importance of parks	5
2.3 Policy context	6
2.4 Summary of context and definitions	8
3 Study methodology	9
3.1 Selection, location, and type of parks	9
3.2 Surveys	10
3.3 Proposed pilot project	12
3.4 Summary of the study methodology	13
4 Results	14
4.1 General Public Survey	14
4.2 Park User Survey	21
4.3 Direct Observation Park Survey	30
4.4 Activity Survey	40
4.5 Summary of survey results	56
5 Proposed pilot project: Boishakhi Khelar Math	59
5.1 Site selection	59
5.2 Findings, assets, and challenges	60
5.3 Design recommendations	62
5.4 Notes on maintenance	65
5.5 Notes on implementation	66
5.6 Pilot project summary	69
6 Conclusion	71
6.1 General recommendations	71
6.2 Limitations of this study	74
6.3 Call to action	74
7 Acknowledgements	76
8 Bibliography	77
9 Appendix	80

9.1 List of abbreviations	80
9.2 General Public Survey	81
9.3 Park User Survey	
9.4 Direct Observation Park Survey	83
9.5 Activity Survey	

1 Introduction

Parks and playgrounds are important to urban life. They provide residents with places to socialise, relax, play, and undertake physical activity.

This study analyses the characteristics of a set of parks within the city of Dhaka, Bangladesh. Broadly speaking, the purpose of the study is twofold. First, we seek to better understand the current state of parks in Dhaka. This includes (1) their physical characteristics, (2) the distribution of activities within them, and (3) the ways in which they are perceived. Secondly, we use the findings to recommend ways in which Dhaka can enhance its existing parks, as well as expand its network of parks moving forward.

1.1 How this study is organised

This report is laid out as follows. 2 Context and definitions explains the importance of urban parks and describes the provision of open green space in cities around the world, as well as the extent to which Dhaka lacks such spaces. It also offers a definition of parks—includes playgrounds—for the purposes of this study. 3 Study methodology describes the general methods used in this study, including the four surveys we use to assess the current state of parks in Dhaka. 4 Results presents the findings from each of the surveys. 5 Proposed pilot project: Boishakhi Khelar Math recommends a pilot project for one park, in order to showcase various possible design interventions. Finally, 6 Conclusion lists general recommendations in terms of park design and park policy, as well as the limitations associated with this study. It wraps up with a call to action for a better, more expansive park network for the residents of Dhaka.

After reading this report, you will have a better understanding of the perceptions, characteristics, and usage of parks in Dhaka. You will also have learned about measures that can be taken to maintain, enhance, and expand the current supply of parks in the city.

2 Context and definitions

In this section we explain the importance of parks, as well as their policy context both globally and in Dhaka. First, however, we provide a working definition of parks for the purpose of this study.

2.1 Definition of parks for the purpose of this study

For the purposes of this study, we define parks as **formally-defined open spaces used predominantly for recreational purposes**—whether social, athletic, play-related, or otherwise.

Based on this definition, parks may be public or private, although generally speaking they are publiclyowned and fully accessible to the public. Informal open spaces, however, are out of the scope of this study. By informal, we are referring to open spaces not officially sanctioned by a governing authority.

Similarly, parks may or may not include green space, children's play space, and sports facilities. If a park is primarily used as a sports field—typically for some combination of football, cricket, and badminton—it may bear the name "math" or "khelar math" (literally, "playing field"). Our definition of parks includes playgrounds and sports fields. However, where relevant, we make the distinction between sports fields and more traditional parks.

Among these latter, we occasionally differentiate between city parks, and neighbourhood parks. City parks are often larger, and generally boast organised outdoor recreational facilities. They are used by city residents more broadly speaking. By contrast, neighbourhood parks are often smaller than city parks, and typically serve the local community more than city residents as a whole.

2.2 The importance of parks

From a public health perspective, parks provide three primary benefits to cities. They (1) contribute ecological services, (2) foster social and personal wellbeing, and (3) facilitate physical activity through active recreation.

2.2.1 Ecological services

Urban parks provide several ecological services to their local and surrounding zones. Bolund and Hunhammar (1999) review the literature on ecosystem services of parks in urban areas, finding that vegetation in particular yields several benefits: air filtering, micro-climate regulation, noise reduction, and rainwater drainage management (including groundwater recharge). The authors also include sewage treatment as a benefit, although this typically occurs in wetlands—not traditionally a feature of urban parks.

2.2.2 Social and personal wellbeing

Urban parks can contribute to social wellbeing by offering residents a place to relax, socialise, and be in contact with nature (Maller et al., 2008). As well, Maas et al. (2006) find that urban green spaces are linked to neighbourhood social cohesion. Urban parks may also contribute to a reduction in crime and violence (Branas et al., 2011; Garvin, Cannuscio, & Branas, 2012; Kuo & Sullivan, 2001), however crime

reduction associated with urban parks is typically dependent on their use of design principles associated Crime Prevention Through Environmental Design (CPTED). For a review of CPTED, refer to Cozens et al. (2005).

In terms of personal wellbeing, green spaces in urban settings have been shown to reduce stress, depression, and anxiety (Aspinall, Mavros, Coyne, & Roe, 2015; Beyer et al., 2014; Roe et al., 2013; Ward Thompson et al., 2012). Additionally, people with a greater connection to natural environments have been shown to be happier (Nisbet & Zelenski, 2009).

2.2.3 Facilitating physical activity through active recreation

Access to parks provides an important means to undertake physical activity through active recreation (Kessel et al., 2009). In particular, park quality is correlated with increased park use for physical activity purposes (Crawford et al., 2008; Veitch et al., 2014; Veitch, Ball, Crawford, Abbott, & Salmon, 2012).

Regular physical activity improves overall health (Bauman, 2004; Blair & Morris, 2009; Brown, Burton, & Rowan, 2007) and as a result reduces the risk of a wide range of non-communicable diseases. Physical activity also enhances psychological well-being: it relieves symptoms of depression and anxiety, and more generally improves mood (Berger & Motl, 2000; Rethorst, Wipfli, & Landers, 2009; Street & James, 2008). Conversely, a lack of physical activity is responsible for over three million deaths per year globally (World Health Organization, 2009).

2.3 Policy context

Given the benefits listed above, policy measures to ensure the provision and maintenance of high quality parks—including playgrounds and sports fields—are important for cities around the world.

In this section, we list two standards for the supply of open green space (a typical component of urban parks) and chart how much green space cities provide in reality. We conclude by describing the supply of parks in Dhaka, as well as the ongoing encroachment they face through development.

2.3.1 Standards for the provision of open green space

Several organisations suggest minimum acreage for open green space. One commonly-cited minimum is that of the World Health Organisation (WHO), which recommends at least nine square metres of open green space per urban dweller (Kuchelmeister, 1998). By comparison, the minimum suggested by Leadership in Energy and Environmental Design for Neighbourhood Design (LEED ND) is 20 square metres per capita (Govindarajulu, 2014).

2.3.2 Green space per capita in reality

In cities around the world, the provision of green space in urban settings varies by several orders of magnitude¹. Cities like Barcelona, Mexico City, and Tokyo have considerably less than the recommended nine square metres established by the WHO. Conversely, cities like Rotterdam, New York, and Curitiba have more than double the WHO recommendations. Figure 2-1 shows the amount of green space per capita in a selection of cities around the world.

¹ Sources: Kuchelmeister (1998); Govindarajulu (2014); http://blog.sustainablecities.net/2011/07/13/how-many-metres-of-green-space-does-your-city-have/



Figure 2-1 Green space per capita (in square metres) for various cities

2.3.3 Open green space in Dhaka

There is considerable debate over the supply of open green space in Dhaka. The Dhaka Metropolitan Development Plan (DMDP) suggests that Dhaka City had 0.5 square metres of green space per capita in 1995 (RAJUK, 1995). In 2009, a critical review of the Detailed Area Plan (DAP) suggested that there were only 0.052 square metres of green space per capita, a full order of magnitude less than the number put forward in the DMDP (Bari & Efroymson, 2009). Irrespective of the source, the supply of open green space in Dhaka is much less than the WHO recommendation of nine square metres per capita. Indeed, a 1991 study by the Japan International Cooperation Agency (JICA) (1991) identified a failure to provide sufficient land for parks and public spaces as a problem in Dhaka.

2.3.4 Encroachment: a threat to existing open space in Dhaka

The primary threat to existing public open spaces is encroachment by public and private entities (Farida, 2001). For example, among small and medium-sized parks, government authorities have fully appropriated Tikatuli Park, Uttara Sector One Park, Shahid Park, and Azimpur Park for non-park uses. Other open spaces, *e.g.*, Nawabganj Park, Jatrabari Crossing Park, Nayatola Children's Park, and Lalmatia New Colony Park, have been partially encroached upon by community centers and commissioners' offices of Dhaka City Corporation (DCC). Authorities do not appear to be aware of the

crisis facing open space in Dhaka: DCC presently has plans to construct additional community buildings in other parks.

In addition to small and medium spaces, the same author finds that large parks are being threatened with encroachment. In Dhaka, three large parks have decreased in surface area due to encroachment.

- 1. After years of piecemeal encroachment between 1989 and 1999, Osmani Uddayan Park was slated to be redeveloped into an international conference centre. (Ultimately, the plans were not implemented due to public pressure (Islam, 2011).)
- 2. The open area towards the northern part of Chandrima Uddayan Park was encroached upon for the International Conference Center for a Non-Alignment Movement (NAM) Summit.
- 3. Part of Ramna Park was seized for a professional Tennis Complex.

Finally, in the same report, Farida notes that open spaces slated for parks in planned residential areas according to the city's planning standards—have been sold for private development. This practice has been identified in Uttara Sector 1, Mirpur Sectors 2 and 6, and also in Gulshan Circle 2.

2.4 Summary of context and definitions

2 Context and definitions explained the importance of parks—defined as open spaces used predominantly for recreational purposes—as well as their policy context.

Parks are important to cities for several reasons, three of which are highlighted in this report. First, they provide ecological services, including air filtration, micro-climate regulation, noise reduction, and rainwater drainage management. Secondly, they can reduce crime and violence, and increase happiness, while providing city-dwellers a place to be in contact with nature. Third, they facilitate physical activity through active recreation. As a result, they are able to improve overall population health.

For the purposes of this report, the policy context for parks includes three components: open green space guidelines, open green space in cities around the world, and open green space in Dhaka. Both the WHO and LEED ND have guidelines for minimum open green space provision (nine and 20 square metres per capita respectively). Many cities exceed these minimums (e.g. Curitiba, New York City, Jaipur), but others do not (e.g. Barcelona, Tokyo, Mumbai).

Dhaka has little open green space per capita by all accounts: between 0.052 and 0.5 square metres depending on the source. This lack of open green space is exacerbated by the threat of encroachment by both public and private sector entities. It is therefore important to understand the ways in which Dhaka can both enhance and expand its network urban parks.

3 Study methodology

This study aims to determine the physical characteristics, perceptions, and usage patterns associated with parks. To do so, we (1) select a sample of parks, and (2) use four surveys to better understand their characteristics. Finally, we use the survey findings to recommend design improvements for one of the parks: Boishakhi Khelar Math, a sports field in the Rayer Bazar neighbourhood.

3.1 Selection, location, and type of parks

We selected 12 parks for this study: Dhanmondi Lake Park, Bangladesh Math, Osmani Uddayan Park, Mirpur Mazar Road Football Khelar Math, Boishakhi Khelar Math, Ramna Park, Gulshan Society Lake Park, Farmgate Park, Fajle Rabbi Park, Uttara No. 7 Sector Park, Shyamoli Park, and Bashabo Math. Figure 3-1 presents each of the parks on a map.



Figure 3-1 Location of 12 selected parks within Dhaka

The selection was undertaken in an ad-hoc manner, but nonetheless features a variety of spaces: city parks, neighbourhood parks, and sports fields (Table 3-1). City parks are often larger, and generally boast organised outdoor recreational facilities. They are used by city residents more broadly speaking. By contrast, neighbourhood parks are often smaller than city parks, and typically serve the local community more than city residents as a whole. Sports fields, also known as "khelar math" are parks primarily used for sports—in particular, football, cricket, and badminton.

Park name	Park type
Bashabo Math	Sports field
Shyamoli Park	Neighbourhood park
Uttara Sector No. 7 Park	Neighbourhood park
Fajle Rabbi Park	Neighbourhood park
Farmgate Park	City park
Gulshan Society Lake Park	Neighbourhood park
Ramna Park	City park
Boishakhi Khelar Math	Sports field
Mirpur Mazar Football Khelar Math	Sports field
Osmani Uddayan Park	City park
Bangladesh Math	Sports field
Dhanmondi Lake Park	Neighbourhood park

\mathbf{T}	
Table 3-1 Twelve parks selected for this study, and their part	k type

3.2 Surveys

In order to better understand the 12 parks, we use four surveys: (1) a General Public Survey, (2) a Park User Survey, (3) a Direct Observation Park Survey, and (4) an Activity Survey. We describe each survey in sections 3.2.1 to 3.2.4, below. Table 3-2 summarises the purpose and source of each of the surveys we used in our study.

Table 3-2 Purpose and	l source of each	survey used in	this study
-----------------------	------------------	----------------	------------

Survey	Purpose	Source
General Public Survey	 To understand whether and why people visit parks. To understand what changes would encourage them to visit (or more frequently visit) parks. 	greenSTAT off- site park survey
Park User Survey	• To ascertain which activities are undertaken by users of parks, the benefits they gain from doing so, their perceptions of current conditions, and their suggestions for improvements.	greenSTAT on- site park survey

Direct Observation Park Survey	• To gather direct observation information about the characteristics of the parks and available facilities. This survey focuses on the physical environment, in terms of what facilities are offered.	BRAT-DO
Activity Survey	• To understand the location and type of activities that take place throughout the day in the parks.	

3.2.1 General Public Survey

The General Public Survey allows us to respond to the following questions:

- 1. Do people visit nearby parks? Why or why not?
- 2. What changes would be needed to make them visit parks, playgrounds or sports fields, or to visit them more often?

The General Public Survey was administered by a team of surveyors from WBB Trust at several locations throughout Dhaka. (These locations did not include parks.) The surveys were conducted on January 28, 2013.

Our model survey was a modified version of a greenSTAT survey for parks, designed to be conducted outside of parks. We modified it to the context of our research in Dhaka. The full list of questions is available in the section 9.2 of the Appendix.

3.2.2 Park User Survey

The Park User Survey helps us understand how people actually use and perceive parks. This includes:

- 1. the activities they undertake in the park;
- 2. the reasons they visit the park;
- 3. their level of satisfaction with the park; and
- 4. the improvements they would suggest to enhance the park.

The Park User Survey was administered by a team of surveyors from WBB Trust at all 12 parks in the study. The surveys were conducted on January 30 and 31, 2013.

We modelled our Park User Survey on a greenSTAT survey designed to be conducted inside parks. As with the General Public Survey, we modified the Park User Survey to the context of our research in Dhaka. The full list of questions is available in section 9.3 of the Appendix.

3.2.3 Direct Observation Park Survey

The Direct Observation Park Survey audits the physical characteristics of the parks in our study. The questions cover: general characteristics, surrounding streets, green spaces, walkways, children's play areas, and sports fields.

The survey was administered by a team of surveyors from WBB Trust at each of the 12 parks included in this study, on January 28, 2013.

The model we selected for the purposes of this study was the Direct Observation Bedimo-Rung Assessment Tools (Bedimo-Rung, Gustat, Tompkins, Rice, & Thomson, 2006). We modified the survey to the context of our research in Dhaka. The full list of questions is available in section 9.4 of the Appendix.

3.2.4 Activity Survey

The purpose of the Activity Survey is to understand the location and characteristics of activities that take place in parks throughout the day.

The Activity Survey was administered by a team of surveyors from WBB Trust at four out of the 12 parks listed above. The surveys were conducted between January 25 and 29, 2013. To undertake this survey, we provided the team of surveyors with maps of parks², and instructed them to mark on the map the location and type of activities that they witnessed over the course of one hour during the day. For a sample filled-out survey, see section 9.5 in the Appendix.

3.2.5 Parks included in each survey

Our surveyors administered the Park User Survey and the Direct Observation Park Survey for all parks. However because of resource constraints the Activity Survey was administered to just four out of 12 of them. Table 3-3 shows the 12 parks listed above and the surveys administered at each of them. Note that we intentionally did not administer the General Public Surveys inside parks.

Park name	Park User Survey	Direct Observation Park Survey	Activity Survey
Bashabo Math	Yes	Yes	No
Shyamoli Park	Yes	Yes	No
Uttara Sector No. 7 Park	Yes	Yes	No
Fajle Rabbi Park	Yes	Yes	No
Farmgate Park	Yes	Yes	No
Gulshan Society Lake Park	Yes	Yes	Yes
Ramna Park	Yes	Yes	No
Boishakhi Khelar Math	Yes	Yes	Yes
Mirpur Mazar Football Khelar Math	Yes	Yes	Yes
Osmani Uddayan	Yes	Yes	No
Bangladesh Math	Yes	Yes	No
Dhanmondi Lake Park	Yes	Yes	Yes

Table 3-3	Survevs	administered	for the	parks	in this	studv
10010 0 0	Garveye	aanninotoroa	101 1110	panto	111 0110	olday

3.3 Proposed pilot project

The final component of our methodology is the pilot project proposal. Based on findings from the surveys, we make design recommendations for Boishakhi Khelar Math. The pilot project proposal lists

² In the case of Dhanmondi Lake Park, the map showed a specific section of the park.

interventions aimed at enhancing the park for those who use it already, as well as encouraging new users.

The method for developing a pilot project for Boishakhi Khelar Math involves the following components:

- 1. compiling park-specific findings from three surveys (excluding the General Public Survey);
- 2. generating a vision for Boishakhi Khelar Math;
- 3. providing design recommendations, guided by the vision; and
- 4. supplying advice on implementation, including maintenance.

The purpose of the pilot project is to inspire authorities and community stakeholders to generate positive change not only Boishakhi Khelar Math, but other parks in Dhaka.

3.4 Summary of the study methodology

This study uses four surveys to assess the characteristics, usage patterns, and perceptions associated with a selection of 12 parks in Dhaka. The four surveys are: (1) a General Public Survey, (2) a Park User Survey, (3) a Direct Observation Park Survey, and (4) an Activity Survey. The purpose of each is summarised in Table 3-4.

Survey	Purpose
General Public Survey	To understand whether and why people visit parks.To understand what changes would encourage them to visit (or more frequently visit) parks.
Park User Survey	• To ascertain which activities are undertaken by users of parks, the benefits they gain from doing so, their perceptions of current conditions, and their suggestions for improvements.
Direct Observation Park Survey	• To gather direct observation information about the characteristics of the parks and available facilities. This survey focused on the physical environment, in terms of what facilities are offered.
Activity Survey	• To understand the location and type of activities that take place throughout the day in the parks.

Table 3-4	The	purpose	of	each	survey	used	in	this	study	
-----------	-----	---------	----	------	--------	------	----	------	-------	--

Using the findings from these surveys, we propose a pilot project for Boishakhi Khelar Math. This project provides recommendations aimed at enhancing the park for those who use it already, as well as encouraging new users. We also use the findings to make general recommendations for parks in Dhaka.

4 Results

This section presents the results of the four surveys we used for our study: the General Public Survey (4.1), the Park User Survey (4.2), the Direct Observation Park Survey (4.3), and the Activity Survey (4.4). We present a summary of the results in section 4.5.

4.1 General Public Survey

The purpose of the General Public Survey is to understand whether or not people visit parks, and if not, then why. It also asks what changes would encourage their use, and why some people are willing to make longer trips to other parks farther away.

The team of surveyors administered the General Public Survey to 374 respondents throughout the day on January 28, 2013. The survey was given to passers-by on streets and public markets throughout Dhaka City.

In this section, we outline the age and gender of survey respondents, whether or not they visit their nearest park, their suggestions for encouraging park use, and their reasons for visiting other parks in the city. The results will help us understand which measures may be effective in encouraging people to begin using parks, or to use them more frequently

4.1.1 Who responded to the General Public Survey?

The age of respondents was most commonly in the 20-29 and 30-39 age ranges (27.4% and 25.0% respectively). Roughly two-thirds (68.6%) of respondents were male, and 30.5% were female. Figure 4-1 and Figure 4-2 summarise the proportion of respondents by age and gender respectively.



Figure 4-1 General Public Survey respondents by age group



Figure 4-2 General Public Survey respondents by gender

4.1.2 Who visits their nearest park?

Among respondents, 60% reported having visited their nearest park in the past, versus 39 that had not. Roughly 1% did not know.



Figure 4-3 Do you visit the park or open space closest to your house? (All respondents)

Those who lived within one kilometre of a park were much more likely to use it (68%, Figure 4-4) relative to those who lived more than one kilometre from a park (37%, Figure 4-5).



Figure 4-4 Do you visit the park or open space closest to your house? (Nearest park within 1 km)



Figure 4-5 Do you visit the park or open space closest to your house? (Nearest park farther than 1 km)

4.1.3 Why do some people not visit their nearest park?

Of those who hadn't visited their nearest park, the reasons provided for not doing so varied. The greatest concern was for environmental issues, mentioned by 41% of respondents who did not visit their nearest park, followed by a lack of security (35%) and a lack of cleanliness (34%). Figure 4-6 summarises these findings.



Figure 4-6 Reason for not visiting closest park, by percent of respondents

In broader terms, we grouped each stated reason for not visiting a nearby park into one of four categories: (1) Access and mobility, (2) park features, (3) safety, and (4) health and sanitation. The most commonly-cited problem with parks related to health and sanitation (30%) followed by safety (23%), park features (19%) and access and mobility (15%). Figure 4-7 summarises these findings. Note that respondents were allowed to check all responses that applied. As a result, the frequency in Table 4-1 adds up to the total frequency of checkmarks, rather than the total number of respondents for this question.



Figure 4-7 Reason (categorised) for not visiting closest park, by number of responses

Table 4-1 provides the same information as Figure 4-7, but also includes the specific responses included within each category, for reference.

Reason	Responses included	Frequency	Proportion of total frequency
Health and sanitation	Bad environmental issuesNot clean	111	30%
Safety	Lack of securityFear of mugging	86	23%
Park features	 Lack of play equipment Lack of walking spaces Lack of furniture Lack of tree shade Bad landscaping Lack of shelter 	73	19%
Access and mobility	 Poor access to the park (entry) Unable to visit because of poor health Lack of access because of street conditions Unable to access park features 	57	15%
Other	Not applicable	50	13%

Table 4-1 Reason (categorised) for not visiting closest park, by number of responses

4.1.4 What do survey respondents recommend to increase the usage of nearby parks?

Of the 374 total respondents, 278 indicated what changes would either make them use the park, make them use it more often, or make them stay for longer periods of time. The most common suggestion was park furniture (15% of respondents) followed by shelter from rain and sun (13% of respondents). Figure 4-8 summarises these results.



Figure 4-8 Recommendations for park improvement, by percent of respondents

4.1.5 Who visits other (non-nearby) parks and why do they do so?

When asked if they visited parks other than the nearest one to them in the city, 53.1% of respondents indicated that they did visit other parks. Meeting friends and peace and quiet were the two most common responses (30% and 24% of respondents respectively). Figure 4-9 summarises these findings.



Figure 4-9 Reasons for visiting parks other than the nearest one, by percent of respondents

We categorised the responses and tallied their frequencies. In broad terms, the reasons for visiting nonnearby parks were primarily related to socialising and relaxation (30% of responses each). Figure 4-10 summarise these findings.



Figure 4-10 Reasons (categorised) for visiting parks other than the nearest one, by percent of responses

Table 4-2 lists the same numbers as Figure 4-10, but also provides the responses included in each of the categories we generated.

Reason	Responses included	Frequency	Proportion of total frequency
Socialise	Meet friends	60	30%
Peace and relaxation	Relax and thinkGet peace and quiet	59	30%
Fitness, health, and play	 Improve health Keep fit Doctor's advice Play 	29	15%
Contact with nature	See wildlifeGet fresh air	24	12%
Other	Not applicable	25	13%

Table 4-2 Reasons (categorised) for visiting parks other than the nearest one, by percent of responses

4.1.6 Summary of findings from the General Public Survey

The purpose of the General Public Survey was to understand whether or not people visit parks, and if not, then why. It also asked what changes would encourage their use, and why some people were willing to make longer trips to other parks farther away. The bullet points below summarise our findings:

- Respondents who lived within one kilometre of a park were much more likely to visit their nearest park (68%) than those who lived farther than one kilometre from a park (39%).
- Most respondents do visit their nearest park (60% of respondents), and of those who do not, environmental issues (41%), lack of security (35%), and lack of cleanliness (34%) were most commonly-cited. In broader terms, health and sanitation (30% of responses) and safety (23%) were the two most common reasons cited.
- The most common suggestion for improvement of parks was park furniture (15% of respondents) and shelter from rain and sun (13%).
- Among those who visited other parks in the city, the most common responses were (1) to meet friends and (2) for peace and relaxation (30% each).

The results of the General Public Survey helped us understand why individuals use parks (or not) whether those spaces are nearby or farther away. The next section focuses on the perceptions of those who actually use parks.

4.2 Park User Survey

On January 30 and 31, 2013, a team of WBB surveyors administered the Park User Survey to 739 individuals at each of the 12 parks. The purpose of this survey was to understand the perceptions of the people who actually use these spaces.

In this section, we use the results to describe the following information about respondents:

- their age and gender;
- how frequently they visit the park in question;
- their location of origin before arriving at the park;
- their mode of transportation used to reach the park;
- the activities they undertake in the park; and
- their suggestions for improving the park.

These results will help us understand how people use and perceive parks. In turn, we can better understand how to make their experience more pleasant.

4.2.1 Who responded to the Park User Survey?

The demographic makeup of respondents was likely to be young adult males. The most common age range among respondents was 20-29 (29%), followed by 13-19 (26%). Men provided 77% of responses, while females provided 23%. Figure 4-11 and Figure 4-12 summarise the age and gender breakdown of respondents.



Figure 4-11 Respondents of the Park User Survey by age group



Figure 4-12 Respondents of the Park User Survey by gender

4.2.2 How frequently do respondents visit the park?

Respondents were asked how often they visited the park in which they were located for the interview. Most respondents were regular visitors of the park, visiting either weekly or more frequently (75%). Twenty percent of visitors indicated that they visit the park on a less-than-weekly basis. Just 6% of the park users indicated that the time of the survey was their first visit. Figure 4-13 summarises these findings.



Figure 4-13 Frequency of visits to the park, by percent of respondents

4.2.3 From where did respondents get to the park?

Respondents indicated their usual place of origin before arriving at the park. Predictably, most travelled from home (62%). Some however arrived from work (14%) or school (20%, all levels including post-secondary) and from work (13%). Note that in the summarising figure below (Figure 4-14) we collapsed

several categories into "Other" (4%), including shops (2%), friends' houses (1%), and those who indeed responded "other" (1%).



Figure 4-14 Place of origin before arriving at the park, by percent of respondents

4.2.4 Which modes of transportation did respondents use to reach the park?

Respondents were asked which mode of travel they typically used to reach the park. The majority arrived by foot (73%) with another 11% travelling by rickshaw, and 6% by bus. Motor vehicles, motorbikes, and bicycles were used by 3% of respondents each. Other modes accounted for roughly 1% of trips. Figure 4-15 summarises the travel modes used by respondents to reach the park.



Figure 4-15 Travel mode used to reach the park, by percent of respondents

Respondents also indicated the approximate travel time required to reach the park from their origin location. Eighty percent (80%) indicated that they had a travel time of 20 minutes or less, 9% had travelled more than 20 minutes, and 5% stated that their travel time varied based on traffic patterns. Figure 4-16 summarises the travel times.



Figure 4-16 Travel time required to reach the park, by percent of respondents

4.2.5 What activities did respondents undertake in the park?

Surveyors asked respondents for the purpose of their trip to the park. The most common response was "peace and quiet" (26.4% of respondents), and "meet friends" (26.1%). These and other responses are displayed in Figure 4-17.



Figure 4-17 Purpose of trip to the park, by percent of respondents (multiple options allowed)

Respondents were also asked what activities they were presently undertaking in the park. Walking (35% of respondents), socializing (27%) and enjoying the beauty of the park (27%) were the top activities taking place at the parks. When asked, 88% of respondents felt that their activities were important. Figure 4-18 summarises these findings.



Figure 4-18 Activities undertaken at the park, by percent of respondents (multiple options allowed)

4.2.6 How did respondents rate the physical characteristics of the park?

The Park User Survey asks respondents to rate the characteristics of the park in question on four bases: design and appearance; cleanliness; ability to get around; and sports facilities.

4.2.6.1 Design and appearance

Surveyors asked respondents to rate the design and appearance of the park they were visiting. A little less than half (47%) rated the park as very good or good, and 35% rated the park as fair. Eighteen percent rated their park as poor or very poor. Figure 4-19 summarises these findings.



Figure 4-19 Park rating by percent of respondents: general design and appearance

4.2.6.2 Cleanliness

Surveyors asked respondents to rate the cleanliness of their park. Only 29% rated their park as "very good" or "good". More people rated their park as "poor" or "very poor" (34%). The most common response, however, was "fair" (37%). Figure 4-20 summarises these findings.



Figure 4-20 Park rating by percent of respondents: cleanliness

4.2.6.3 *Getting around*

Approximately 43% of respondents rated their park as either good or very good in terms of how enjoyable it is to get around. Only 15% indicated that the park was either "poor" or "very poor". Forty-one percent of respondents stated "fair". Figure 4-21 summarises these findings.



Figure 4-21 Park rating by percent of respondents: getting around

4.2.6.4 Sports facilities

Surveyors asked respondents to rate the sports facilities that were available in the park. Almost one-third felt that the facilities were either "fair" (36%) or "poor" or "very poor" (30%). Only 21% of respondents rated the sports facilities as "very good" or "good". Figure 4-22 summarises these findings.



Figure 4-22 Park rating by percent of respondents: sports facilities

4.2.7 What did respondents suggest to improve the park?

Almost all (91%) of park users had suggestions about what would encourage them to visit the park more often or to stay longer. The most common response was to improve the park furniture (36%) followed by improving the landscaping (34%) and providing shelter from rain and sun (30%). Lighting was the least frequent response (13%). Figure 4-23 summarises these findings.



Figure 4-23 Suggestions for park improvement, by percent of respondents (multiple responses allowed)

4.2.8 Summary of findings from the Park User Survey

The purpose of this survey was to understand the perceptions of these spaces by people who actually use them. The bullet points below summarise our findings.

- Three-quarters of respondents visit their park at least weekly, and typically arrive from home (62%), school (20%), or work (14%). Regardless of origin location, the majority respondents arrived by foot (73%).
- The most commonly-reported activities within the park were walking (35%), socialising (27%), and enjoying the surroundings (27%). The two most important reasons people visited parks were to get peace and quiet and to meet friends (26% of respondents respectively).
- While respondents rated the overall design and appearance of parks well (47% good or very good), the majority rated sports facilities within their park less well (36% fair and 30% poor or very poor).
- The most commonly-reported suggestion for park improvements was furniture (36%), followed by landscaping (34%) and shelter from rain and sun (30%).

The Park User Survey provides subjective, perception-based to information from individuals actually using parks. The next section outlines more objective findings from the Direct Observation Park Survey.

4.3 Direct Observation Park Survey

On January 28, 2013, a team of WBB surveyors administered the Direct Observation Park Survey at the 12 parks included in this study. The purpose of the survey is to gather information about the characteristics of each space. The results will help us to identify gaps in facilities and maintenance.

This section presents the results from the survey. It is structured as follows: (1) amenities, (2) sensory perceptions, (3) sanitation, (4) access, (5) adjacent streets, and finally (6) availability of green space, walking paths, children's space, and sports fields.

4.3.1 Amenities

Four amenities we surveyed include park staff, seating, lighting, and water taps. Park staff (whether police or maintenance) help to monitor the conditions of the park. Seating allows park users to relax and socialise. Lighting is important for safety at night, especially among women. And water taps provide a free source of hydration for park users. Table 4-3 and the bullet points below summarise our findings related to these amenities.

- Six out of 12 of the parks had either park maintenance workers or police/security officers monitoring the space.
- Seating was present in all 12 parks. Surveyors considered seating conditions "good" in six of them, "average" in four, "poor" in two.
- Nine of the twelve parks (75%) had lighting facilities. In seven of these, surveyors considered the lighting "sufficient".
- Surveyors located only one park with any functioning water taps.

Park name	Staff	Seating	Lighting	Water taps
Bashabo Math	No staff	Poor	No lighting	No taps
Shyamoli Park	No staff	Average	No lighting	No taps

Table 4-3 List of amenities for each of the 12 parks

Park name	Staff	Seating	Lighting	Water taps
Uttara Sector No. 7 Park	No staff	Good	Yes, sufficient	No taps
Fajle Rabbi Park	Yes	Good	Yes, sufficient	No taps
Farmgate Park	No staff	Average	Yes, sufficient	No taps
Gulshan Society Lake Park	Yes	Average	Yes, sufficient	No taps
Ramna Park	Yes	Good	Yes, sufficient	No taps
Boishakhi Khelar Math	Yes	Average	Yes, insufficient	No taps
Mirpur Mazar Football Khelar Math	No staff	Poor	No lighting	No taps
Osmani Uddayan	Yes	Good	Yes, sufficient	Yes, functional (some)
Bangladesh Math	No staff	Good	Yes, insufficient	No taps
Dhanmondi Lake Park	Yes	Good	Yes, sufficient	No taps

4.3.2 Sensory perceptions

Surveyors took stock of the visual, olfactory, and auditory characteristics in the 12 parks. Positive sensory perceptions can make parks more pleasant for their users, and negative ones can have the opposite effect. Table 4-4 and the bullet points below summarise our findings related to sensory perceptions.

- Surveyors rated three quarters of parks either "average" or "poor" in terms of attractiveness. The remaining three parks were rated "good".
- With respect to smells, two parks were rated "poor", while four were rated "average". The remaining six had "good" smells.
- As far as sounds are concerned, surveyors took note of many pleasant sounds in the parks, including birds (5/12), music (1/12) and people (9/12). On the other hand, all 12 parks experienced negative traffic noises.

Park name	Visual attractiveness	Smells	Sounds
Bashabo Math	Poor	Average	Traffic, people talking
Shyamoli Park	Average	Poor	Birds, traffic, people talking
Uttara Sector No. 7 Park	Good	Good	Traffic, people talking
Fajle Rabbi Park	Good	Good	Traffic
Farmgate Park	Average	Average	Birds, traffic, people talking
Gulshan Society Lake Park	Average	Good	Birds, traffic, people talking
Ramna Park	Average	Good	Birds, traffic

Table 4-4 Sensory perceptions associated with each of the 12 parks

Park name	Visual attractiveness	Smells	Sounds
Boishakhi Khelar Math	Average	Average	Traffic, people talking
Mirpur Mazar Football Khelar Math	Poor	Poor	Traffic, people talking
Osmani Uddayan	Average	Good	Traffic
Bangladesh Math	Average	Average	Traffic, people talking
Dhanmondi Lake Park	Good	Good	Birds, traffic, people talking, music

4.3.3 Sanitation

Clean environments can signal to users that an area is well cared for and maintained. Our Direct Observation Park Survey revealed the (1) authority responsible for maintenance, (2) presence and amount of litter (small items) and trash (large items) not in waste bins, (3) presence and state of waste bins, and (4) presence and characteristics of restroom facilities. Table 4-5 summarises these findings, as well as the bullet points below.

- Half of the parks (6) were maintained by Dhaka City authorities. The other half (6) were maintained by private sector entities.
- Surveyors found that the majority of spaces (8/12) had either "some" or "a lot" of litter present. Litter includes small pieces of garbage like packaging or used newspapers.
- Half of the spaces had either "a little" or "some" risky litter. Risky litter includes things like alcohol bottles, syringes, and used prophylactics.
- Half of the spaces had either "some" or "a lot" of trash present. Trash includes large pieces of garbage, like construction rubble.
- Waste bins were missing in just one of the parks. However, for those parks that did have bins, four of the parks had waste bins that were overflowing.
- Five of the twelve parks had toilet facilities, of which four were open when the surveyors visited. Three of these required a fee in order to use them. The surveyors rated toilets in three of the parks as "good", and one park each as "average" and "poor".

Park name	Maintenance	Amount of litter	Amount of risky litter	Amount of trash	Waste bins	Presence, cleanliness, and cost of toilets
Bashabo Math	Private	A lot	A little	A lot	Yes, overflowing	No toilets
Shyamoli Park	Private	A lot	A little	A lot	Yes, not overflowing	No toilets
Uttara Sector No. 7 Park	Government	Some	None	None	Yes, not overflowing	No toilets
Fajle Rabbi Park	Private	None	None	None	Yes, not	1 toilet, good

Table 4-5 Characteristics associated with sanitation for each of the 12 parks

Park name	Maintenance	Amount of litter	Amount of risky litter	Amount of trash	Waste bins	Presence, cleanliness, and cost of toilets
					overflowing	cleanliness, no fee
Farmgate Park	Government	Some	None	A lot	Yes, overflowing	No toilets
Gulshan Society Lake Park	Private	None	None	None	Yes, not overflowing	5 toilets, good cleanliness, no fee
Ramna Park	Private	A little	None	None	Yes, not overflowing	3 toilets, average cleanliness, no fee
Boishakhi Khelar Math	Government	Some	None	None	Yes, overflowing	No toilets
Mirpur Mazar Football Khelar Math	Government	A lot	A little	Some	Yes, overflowing	No toilets
Osmani Uddayan	Government	Some	A little	Some	Yes, not overflowing	1 toilet, poor cleanliness, fee
Bangladesh Math	Government	Some	Some	Some	Missing data	No toilets
Dhanmondi Lake Park	Private	A little	A little	A little	Yes, not overflowing	4 toilets, good cleanliness, fee

4.3.4 Access

For the public to use parks, they must be accessible. The Direct Observation Park Survey revealed the (1) ownership types (public or private), (2) entry restrictions, (3) hours of operation, (4) entry fees, and (5) presence of parked motor vehicles affecting the use of the park. Table 4-6 summarises these findings, as well as the bullet points below.

- Eleven (11) out of the 12 parks were publicly-owned. The exception was Uttara No. 7 Sector Park, which was privately-owned.
- Two of the parks restricted access to a specific class of the population: Uttara No. 7 Sector Park and Gulshan Society Lake Park. This is monitored by security personnel at their entry points.
- Of the twelve parks surveyed, eight had no hours posted, implying that they could be accessed at any time of day. Two opened at 5:00 a.m. (one of which closed at 10:00 p.m., the other did not specify a closing time), one opened at 6:00 a.m. and closed at 3:00 p.m., and one opened at 7:00 a.m. (this one also did not specify a closing time).
- All twelve of the parks surveyed were free of charge to enter.
- One park (Dhanmondi Lake Park) had provisions for motor vehicle parking within its boundaries. Two parks had provision for parking outside their boundaries.

• Two parks had motor vehicles illegally parked within their boundaries. Five had illegal parking outside their boundaries.

Park name	Ownership	Access restrictions	Hours of operation	Entry fees	Parked motor vehicles
Bashabo Math	Public	No	N/A	None	
Shyamoli Park	Public	No	N/A	None	Illegal, outside
Uttara Sector No. 7 Park	Private	Yes	N/A	None	Illegal, outside
Fajle Rabbi Park	Public	No	6:00 a.m. to 3:00 p.m.	None	Illegal, outside
Farmgate Park	Public	No	N/A	None	
Gulshan Society Lake Park	Public	Yes	5:00 a.m. to 10:00 p.m.	None	Legal, outside
Ramna Park	Public	No	Opens at 7:00 a.m.	None	Legal, inside; illegal, outside
Boishakhi Khelar Math	Public	No	N/A	None	
Mirpur Mazar Football Khelar Math	Public	No	N/A	None	Illegal, inside
Osmani Uddayan	Public	No	Opens at 5:00 a.m.	None	Illegal, outside
Bangladesh Math	Public	No	N/A	None	Illegal, inside
Dhanmondi Lake Park	Public	No	N/A	None	Legal, outside

Table 4-6 Access restrictions associated with each of the 12 parks

4.3.5 Adjacent streets

The Direct Observation Park Survey assessed the most important street adjacent to each park, to determine its width, presence of crossing aids, traffic level, speed limit, footpath, and sources of shade. Table 4-7 and the bullet points below summarise the findings.

- Adjacent streets varied in width, but eight (two-thirds) were either two or three lanes wide. Three adjacent streets had wider roadways, and one street (adjacent to Mirpur Mazar Football Khelar Math in Mirpur) had only one lane of traffic.
- In terms of crossing aids: three adjacent streets exhibited none, five had crosswalks, four had traffic officers, two had flashing lights, two had speed bumps, one had a foot over bridge, and one had a stop sign.
- Eight of the streets bordering the parks had heavy traffic (eleven or more cars per minute). Two streets had medium traffic (6-10 cars per minute) and the remaining two had light traffic (5 or fewer cars per minute).
- No speed limits were posted on adjacent streets.
- Seven of the streets surveyed had footpaths on both sides of the street, none had footpaths on one side of the street, and five had no footpaths.

• Ten of the streets surveyed had street trees that provided shade, seven had neighbouring buildings providing shade, and three had shelters. Only one street did not have any shade.

Park name	Traffic lanes	Crossing aids	<i>Motor vehicle traffic volume</i> Cars/minute	Footpaths	Sources of shade
Bashabo Math	2-3	No crossing aids	11 or more	No footpath	Trees, buildings
Shyamoli Park	2-3	No crossing aids	6-10	Both sides	Trees, buildings
Uttara Sector No. 7 Park	2-3	Crosswalk	11 or more	No footpath	Trees, buildings, shelters
Fajle Rabbi Park	6 or more	Traffic officer	11 or more	Both sides	Trees, buildings
Farmgate Park	4-5	Traffic officer	11 or more	Both sides	Trees, shelters
Gulshan Society Lake Park	2-3	Crosswalk	11 or more	Both sides	Trees, buildings
Ramna Park	2-3	Traffic officer, foot over bridge	11 or more	Both sides	Trees
Boishakhi Khelar Math	2-3	No crossing aids	6-10	No footpath	Wall
Mirpur Mazar Road Football Khelar Math	1	Crosswalk	5 or fewer	No footpath	No shade
Osmani Uddayan	4-5	Flashing lights, stop sign, speed bump, zebra crossing	11 or more	Both sides	Trees
Bangladesh Math	2-3	Crosswalk	5 or fewer	No footpath	Trees, buildings
Dhanmondi Lake Park	2-3	Crosswalk, flashing lights, speed bump, traffic officer	11 or more	Both sides	Trees, buildings, shelters

Table 4-7 Characteristics of adjacent streets for each of the 12 parks

4.3.6 Availability of green space, walking paths, children's play space, and sports fields

Subsequent sections address the characteristics of green space, walking paths, children's play space, and sports fields. Here we summarise which parks had each of these facilities. Of the twelve in our study, five had green space, 10 had walking paths, six had dedicated children's play spaces, and four had sports fields within them. These availabilities are summarised in Table 4-8. For more information on each of these facilities, refer to sections 4.3.6.1 to 4.3.6.4.

Park name	Green space	Walking paths	Children's play space	Sports field
Bashabo Math	No	Yes	No	Yes
Shyamoli Park	No	Yes	Yes	No
Uttara Sector No. 7 Park	Yes	Yes	Yes	No
Fajle Rabbi Park	No	Yes	Yes	No
Farmgate Park	Yes	Yes	No	No
Gulshan Society Lake Park	No	Yes	No	No
Ramna Park	Yes	Yes	Yes	No
Boishakhi Khelar Math	No	Yes	No	Yes
Mirpur Mazar Football Khelar Math	No	No	No	Yes
Osmani Uddayan	Yes	Yes	Yes	No
Bangladesh Math	No	No	No	Yes
Dhanmondi Lake Park	Yes	Yes	Yes	No

Table 4-8 Availability of green space, walking paths, children's play space, and sports fields, for each of the 12 parks

4.3.6.1 Green space

In this subsection, we describe the characteristics of green spaces for each of the parks that exhibit green space. The characteristics include: (1) presence of landscaping versus natural areas, (2) surface material, (3) sources of shade, and (4) presence of regular maintenance. Table 4-9 and the bullet points below summarise these findings.

- Five of the parks included green space as a feature. Of these, two had landscaped green spaces and the remaining three were a mixture of natural areas and landscaping.
- Surveyors reported that two of the green spaces appeared to be regularly maintained, whereas three did not appear to be regularly maintained.
- The surface area of the green spaces were mostly grass in two parks, mostly soil in two parks, and a mix of grass and soil in one park.
- Each green space provided at least one type of shade. All five enjoyed tree shade, one had neighbouring buildings providing shade as well, and two had shelters.

Park name	Landscaping	Surface material(s)	Sources of shade	Regular maintenance
Uttara Sector No. 7 Park	Mixed landscaping and natural areas	Mostly soil	Trees, buildings, shelters	Yes
Farmgate Park	Landscaped	Mostly soil	Trees	No

Table 4-9 Characteristics of green space, where present
Park name	Landscaping	Surface material(s)	Sources of shade	Regular maintenance
Ramna Park	Landscaped	Mostly grass	Trees, shelter	Yes
Osmani Uddayan	Mixed landscaping and natural areas	Mostly grass	Trees	No
Dhanmondi Lake Park	Mixed landscaping and natural areas	Mix of grass and soil	Trees	Yes

4.3.6.2 Walking paths

In this subsection, we describe the characteristics of walking paths for all parks that had them. The characteristics include: (1) surface materials, (2) width, (3) vehicular crossing, and (4) sources of shade. Table 4-10 and the bullet points below summarise these findings.

- Of the 12 parks, 10 (83%) featured walking paths.
- Several different materials were used: bricks were present in seven paths, and concrete and tiles in four each. Asphalt and stone were present in one path each. No parks paths are made of sand or soil.
- Three walkways measured greater than three meters wide. Five walkways were between one and two meters wide and two were less than one meter wide.
- Vehicular traffic crossed the walking path in only one park: Dhanmondi Lake Park. The other nine walking paths had no motor vehicle crossings.
- Seven walking paths boasted trees for shade, four were shaded by neighbouring buildings, and one had shelters. Two walkways had no source of shade.

Park name	Surface material(s)	Width	Vehicular crossing	Sources of shade
Bashabo Math	Tiles	Less than 1 metre	No	No shade
Shyamoli Park	Brick	Less than 1 metre	No	No shade
Uttara Sector No. 7 Park	Brick, tiles	1-2 metres	No	Trees, buildings, shelter
Fajle Rabbi Park	Concrete, brick	More than 2 metres	No	Trees
Farmgate Park	Brick	1-2 metres	No	Trees
Gulshan Society Lake Park	Concrete, tiles	More than 2 metres	No	Trees, buildings
Ramna Park	Asphalt, concrete, brick, stone	More than 2 metres	No	Trees
Boishakhi Khelar Math	Brick	1-2 metres	No	Buildings
Osmani Uddayan	Tiles	1-2 metres	No	Trees

Table 4-10 Characteristics of walking paths, where available

Park name	Surface material(s)	Width	Vehicular crossing	Sources of shade
Dhanmondi Lake Park	Concrete, brick	1-2 metres	Yes	Trees, buildings

4.3.6.3 Children's play space

In this subsection, we describe the characteristics of children's play spaces for all parks that feature them. The characteristics include: (1) presence of swings, slide, and climbing apparatus, (2) level of deterioration of equipment, (3) surface materials, and (4) sources of shade. Table 4-11 and the bullet points below summarise these findings.

- Of the twelve parks surveyed, six (50%) featured children's play spaces.
- Five of the six play spaces enjoyed swings, five had slides, and one featured a climbing apparatus.
- The surface under the play areas consisted of grass and soil (three parks), sand and soil (two parks, and grass only (one park). No children's play areas had hard surfaces like asphalt or concrete.
- The play equipment had "a lot" of deterioration in two spaces, "some" in one space, and "very little" in the remaining three spaces.
- Five play spaces boasted trees that provided shade, one of which was also shaded by shelters and neighbouring buildings. One space had no source of shade.

Park name	Swings	Slide	Climbing apparatus	Equipment deterioration	Surface material(s)	Sources of shade
Shyamoli Park	Yes	Yes	No	A lot	Grass, soil	No shade
Uttara Sector No. 7 Park	Yes	Yes	No	Very little	Grass, soil	Trees, buildings, shelters
Fajle Rabbi Park	Yes	Yes	No	A lot	Grass, soil	Trees
Ramna Park	Yes	Yes	No	Very little	Sand, soil	Trees
Osmani Uddayan	Yes	Yes	No	Very little	Grass	Trees
Dhanmondi Lake Park	No	No	Yes	Some	Sand, soil	Trees

Table 4-11 Characteristics of children's play space, where available

4.3.6.4 Sports fields

In this subsection, we describe the characteristics of sports fields for all parks that feature them. The characteristics include: (1) types of sports facilities, (2) intended use of these facilities, (3) their quality, (4) lighting, and (5) sources of shade. Table 4-12 and the bullet points below summarise these findings.

• Of the twelve parks surveyed, four featured sports fields.

- The most common type of sports facility present was equipment available was a football goal bars, with all sports fields featuring this type of equipment. Additionally, Boishakhi Khelar Math enjoyed a cricket pitch.
- Surveyors rated the quality of sports facilities available in the four sports fields. Three were described as poor, and one as average.
- In terms of lighting, two sports fields had none, and the remaining two had some lighting, but it was insufficient for sports purposes at night time.
- Two sports fields had no shade, one had shelters for shade, and the remaining one had trees for shade.

Park name	Sports facilities	Intended use	Quality of sports facilities	Lighting	Sources of shade
Bashabo Math	Football goal posts	Football, cricket	Poor	No lighting	No shade
Boishakhi Khelar Math	Football goal posts, cricket pitch	Football, cricket, badminton	Average	Yes, insufficient	No shade
Mirpur Mazar Football Khelar Math	Football goal posts	Football, cricket	Poor	No lighting	Shelters
Bangladesh Math	Football goal posts	Football, cricket	Poor	Yes, insufficient	Trees

Table 4-12 Characteristics of sports fields, where available

4.3.7 Summary of results from the Direct Observation Park Survey

The purpose of this survey was to gather information about the characteristics of each space. The findings from this survey are listed below:

- Several park amenities were present for roughly half of parks. Sufficient lighting was available in seven out of 12 parks, park staff were visible in six out of 12 parks, and seating was similarly rated "good" in six out of 12 parks. However, water taps were only present in one park.
- From a sensory perspective, loud traffic noise was apparent in all 12 parks. Conversely, the sights and smells of the parks were rated "good" or "average" except for Mirpur Mazar Football Khelar Math in Mirpur (rated "poor" for both sights and smells).
- Sanitation was problematic in several parks: Litter was visible in eight out of 12 parks, including risky litter in six. Furthermore, overflowing waste bins were present in four out of 12 parks, despite 11 out of 12 parks having waste bins present. Only five out of 12 parks had toilets, of which three required a fee for use.
- In terms of accessing parks, 10 out of 12 were fully accessible to the public and free of charge. Uttara No. 7 Sector Park and Gulshan Society Lake Park, however, restricted access to specific classes of people.
- On nine out of 12 of the primary streets adjacent to parks, crossing aids were present. However, heavy traffic was reported for eight out of 12 adjacent streets. No speed limits were posted for any adjacent streets.

• Among the twelve parks, five enjoyed green space (landscaped or natural), 10 boasted walking paths, six had play space for children, and four had sports fields. However, three out of the four sports fields were rated "poor" in quality.

These results help us identify gaps in facilities and maintenance for each park, playground, and sports field. The next section focuses on the activities visible in four of the spaces.

4.4 Activity Survey

The purpose of this survey is to understand the location and type of activities that take place throughout the day in four out of the twelve parks included in this study. The results will allow us better understand how the spaces are used, and to identify gaps in programming.

A team of WBB surveyors administered the Activity Survey in four parks, over three days between January 25 and 29, 2013. Surveyors described the weather for all three days as cool and sunny in the morning, and warm and sunny in the afternoon. The four parks that were surveyed include:

- Boishakhi Khelar Math in the neighbourhood of Rayer Bazar;
- Dhanmondi Lake Park in the neighbourhood of Dhanmondi;
- Mirpur Mazar Road Football Khelar Math in the neighbourhood of Mirpur; and
- Gulshan Society Lake Park in the neighbourhood of Gulshan.

Surveyors noted 5539 activities in all parks over the course of the three days (362 in Boishakhi Khelar Math, 4531 in Dhanmondi Lake Park, 168 in Mirpur Mazar Road Football Khelar Math, and 478 in Gulshan Society Lake Park).

For each space, this section includes Activities by time of day, and Activities by location. The summaries by location group activities into five categories: athletics and play, personal or social, selling products, walking and biking, and work-oriented activities. Table 4-13 shows each category, the types of activities that fall within it, and the colour by which each is represented in the maps showing activities by location.

Activity category	Examples	Colour
Athletics and play	Soccer, cricket, children's play	
Personal or social	Conversation, relaxing, eating	
Selling products	Selling newspapers, selling snacks, tea stalls	
Walking and biking	Walking, biking	
Work-oriented activities	Working on a laptop, park maintenance, fishing	

Table 4-13 Categories of activities and their colours in the maps below

4.4.1 Boishakhi Khelar Math

Boishakhi Khelar Math is located in the neighbourhood of Rayer Bazar, west of Dhanmondi. The sports field is bounded by Abul Kasem Khan Road to the north, Sultan Ganj Road to the east, Boishakhi Road to the south, and Sadek Khan Road to the west. It is located roughly 125 metres west of Sher-E-Bangla Road, and roughly 100 metres northwest of Rayer Bazar public market, the neighbourhood's namesake.

The sports field is also surrounded by diverse, high-density land uses including residential, commercial, institutional, and industrial property. Figure 4-24 shows the location of Boishakhi Khelar Math within the Dhaka context.



Figure 4-24 Satellite image of Boishakhi Khelar Math

4.4.1.1 Activities by time of day

Surveyors reported 362 activities in Boishakhi Khelar Math. Overall, the dominant activity was athletics and play (44%), followed by walking and biking (27%), and personal and social (24%). Five percent of activities involved selling products. Only one work-oriented activity was recorded (park maintenance) that did not involve any form of selling.

In the morning, walking and biking was the second-most prevalent activity (35%) next to athletics and play (39%). In the afternoon, however, personal and social activities increased in share to the second position (27%), ahead of walking and biking (19%).

Table 4-14 and Figure 4-25 summarise the frequency of different kinds of activities throughout the day. In the figure, a larger silhouette represents a more frequent activity, although this relationship is not to scale.

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Athletics and play	71	39%	87	48%	158	44%

Table 4-14 Activities by time of day, Boishakhi Khelar Math

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Personal or social	39	21%	49	27%	88	24%
Selling products	8	4%	10	6%	18	5%
Walking and biking	63	35%	34	19%	97	27%
Work-oriented activity	1	1%	0	0%	1	0%
Total	182	100%	180	100%	362	100%



Figure 4-25 Activities in Boishakhi Khelar Math by time of day

4.4.1.2 Activities by location

Athletics and play were more evenly distributed throughout Boishakhi Khelar Math, including its central area. *Personal and social* activities were clustered around the perimeter of Boishakhi Khelar Math. A high concentration of personal and social activities existed at the northeast corner of the sports field. *Selling products* occurred primarily near the eastern edge of the park. *Walking and bicycling* activities were

clustered around the perimeter of Boishakhi Khelar Math. Few *work-oriented activities* were recorded in Boishakhi Khelar Math. Figure 4-26 shows the locations of each of these activities.



Figure 4-26 Activities surveyed in Boishakhi Khelar Math

4.4.2 Dhanmondi Lake Park

Dhanmondi Lake Park is a large linear park surrounding Dhanmondi Lake that snakes through the planned neighbourhood of the same name. The neighbourhood and park are bounded by Road No. 16 to the north, Mirpur Road to the east, Road No. 2 to the south, and Satmasjid Road to the west. The circumference of the park enjoys a tree-lined lakeside footpath, several green spaces, an amphitheatre, restaurants, and a small marina for paddleboats. Two small islands are located within the lake, both of which are accessible by pedestrian bridges. Figure 4-27 shows the location of Dhanmondi Lake Park within the Dhaka City context.



Figure 4-27 Satellite image of Dhanmondi Lake Park

4.4.2.1 Activities by time of day

Surveyors reported 4531 activities in Dhanmondi Lake Park. Overall, the dominant activity in Dhanmondi Lake Park was personal and social activities (41%), followed by selling products (20%), walking and biking (16%), and work-oriented activities excluding vendors (16%). Six percent of activities involved athletics and play (6%).

In the morning, the share of personal and social activities (34%) was followed by work-oriented activities (22%), selling products (19%), and walking and biking³ (18%). Athletics and play were much less prevalent (8%). In the afternoon, the share of personal and social activities increased (49%), and was followed by selling products (21%), walking and biking (15%), and work-oriented activities (10%). Again, athletics and play were less prevalent (5%) than other activity types.

Table 4-15 and Figure 4-28 summarise the frequency of different kinds of activities throughout the day. In the figure, a larger silhouette represents a more frequent activity, although this relationship is not to scale.

Table 4-15 Activities by time of day, Dhanmondi Lake Park

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)

³ Note: For the southernmost segment of Dhanmondi Lake Park, surveyors noted "all around walking" on the survey. This walking was not quantified. As such, the share of walking and biking is higher than what appears in the table above.

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Athletics and play	176	8%	103	5%	279	6%
Personal or social	783	34%	1084	49%	1867	41%
Selling products	434	19%	460	21%	894	20%
Walking and biking	416	18%	326	15%	742	16%
Work-oriented activity	516	22%	221	10%	737	16%
Total	2325	100%	2194	100%	4519	100%



Figure 4-28 Activities in Dhanmondi Lake Park by time of day

4.4.2.2 Activities by location (1/5)

Athletics and play seldom occurred in this part of Dhanmondi Lake Park. *Personal and social* activities clustered near the foot bridge that crosses the lake from Road 2A, as well as the intersection of Road 12 and the lake. *Selling products* occurred primarily at the intersections of the park and surrounding streets (Road 2A, Road 15, and Road 12). *Walking and bicycling* activities evenly distributed along the footpath surrounding Dhanmondi Lake. They did not occur on the west side of Dhanmondi Lake in this part of the park. *Work-oriented activities* were well-dispersed in this area, with small clusters near retail and social activities. Figure 4-29 shows the locations of each of these activities.



Figure 4-29 Activities surveyed in Dhanmondi Lake Park (1/5)

4.4.2.3 Activities by location (2/5)

Athletics and play most often occurred at the southeastern edge of this part of Dhanmondi Lake Park. Personal and social activities were well-distributed in this part of the park, with the exception of the south side west of centre. The selling of products was evenly distributed throughout this part of Dhanmondi Lake Park, with the exception of a cluster at the southeast edge. Walking and bicycling activities evenly distributed along the footpath surrounding Dhanmondi Lake. Work-oriented activities were well-dispersed in this area with no discernable clusters. Figure 4-30 shows the locations of each of these activities.



Figure 4-30 Activities surveyed in Dhanmondi Lake Park (2/5)

4.4.2.4 Activities by location (3/5)

Athletics and play were evenly distributed in this section of the park. *Personal and social* were evenly distributed in this section of the park. The *selling of products* was evenly distributed throughout this part of Dhanmondi Lake Park. *Walking and bicycling* were evenly distributed in this section of the park. *Work-oriented activities* were evenly distributed in this section of the park. Figure 4-31 shows the locations of each of these activities.



Figure 4-31 Activities surveyed in Dhanmondi Lake Park (3/5)

4.4.2.5 Activities by location (4/5)

Athletics and play were most concentrated on the west side of Dhanmondi Lake in this part of the park. Personal and social activities were more heavily concentrated towards the west and northeast areas of this part of the park. Few social activities took place near the southeast inlet. The selling of products was concentrated around the bridges at the northern and southern parts of this part of Dhanmondi Lake Park. The eastern and western shores of the lake also saw small clusters of vendors. Walking and bicycling were evenly distributed in this section of the park. Work-oriented activities were more likely to occur in the southeast area of this part of the park. Figure 4-32 shows the locations of each of these activities.



Figure 4-32 Activities surveyed in Dhanmondi Lake Park (4/5)

4.4.2.6 Activities by location (5/5)

Athletics and play were infrequent but well-distributed in this part of the park. Personal and social activities were very frequent and well-distributed in this part of the park. The selling of products was well-distributed in this part of the park, with the exception of a high concentration at the northwestern edge of the park, where it intersects with Satmasjid Road. Surveyors indicated that walking and bicycling, and in particular walking, were extremely frequent activities in this part of the park, but did not specify where this may have been the case. Work-oriented activities were well-distributed in this part of the park. Figure 4-33 shows the locations of each of these activities.



Figure 4-33 Activities surveyed in Dhanmondi Lake Park (5/5)

4.4.3 Mirpur Mazar Road Football Khelar Math

Mirpur Mazar Road Football Khelar Math is located in the neighbourhood of Mirpur, roughly 200 metres north of Mirpur Road. It is bounded by Baten Nagar Road to the north, and Mazar Road to the west. No roads abut the park to the east and south. Figure 4-34 shows the location of Mirpur Mazar Road Football Khelar Math within the Dhaka City context.



Figure 4-34 Satellite image of Mirpur Mazar Road Football Khelar Math

4.4.3.1 Activities by time of day

Surveyors noted 168 activities in Mirpur Mazar Road Football Khelar Math. Overall, the dominant activity was walking and biking (29%), followed by work-oriented activities (22%), personal and social activities (20%), selling products (15%), and lastly athletics and play (14%). Note that surveyors noted several illegally-parked motor vehicles occupying the southern half of Mirpur Mazar Road Football Khelar Math. These are reflected in satellite imagery in Figure 4-34 (above), but were not counted as "activities".

In the morning, the share of walking and biking (35%) was followed by work-oriented activities and athletics and play (both 19%), personal and social activities (17%), and selling products (10%). In the afternoon, the share of work-oriented activities rose to the dominant activity type (26%), followed by personal and social activities (23%), walking and biking (22%), selling products (20%), and athletics and play (10%).

Table 4-16 and Figure 4-35 summarise the frequency of different kinds of activities throughout the day. In the figure, a larger silhouette represents a more frequent activity, although this relationship is not to scale.

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Athletics and play	16	19%	8	10%	24	14%
Personal or social	15	17%	19	23%	34	20%

Table 4-16 Activities by time of day, Mirpur Mazar Road Football Khelar Math

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Selling products	9	10%	16	20%	25	15%
Walking and biking	30	35%	18	22%	48	29%
Work-oriented activity	16	19%	21	26%	37	22%
Total	86	100%	82	100%	168	100%



Figure 4-35 Activities in Mirpur Mazar Road Football Khelar Math by time of day

4.4.3.2 Activities by location

Athletics and play tended to occur towards the middle of the northern half of the sports field. *Personal and social* activities appeared to occur towards the northwest corner of the sports field. *Selling products* occurred primarily near the northwestern edge of the park. *Walking and bicycling* activities were fairly evenly distributed in the northern half of the sports field. *Work-oriented activities* clustered in the central-eastern and southeastern parts of the sports field. Figure 4-36 shows the locations of each of these activities.



Figure 4-36 Activities surveyed in Mirpur Mazar Road Football Khelar Math

4.4.4 Gulshan Society Lake Park

Gulshan society Lake Park is located near the northern edge of the neighbourhood of Gulshan. The park is bounded by Road No. 70 to the north, Gulshan North Avenue to the east, Road No. 62 to the south, and Road No. 63 to the west. The sports field is located roughly 700 metres north of the Gulshan-2 circle. Figure 4-37 shows the location of Gulshan society Lake Park within the context of Dhaka.



Figure 4-37 Satellite image of Gulshan Society Lake Park

4.4.4.1 Activities by time of day

Surveyors noted 478 activities in Gulshan Society Lake Park. Overall, the dominant two activities in Gulshan Society Lake Park were walking and biking (53%) and personal and social activities (34%). The remaining three types of activities occurred less frequently: athletics and play (5%), selling products (4%), and work-oriented activities (4%).

In the morning, the dominant two activities were walking and biking (56%) and personal and social activities (28%). The remaining three types of activities occurred less frequently: athletics and play (7%), selling products (6%), and work-oriented activities (3%). In the afternoon, walking and biking had decreased slightly (50%) whereas the share of personal and social activities increased (39%). The remaining three types of activities occurred less frequently than in the morning: athletics and play (3%), selling products (3%), and work-oriented activities (5%).

Table 4-17 and Figure 4-38 summarise the frequency of different kinds of activities throughout the day. In the figure, a larger silhouette represents a more frequent activity, although this relationship is not to scale.

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Athletics and play	15	7%	9	3%	24	5%

Table 4-17 Activ	ities by time	of day, Gulsha	n Society Lake Pa	ark
------------------	---------------	----------------	-------------------	-----

Activity	AM	AM (%)	PM	PM (%)	Total	Total (%)
Personal or social	62	28%	101	39%	163	34%
Selling products	13	6%	7	3%	20	4%
Walking and biking	121	56%	130	50%	251	53%
Work-oriented activity	7	3%	13	5%	20	4%
Total	218	100%	260	100%	478	100%



Figure 4-38 Activities in Gulshan Society Lake Park by time of day

4.4.4.2 Activities by location

Athletics and play occurred near the two points near the middle south and middle north parts of the park. Personal and social activities clustered at each of the points that jut into the water, as well as the western

edge of the pond. *Selling products* occurred primarily near the northwestern edge of the park. *Walking and bicycling* activities were well-distributed along the circumference of the lake. *Work-oriented activities* appeared at the same locations as personal and social activities. Figure 4-39 shows the location of each activity.



Figure 4-39 Activities surveyed in Gulshan Society Lake Park

4.4.5 Summary of the Activity Survey

The purpose of the Activity Survey was to understand the location and type of activities that take place throughout the day in four out of the twelve parks included in this study. The results allow us better understand how the spaces are used, and to identify gaps in programming. The findings are summarised below, for each park in question.

4.4.5.1 Boishakhi Khelar Math

Unsurprisingly, sports and play were the predominant activity type in Boishakhi Khelar Math (44% of activities). This type of activity clustered towards the centre of the sports field, whereas other activities like walking and bicycling (27%) and personal and social activities (24%) tended to gravitate towards the edges. Very few commercial or work-related activities occurred in this space.

4.4.5.2 Dhanmondi Lake Park

Dhanmondi Lake Park, with its serpentine lake, was used primarily for personal and social activities (41%), although for the southernmost segment, surveyors noted "all around walking" on the survey, which was not quantified in the data tables. As such, the share of walking and biking was higher than it appears. In terms of spatial patterns, walking and biking, and personal and social activities were well-distributed throughout the park. On the other hand, vendors tended to cluster towards intersections of streets and footpaths—where higher foot traffic was present. Athletics and play were most prevalent in wider areas of Dhanmondi Lake Park, like the western part of section 4/5 (Figure 4-32).

4.4.5.3 Mirpur Mazar Road Football Khelar Math

Despite its name, very few people engaged in athletics in Mazar Road Football Sports Field (14% of activities). Part of the reason for this was the presence of several parked vehicles in the southern half of the field. As a result, the space was used primarily active transportation (29% of activities).

4.4.5.4 Gulshan Society Lake Park

Gulshan Society Lake Park, with a central lake and linear shape, was primarily used for active transportation (53%) and personal or social activities (34%).

4.5 Summary of survey results

The results from the four surveys—the General Public Survey, the Park User Survey, the Direct Observation Park Survey, and the park Activity Survey—help us understand the characteristics of parks, the perceptions of those who use them (and those who don't), and the ends to which they are used. Table 4-18 summarises our findings from each survey.

Survey	Purpose	Findings
General Public Survey People visit parks, and if not, then why.	To understand whether or not people visit parks, and if not, then why.	• The survey found that most respondents do visit their nearest park (60% of respondents), and of those who do not, environmental issues (41%), lack of security (35%), and lack of cleanliness (34%) were most commonly-cited. In broader terms, health and sanitation (30% of responses) and safety (23%) were the two most common reasons cited.
		 Respondents who lived within one kilometre of a park were much more likely to visit their nearest park (68%) than those who lived farther than one kilometre from a park (39%).
	• The most common suggestion for improvement of parks was park furniture (15% of respondents) and shelter from rain and sun (13%).	
		 Among those who visited other parks in the city, the most common response was (1) to meet friends and (2) for peace and relaxation (30% each).
Park User Survey The purpose of this survey is to understand the perceptions of parks, by people who actually use them.	• The survey uncovered that three-quarters of respondents visit their park at least weekly, and typically arrive from home (62%), school (20%), or work (14%). Regardless of origin location, the majority respondents arrived by foot (73%).	
	parks, by people who actually use them.	• The most commonly-reported activities within the park were walking (35%), socialising (27%), and enjoying the surroundings (27%). The two most important reasons people visited parks were to get peace and quiet and to meet friends (26% of respondents respectively).
		• While respondents rated the overall design and appearance of parks well (47% good or very good), the majority rated sports facilities within their park less well (36% fair and 30% poor or very poor).
		• The most commonly-reported suggestion for park improvements was

Survey	Purpose	Findings
		furniture (36%), followed by landscaping (34%) and shelter from rain and sun (30%).
Direct Observation Park Survey	To gather information about the characteristics of the parks, as well as their available facilities.	 Several park amenities were present for roughly half of parks. Sufficient lighting was available in seven out of 12 parks, park staff were visible in six out of 12 parks, and seating was similarly rated "good" in six out of 12 parks. However, water taps were only present in one park. From a sensory perspective, loud traffic noise was apparent in all 12 parks. Conversely, the sights and smells of the parks were rated "good" or "average" except for Mirpur Mazar Football Khelar Math in Mirpur (rated "poor" for both sights and smells). Sanitation was problematic in several parks: Litter was visible in eight out of 12 parks, including risky litter in six. Furthermore, overflowing waste bins were present in four out of 12 parks, despite 11 out of 12 parks having waste bins present. Only five out of 12 spaces had toilets, of which three required a fee for use. In terms of accessing parks, 10 out of 12 were fully accessible to the public and free of charge. Uttara No. 7 Sector Park and Gulshan Society Lake Park, however, restricted access to specific classes of people. On nine out of 12 of the primary streets adjacent to parks, crossing aids were present. However, heavy traffic was reported for eight out of 12 adjacent streets. No speed limits were posted for any adjacent streets. Among the twelve parks, five enjoyed green space (landscaped or natural), 10 boasted walking paths, six had play space for children, and four had sports fields. However, three out of the four sports fields were rated "poor" in quality.
Park Activity Survey	To understand the location and type of activities that take place throughout the day in four out of the twelve parks included in this study.	 Unsurprisingly, sports and play were the predominant activity type in Boishakhi Khelar Math (44% of activities). This type of activity clustered towards the centre of the sports field, whereas other activities like walking and bicycling (27%) and personal and social activities (24%) tended to gravitate towards the edges. Very few commercial or work-related activities occurred in this space. Dhanmondi Lake Park, with its serpentine lake, was used primarily for personal and social activities (41%), although for the southernmost segment, surveyors noted "all around walking" on the survey, which was not quantified in the data tables. As such, the share of walking and biking was higher than it appears. In terms of spatial patterns, walking and biking, and personal and social activities were well- distributed throughout the park. On the other hand, vendors tended to cluster towards intersections of streets and footpaths—where higher foot traffic was present. Athletics and play were most prevalent in wider areas of Dhanmondi Lake Park, like the western part of section 4/5 (Figure 4-32). Despite its name, very few people engaged in athletics in Mirpur Mazar Road Football Khelar Math (14% of activities). Part of the

Survey	Purpose	Findings
		reason for this is the presence of several parked vehicles in the southern half of the field. As a result, the space is used primarily active transportation (29% of activities).
		• Gulshan Society Lake Park, with a central lake and linear shape, was primarily used for active transportation (53%) and personal or social activities (34%).

Together, the four surveys help paint a picture of parks, as well as the characteristics and perceptions of their users (or non-users in the case of the General Public Survey). In the next section, we use these findings to propose a pilot project to enhance Boishakhi Khelar Math.

5 Proposed pilot project: Boishakhi Khelar Math

The findings of our study demonstrate that there is room for improvement in Dhaka's parks. To illustrate potential enhancements, the research team has designed a pilot project for Boishakhi Khelar Math. Although the pilot addresses the assets and challenges associated with one space, similar principles could be applied more broadly in other parks throughout Dhaka. Indeed, the general recommendations section (*6.1 General recommendations*) repeats many of the recommendations presented here.

This section includes the following sections. *5.1 Site selection* describes the park we chose for the pilot project: Boishakhi Khelar Math. *5.2 Findings, assets, and challenges* lists the findings from our surveys— both good and bad. *5.3 Design recommendations* presents interventions that address the findings identified in the previous section. *5.4 Notes on maintenance* and *5.5 Notes on implementation* follow our recommendations.

5.1 Site selection



Figure 5-1 View of Boishakhi Khelar Math

We selected Boishakhi Khelar Math for the proposed pilot project (Figure 5-1 above, as well as Figure 4-24, in section *4.4.1 Boishakhi Khelar Math*). Boishakhi Khelar Math is a particularly suitable selection in part because of its proximity to the WBB office. This makes implementation and monitoring more practical than other locations. Furthermore, WBB is actively engaged with the local community.

5.2 Findings, assets, and challenges

In order to develop goals for the pilot project, we first need to compile the findings from each of the surveys as they relate to Boishakhi Khelar Math. In this section, we present the results of the Park User Survey, Direct Observation Park Survey, and Activity Survey, specific to the park in question. In particular, we outline the assets and challenges associated with Boishakhi Khelar Math.

5.2.1 Direct Observation Park Survey

The purpose of the Direct Observation Park Survey was to better understand the physical characteristics of each of the parks. For Boishakhi Khelar Math, several assets and challenges emerged from our findings.

5.2.1.1 Assets

According to the Direct Observation Park Survey, Boishakhi Khelar Math currently enjoys several assets in terms of accessibility, sanitation, and amenities. With respect to accessibility, the space can be used at any time of day or night, and there are neither entry fees nor class-based restrictions. From the perspective of sanitation, no risky litter or large trash was present, and park workers were sighted during the survey. Finally, Boishkahi Sports Field enjoys both seating and lighting facilities. Table 5-1 summarises these findings.

Category	Asset
Accessibility	 The space can be used at any time of day No entry fees No class-based restrictions
Sanitation	No risky litter or large trashPark workers were visible
Amenity	 Seating facilities available Lighting Soccer and cricket facilities

Table 5-1 Assets of Boishakhi Khelar Math drawn from the Direct Observation Park Survey

5.2.1.2 Challenges

Despite several positive elements, Boishakhi Khelar Math faces several challenges. With respect to accessibility, the primary adjacent street—with 2-3 traffic lanes and a medium volume of traffic (6-10 cars per minute)—lacks crossing aids for pedestrians. From the perspective of sanitation, certain trash bins were overflowing, and small litter was visible on the ground. In terms of amenities, Boishkahi Sports Field lacks water taps, toilets, *sufficient* lighting, shade, and dedicated space for children's play. Finally, noise from motor vehicle traffic was disruptive. Table 5-2 summarises these findings.

Category	Challenge
Accessibility	 No crossing aids on adjacent streets Medium width adjacent streets (2-3 lanes) Medium traffic on adjacent streets
Sanitation	Waste bins overflowingSome litter present
Amenity	 No water taps or toilets Insufficient lighting No shade No children's play space
Sensory perceptions	Disruptive traffic noise

Table 5-2 Challenges facing Boishakhi Khelar Math drawn from the Direct Observation Park Survey

5.2.2 Park User Survey

The research team administered 47 Park User Surveys at Boishakhi Khelar Math. These help to explain how people use and perceive the space. In this subsection, we present the findings from survey respondents with respect to (1) perceptions, (2) origins and travel patterns, (3) reasons for visiting, and (4) suggestions for improvements.

5.2.2.1 Perceptions

Overall, 85.0% of respondents rated the attractiveness of Boishakhi Khelar Math as "good". Similarly, 54.0% rated cleanliness as "fair", and 40.5% as "good". With respect to sports facilities, 45.0% of respondents rated them "fair", while 30% rated them "poor".

5.2.2.2 Origins and travel patterns

Almost three quarters of respondents lived in the Local Authority Area (73.9%). The vast majority of respondents arrived at the park on foot (95%). Finally, one quarter of responses reached the park in 10 minutes or less (25.0%); 67.5% reached the park in 20 minutes or less.

5.2.2.3 Reasons for visiting

Respondents were asked to state the reason they typically visit the park.⁴ The most common reason was "play" (56.1% of responses), followed by "meet friends" (24.4% of responses), and "doctor's advice" (19.5% of responses).

In terms of the actual activities undertaken by respondents, 48.0% of responses included "play sports or games", 34.1% of responses included "visit to walk", and 29.3% each included "watch sports or games" and "socialise with friends".

⁴ They were able to select as many answers as they wish. Therefore, the percentages in this section do not add up to 100.

5.2.2.4 Suggestions for improvements

Respondents provided several suggestions for improving Boishakhi Khelar Math. After aggregating responses into common categories, the most common theme (27 responses) involved adding facilities and equipment to for athletics and play. Additional suggestions included toilets, seating, and more cleanliness (four responses each), as well as water taps, safety measures, grass on the main sports field, and more space for pedestrians on adjacent streets (three responses each). Note that respondents could make multiple selections, and therefore the number of responses is greater than the number of respondents.

5.2.3 Activity Survey

The Activity Survey illustrates that sports and play are common in Boishakhi Khelar Math (44% of activities), in particular towards the centre where the main field is located. Conversely, walking, and to a lesser extent bicycling, were present towards the edges of the space (27% of activities). A large cluster of social activities (24% of activities) exists at the northeast corner of the space. Finally, vendors tend to locate on the eastern side of the sports field.

5.3 Design recommendations

5.3.1 Vision

A vision statement describes what characteristics the park would ideally have in the future. Based on the survey findings, we have a better understanding of the assets and challenges facing Boishakhi Khelar Math, which in turn guides the vision statement. Our vision for Boishakhi Khelar Math has three components:

- 1. A pleasant space in which to spend time
- 2. Active recreation opportunities for all ages and genders, including people with disabilities
- 3. A safe and well-maintained space

A pleasant space in which to spend time refers to perceptions, convenience, utility, and ecological services: elements of parks that make them pleasant to their users. Active recreation opportunities for all ages and genders, including people with disabilities applies primarily but not exclusively to sports and play. Finally, A safe and well-maintained space refers to both physical safety—e.g. from motor vehicles, antisocial behaviour, etc.—and maintenance—e.g. toilets, waste disposal, groundskeeping, etc. We provide recommendations for each component in the sections below.

5.3.2 A pleasant space in which to spend time

In order to make the Boishakhi Khelar Math more pleasant for its users—and attract new users—we recommend the following interventions: (1) additional green space, including groundwater recharge points; (2) additional public furniture, such as seating and signboards; and (3) shade, in the form of both trees and shelters.

5.3.2.1 Rationale

- Green spaces and groundwater recharge points make spaces more attractive to park users, as well as more ecologically functional.
- Seating allows visitors to enjoy sports being played in the field and at the same time to keep an eye on children playing.
- Information signboards allow park authorities to convey information to their users, e.g. maps, programming, etc.
- Shade from sun and rain makes staying in parks more pleasant for their users during either hot or rainy weather.

5.3.3 Active recreation opportunities for all ages and genders, including people with disabilities

Boishakhi Khelar Math is well-used for sports, especially among male youth and young adults. We recommend building upon this strength by improving facilities for existing athletes, and encouraging active recreation among all age groups and genders. To do so, we suggest (1) installing play equipment for children, (2) adding a bicycle parking stand, and (3) providing space for a recreational walking path near the circumference of the park.

5.3.3.1 Rationale

- Play equipment makes the park more enjoyable for young children.
- A continuous, wheelchair-friendly walkway along the periphery of the field means that people can enjoy their walk without any interference from those playing in the field.
- Bicycle stands allow the cyclists to reach the park and safely park their bicycles while they use the field.

5.3.4 A safe and well-maintained space

Safety and sanitation were commonly-stated barriers to park usage. We recommend adding the following measures to improve safety and sanitation within Boishakhi Khelar Math: (1) add lighting facilities; (2) calm traffic on adjacent streets and provide safe crossings for pedestrians; (3) place more waste bins throughout the space and keep a waste management schedule to ensure that they don't overflow; and (4) make clean, well-maintained toilets and water taps available to park users free of charge.

5.3.4.1 Rationale

- The provision of lighting is important for safety, especially among women who visit the park in the evening.
- Because the majority of visitors reach the park by foot, there should be safe crossings into the park. Parking for motorised vehicles should not be provided within the space, because this benefits the affluent at the expense of the non-affluent.
- Traffic calming makes it safer for pedestrians to reach Boishakhi Khelar Math, and reduces the noise associated with traffic.
- Additional waste bins makes it less likely that they will overflow, and that individuals will litter. This makes for a cleaner space overall.
- The availability of toilets and drinking water help maintain hygiene.

5.3.5 Overview of changes

We overlaid the recommendations listed above with an aerial photo of Boishakhi Khelar Math. The overlay presents the spatial location of each of our recommendations (Figure 5-2), the elements of which are listed in Table 5-3 below for reference.



Figure 5-2 Photo summarising the location of recommended interventions for the Boishakhi Khelar Math pilot project (legend in Table 5-3, below)

Table 5-3 Components of our recommendations for the Boishakhi Khelar Math pilot project

Item	Purpose	Icon	Example photo
Bench	For park users to be able to sit and relax	Ħ	
Bicycle parking	To allow cyclists to lock their bicycles using standard U-shaped locks	See	
Grass	To provide a surface more suitable to soccer and relaxing	Ŵ	

Item	Purpose	Icon	Example photo
Groundwater recharge point	To assist with stormwater management	2	
Playground equipment	To provide dedicated space for children to play	€	
Public signboard	To inform park users with respect to events, maps, and general park information		
Public toilet	To allow park users to use the washroom in a hygienic way	ᡥ ∣ 常	
Open drain cover (seating)	To improve park sanitation and provide park users with additional seating options		
Street lamp	To improve lighting at night	P	
Walkway	To provide space for recreational walking		
Waste bin	To reduce the incidence of littering	Ū	
Water tap	To provide park users with a source of clean drinking water	Ō	

5.4 Notes on maintenance

It is important to plan for maintenance. In the case of this pilot project, three groups of tasks need to be considered for adequate maintenance. First, the furniture, playground equipment, sports field equipment, toilets, and water taps need to be regularly checked and repaired. Secondly, the sports field, green spaces, and groundwater recharge points need to be maintained. Third, the grounds and toilets must be cleaned regularly; similarly, the waste bins need to be emptied frequently. These tasks ensure that the park retains its enhancements after initial interventions are made.

5.5 Notes on implementation

In this section, we present case studies that illustrate how pilot projects elsewhere have been implemented in a low cost, temporary way. We also list stakeholders that may benefit from participating in the planning and implementation process.

5.5.1 Pilot project inspiration

The purpose of implementing a pilot is to a quickly build a working prototype at a low cost, and determine whether its resulting outcomes are positive, before implementing more permanent measures.

The emerging practice of tactical urbanism is a way to rapidly prototype urban planning interventions at a very low cost. Several cases of tactical urbanism have illustrated how organisations can implement pilot projects in the very short term and with a very limited budget. In this section, we list three such examples that focus on urban design in public spaces: Green Light for Midtown in New York City; Oak Cliff Build a Better Block, Dallas; and Ashar Macha park in Korail, Dhaka.

5.5.1.1 Green Light for Midtown



Figure 5-3 Herald Square (near Times Square) during Green Light for Midtown pilot, source: Flickr⁵

New York City's Green Light for Midtown was a 2009 pilot project to improve the pedestrian and cyclist environment, and to reduce congestion in Midtown Manhattan. The New York Department of

⁵ https://farm5.staticflickr.com/4046/4173681751_41c9428786_o.jpg

Transportation (NYCDOT) converted two stretches of Broadway into pedestrian plazas using little more than paint, patio furniture, and planters (see for example, Figure 5-3, above). A follow-up report by NYCDOT (2010)—suggesting the changes should be made permanent—has shown an increase in pedestrian traffic (+11%) and in staying activities (e.g. reading, eating, taking photographs (+84%), a drop in collisions between pedestrians and cars (-35%), and an overall perceived improvement in Times Square (74% of respondents).

5.5.1.2 Oak Cliff Build a Better Block



Figure 5-4 Oak Cliff's second Better Block pilot, source: Go Oak Cliff⁶

In 2010 Jason Roberts temporarily transformed one block near Dallas into a "walkable, bikeable, neighbourhood destination for people of all ages complete with bike lanes, café seating, trees, plants, pop-up businesses, and lighting" (Lydon, 2012; Roberts, n.d.). To make this happen, he used a group of volunteers and a few hundred dollars for inexpensive, temporary materials. The remaining inputs were either donated or borrowed for the weekend. The project was intended to demonstrate in a tangible way the kinds of longer-term improvements that his community wanted to see happen.

⁶ http://www.gooakcliff.org/wp-content/uploads/2010/09/people5.jpg

5.5.1.3 Ashar Macha



Figure 5-5 Ashar Macha lakeside public space, source: Design with the Other 90%⁷

In Korail, Dhaka—a neighbourhood with few open public spaces to play—community members collaborated with an architect to build a 5.5- by 11-metre public space (Biswas, 2013; 'Platform of Hope (Ashar Macha)', 2011) adjacent to a community garden. The simple and inexpensive structure extends over Gulshan Lake, and provides a safe, clean space for children to play.

5.5.1.4 Why is this important?

The three cases listed above demonstrate that public space can be enhanced with very small budgets and in very short timeframes. In some cases, like with Build a Better Block and Ashar Macha, they can be community-driven (bottom-up) instead of government-driven (top-down). These and other examples (see for instance Biswas, 2013; Lydon, 2012; Walljasper & Project for Public Spaces, 2007) may be helpful for inspiration when implementing the pilot project for Boishakhi Khelar Math.

5.5.2 Stakeholders

In order to implement the Boishakhi Khelar Math pilot project, it is paramount for several stakeholders to be involved in the process. Evidence increasingly demonstrates that community engagement tends to both improve the quality of projects, and increase the likelihood of self-maintenance (see for example Kelly, Mulgan, & Muers, 2002).

⁷ http://4chlff2fhold2qx0rp267ua5lt2.wpengine.netdna-cdn.com/wp-content/uploads/2012/11/d-2dsc0533.jpg

These stakeholders include WBB Trust, individual community members, local organisations (e.g. schools, sports clubs, faith groups, etc.), the Local Authority, Dhaka City Corporation, and RAJUK. These groups may contribute some combination of leadership, coordination, funding, programming (e.g. activities within the sports field), and maintenance.

5.6 Pilot project summary

The pilot project illustrates some of the ways that Boishakhi Khelar Math could be enhanced for the benefit of existing users as well as to attract new ones.

Our findings from the Direct Observation Park Survey, the Park User Survey, and the Activity Survey uncovered several gaps in facilities, maintenance, and perceptions, as they relate to Boishakhi Khelar Math. Table 5-4 summarises these findings.

Survey	Gap / Finding
Direct Observation Park Survey	 No pedestrian crossing aids despite 2-3 lanes of traffic, medium traffic volume, and disruptive traffic noise Overflowing waste bins No water taps or toilets Insufficient lighting Little to no shade or shelter from rain No children's play equipment
Park User Survey	 30% of the respondents rated sports facilities as "poor" 95% of respondents arrived at the park by foot 67% of respondents' travel times were 20 minutes or less Playing sports and games was the most common reason for visiting, followed by walking, watching sports, and socialising with friends Adding sports and play equipment was by far the most common suggestion for improving the space
Activity Survey	 Athletics and play activities typically occurred towards the centre of the sports field Active transportation (walking and biking) generally took place at the perimeter of the space Social activities occurred at the north-eastern corner of the space Vendors clustered at the eastern edge of the space

Table 5-4	Summary	of findings	for Boishakhi	Khelar Math
-----------	---------	-------------	---------------	-------------

From these findings, we generated a vision with three components: (1) a pleasant space in which to spend time, (2) active recreation opportunities for all ages and genders, and (3) a safe and well-maintained space. Table 5-5 summarises the recommendations we proposed for each component of the vision statement. For an overview of recommendations and our suggested location for implementing them, refer to Figure 5-2 (above).

Component	Recommendations				
A pleasant space in which to spend time	 Additional green space Additional public furniture including seating and information boards Shade from the sun and shelter from the rain 				
Active recreation opportunities for all ages and genders	 Install play equipment for children Add a bicycle parking stand Provide space for a recreational walking path at circumference of park 				
A safe and well- maintained space	 More lighting Safe pedestrian crossings and traffic calming measures Additional waste bins and more frequent waste removal service Provide clean toilets and water taps free of charge 				

Table 5-5 Recommendations for Boishakhi Khelar Math pilot project, by component of the vision

In addition to our physical recommendations, we provided several notes on maintenance and implementation. In terms of the former, it is essential to plan for (1) regular repairs to physical equipment, (2) yard maintenance for the grounds (including groundwater recharge points and trees), and (3) frequent cleaning for all areas including toilets. With respect to implementation, we recommend using cases of tactical urbanism from around the world as inspiration. In addition, evidence suggests that engaging with stakeholders early and continuously throughout the planning and implementation of the pilot would be beneficial to the quality and maintenance of the project.

This section outlined our suggested pilot project for Boishakhi Khelar Math. In the subsequent section we discuss more general recommendations, as well as the limitations of our study, and next steps.

6 Conclusion

In the conclusion we provide general recommendations for parks in Dhaka. As well we list the known limitations of our study, and close with a call to action for enhancing and expanding the network of parks in the city.

6.1 General recommendations

In this section we present general recommendations based on findings from both the contextual research undertaken for this report (*2 Context and definitions*), and the four surveys that form the basis of the study (*4 Results*). Our seven recommendations are as follows:

- 1. Protect and expand the network of parks.
- 2. In order to attract new users, focus on sanitation and safety.
- 3. Prioritise walking over other transport modes.
- 4. Provide ample furniture, shelter, and shade.
- 5. Explicitly cater to all ages, genders, and activity limitations.
- 6. Engage the community.
- 7. Plan for maintenance.

In the subsections below we explain these recommendations, citing examples from the study and from other research where relevant.

6.1.1 Protect and expand the network of parks

Parks are exceptionally scarce in Dhaka relative to both other large cities, and guidelines established by the World Health Organisation. Dhaka City counts less than 1 sq m of green space per resident (between 0.05 and 0.5 sq m per capita, depending on the source). This is shy of the WHO guidelines that recommend 9 sq m per capita by more than one order of magnitude. Even Mexico City—a dense, rapidly developing megacity with little green space—has 3.5 sq m per capita. By comparison, New York City boasts 23.1 sq m per capita.

As a result, existing parks should be preserved, and new spaces should be created at a rapid pace. In terms of existing spaces, encroachment must be prevented by law and strictly enforced. In the absence of this, Dhaka will lose the little open public space that it currently enjoys.

Similarly, the creation of new parks requires strict planning laws. These can include (1) the use of zoning to reserve land on greenfield sites for parks (2) the acquisition of privately-owned vacant land for use as parks, and (3) the implementation of stricter rules mandating the preservation of park space within large planned real-estate development. For the first and third strategies, it is urgent that the city be granted ownership over the land reserved for parks. This is because—as Uttara Sector No. 7 Park illustrates—privately-owned parks are susceptible to class-based exclusionary rules.

6.1.2 To attract new users, focus on sanitation and safety

In findings from the General Public Survey the most common reasons for not visiting a nearby park included environmental issues (41% of respondents who did not visit a nearby park), lack of security (35%) and lack of cleanliness (34%). Our recommendation is therefore to implement measures that

ensure a hygienic and safe environment in parks. For the former, this includes (1) regularly-cleaned toilets, (2) functioning water taps, (3) continually-emptied waste bins, and (4) thorough, ongoing maintenance. For the latter, this includes (1) sufficient lighting at night, (2) safe crossings for pedestrians and traffic calming measures for cars on adjacent streets, and (3) programming aimed at continuously attracting people of different ages and genders to the park.

6.1.2.1 Notes on public toilet design

When designing public toilets, several measures should be taken to ensure safety, usability, accessibility, and maintenance. In particular, the toilets should have stalls with direct access from outside. This reduces construction and cleaning costs. It also eliminates the presence of enclosed semi-public space, which can be prone to crime and reduced safety—especially among women and other vulnerable groups. For the same reason, it is a good idea to locate washrooms within sight of areas with ongoing human activity.

Other good practices for public toilets include: gender neutral stalls to accommodate caregivers and to address the gender parity issue; sinks located outside of stalls, so that hand-washing does not tie up stall space, and (3) consideration for toilet use by people with disabilities, including sufficiently wide doors, no grade changes, etc. Table 6-1 summarises these measures.

Measure	Rationale			
Single-door direct entry toilet stalls (eliminate semipublic space)	Lower construction costsIncreased safety and reduced risk of crime for toilet users			
Location of toilet stalls visible to other activities	Increased safety and reduced risk of crime for toilet users			
Gender neutral toilet stalls	Solves gender parity issueAccommodates families and opposite-sex caregivers			
Placement of sinks outside of toilet stalls	Hand washing does not tie up toilet use			
Disability-friendly (incl. doors and grades)	Allows people with disabilities to use toilets			

T 1 1 0 1					
Table 6-1	Measures	associated	with	toilet	design

6.1.2.2 Note on programming and natural surveillance

The presence of people in a public space typically renders it safe. Criminologists and urban planners refer to this as natural surveillance or eyes on the street (Cozens et al., 2005; Jacobs, 1961). A public space— a street or park, for example—without people in it is less safe than the same space filled with people.

For this reason, an effective and affordable way to make public spaces safer is to ensure that people are always present within eyeshot. We recommend programming aimed at continuously attracting people of different ages and genders to the park in order to increase safety. Similarly, we recommend the location of toilet stalls visible to other activities.

6.1.3 Prioritise walking over other transport modes

The vast majority of park users arrive at parks on foot (73%), rickshaw or bicycle (14%), and bus (6%). As well, 11 out of 12 parks had an adjacent street with at least two traffic lanes, which in addition to
inconsistent crossing aides and no posted speed limits, makes access to parks inappropriately burdensome for the vast majority of users who do not drive.

As a result, we recommend the use of traffic calming and parking restrictions to simultaneously (1) increase safety for pedestrians, cyclists (including rickshaws), and transit-riders, (2) provide more convenient access for these same people, and (3) reduce noise pollution. Traffic calming measures are designed to improve safety and mobility for pedestrians, cyclists, and transit-riders. Examples include speed humps and curb extensions. For more information on traffic calming, see the Urban Street Design Guide by the National Association of City Transportation Officials (NACTO, 2013).

6.1.4 Provide ample furniture, shelter, and shade

Three-fifths of General Public Survey respondents visited other parks in the city to meet friends and to get peace and relaxation. In the Park User Survey, when asked what measures would result in more park use, the most common response was furniture (15% of respondents), followed by shelter from rain and sun (13%).

As a result, we recommend providing ample furniture, shelter from rain, and shade from sun in all parks. Furniture should include both benches and tables. Shade may come in the form of trees, but shelter from rain should be less permeable, e.g. large umbrellas, gazebos, etc. However, none of these elements should be placed inside sports fields, because their presence will disrupt the sports.

6.1.5 Explicitly cater to all ages, genders, and activity limitations

The low response rate among women and elderly people helps to illustrate that parks are generally less well used by these groups. Yet the benefits of physical activity and mental wellbeing associated with parks are equally applicable to women and the elderly. The same goes for people with activity limitations.

For this reason, we recommend catering park infrastructure and activities to all ages, genders, and activity limitations. For example, this could mean organising women-only activities, e.g. women's bike rides, or providing infrastructure better-suited to elderly and disabled people, e.g. flat, well-maintained walking paths.

6.1.6 Engage the community

The majority of respondents (60%) of the General Public Survey reported having visited their nearest park in the past. As well, the majority of respondents from both the General Public Survey (74.3%) and the Park User Survey (91%) of respondents from the Park User Survey had suggestions for park improvement. Each of these statistics indicates a high level of interest in parks generally.

Because the public appears to be interested, we recommend incorporating community engagement into all planning and implementation stages of park design and maintenance. Generally speaking, community engagement tends to both improve the quality of projects, and increase the likelihood of self-maintenance (see for example Kelly, Mulgan, & Muers, 2002).

6.1.7 Plan for maintenance

For many of the spaces in our study, inadequate maintenance was a problem. This included (1) sports and playground equipment in poor shape, (2) non-functioning water taps and toilets, and (3) overflowing garbage bins.

It is important to plan for maintenance. For most parks, there are three groups of tasks that need to happen for adequate maintenance. First, the furniture, playground and sports equipment, toilets, and water taps need to be checked and repaired regularly. Secondly, the sports field, green spaces, and landscaping (including groundwater recharge points) need to be maintained. Third, the grounds, toilets, and waste bins need to be cleaned continually. These tasks ensure that parks retain their enhancements after initial interventions are made.

6.2 Limitations of this study

Given several constraints associated with time, budgets, and data, a number of limitations emerged over the course of the study. We have identified four discrete limitations, each of which warrants further research.

First, there was a gender imbalance in survey responses for both the General Public Survey and the Park User Survey. The proportion of male respondents outnumbered the proportion of female respondents at least two-to-one. It would be worthwhile in future research to develop a strategy for reaching female respondents.

It is important to remember that this study surveys a sample of 12 parks, and in the case of the Activity Survey, four parks. Therefore, its results may not be perfectly generalisable to other parks in the city. A full census of parks in Dhaka City would have been ideal, but was not possible given resource constraints. With this in mind, the selection of parks consisted of different sizes and functions and, socioeconomically, they were located in a variety of neighbourhoods.

Third, the surveys used were modelled from Western source documentation. We made attempts to adapt them to the Dhaka context, but further refinement of questions may have been beneficial to our understanding of parks. In particular, this applies to the General Public Survey and Park User Survey. In some cases, further refinement of "other" categories would have been beneficial through additional survey pre-screening.

Lastly, this study does not include stakeholder mapping or policy analysis within Dhaka. Further research on the relevant stakeholders and policy framework associated with parks, would help us to generate more specific recommendations.

Despite these limitations, our study reveals preliminary findings that are both illustrative and timely. The limitations point to additional research that could be undertaken to help understand parks in Dhaka, as well as other rapidly-developing cities.

6.3 Call to action

Parks are of vital importance to urban dwellers, yet they are too often neglected. Priority must be given to the improvement of these spaces, so that they can fill their role as places of relaxation, interaction, and active recreation for people of all ages, genders, and activity limitations.

The lack of high quality parks in Dhaka is a problem for its millions of residents. This study is part of a larger initiative to enhance and expand the network of such spaces in Dhaka. In it, we use four surveys to identify various challenges associated with a sample of 12 parks. We use these findings to suggest set of design improvements in one pilot site, and to provide more general recommendations for parks in Dhaka in general.

Determination and political will are now needed to move from research to implementation. We hope the findings of this study will galvanise efforts to enhance and expand the network of parks throughout Dhaka.

7 Acknowledgements

Work for a Better Bangladesh (WBB Trust) would like to thank HealthBridge for funding this study. Special credit goes to Brendan Rahman for preparing the report, and Kristie Daniel for her guidance throughout the planning and analysis stages of this study. We would also like to acknowledge the volunteers who helped to collect primary data:

Abu Hanif
Akib Monir
Anika Farhana
Arup Ratan Devnath
Ashlam Aronnho

Ayesha Akhter Lubna Hasibullah Hasib Mahfuza Akter Md. Abdul kaiyum Md. Abu Hanif Md. Akib Monir Md. Faqrul Arefin Md. Rabiul Awal Nowrin Afrin Oushen Rabiul Awal

Rubaiat Binte Rafique Suraiya Sharmin Tanjelul Islam Khan Tanzila Jahan Ripa

Most importantly, we wish to thank the members of WBB Trust that spearheaded this project: Maruf Rahman, Ziaur Rahman, Naznin Kabir, and Debra Efroymson.

We hope our research encourages stakeholders in Dhaka to work together to both enhance and expand the city's network of parks and playgrounds.

8 Bibliography

- Aspinall, P., Mavros, P., Coyne, R., & Roe, J. (2015). The urban brain: analysing outdoor physical activity with mobile EEG. *British Journal of Sports Medicine*, *49*(4), 272–276. http://doi.org/10.1136/bjsports-2012-091877
- Bari, M., & Efroymson, D. (2009). *Detailed Area Plan (DAP) for Dhaka Metropolitan Development Plan (DMDP): a critical review*. Dhaka: Work for a Better Bangladesh.
- Bauman, A. E. (2004). Updating the evidence that physical activity is good for health: an epidemiological review 2000-2003. *Journal of Science and Medicine in Sport / Sports Medicine Australia*, 7(1 Suppl), 6–19.
- Bedimo-Rung, A. L., Gustat, J., Tompkins, B. J., Rice, J., & Thomson, J. (2006). Development of a direct observation instrument to measure environmental characteristics of parks for physical activity. *Journal of Physical Activity & Health*, *3*, S176.
- Berger, B. G., & Motl, R. W. (2000). Exercise and mood: A selective review and synthesis of research employing the profile of mood states. *Journal of Applied Sport Psychology*, 12(1), 69–92. http://doi.org/10.1080/10413200008404214
- Beyer, K. M. M., Kaltenbach, A., Szabo, A., Bogar, S., Nieto, F. J., & Malecki, K. M. (2014). Exposure to Neighborhood Green Space and Mental Health: Evidence from the Survey of the Health of Wisconsin. *International Journal of Environmental Research and Public Health*, *11*(3), 3453–3472. http://doi.org/10.3390/ijerph110303453
- Biswas, S. K. (2013). *Play! Tactics & strategies for public spaces in Mumbai's informal city*. Mumbai: Observer Research Foundation. Retrieved from http://www.orfonline.org/cms/export/orfonline/modules/issuebrief/attachments/final_1377242921176.p df
- Blair, S. N., & Morris, J. N. (2009). Healthy hearts--and the universal benefits of being physically active: physical activity and health. *Annals of Epidemiology*, *19*(4), 253–256. http://doi.org/10.1016/j.annepidem.2009.01.019
- Bolund, P., & Hunhammar, S. (1999). Ecosystem services in urban areas. *Ecological Economics*, 29(2), 293–301.
- Branas, C. C., Cheney, R. A., MacDonald, J. M., Tam, V. W., Jackson, T. D., & Have, T. R. Ten. (2011). A difference-in-differences analysis of health, safety, and greening vacant urban space. *American Journal of Epidemiology*, 174(11), 1296–1306. http://doi.org/10.1093/aje/kwr273
- Brown, W. J., Burton, N. W., & Rowan, P. J. (2007). Updating the Evidence on Physical Activity and Health in Women. *American Journal of Preventive Medicine*, *33*(5), 404–411.e25. http://doi.org/10.1016/j.amepre.2007.07.029
- Cozens, P., Saville, G., & David Hillier. (2005). Crime prevention through environmental design (CPTED): a review and modern bibliography. *Journal of Property Management*, *23*(5), 328–356.
- Crawford, D., Timperio, A., Giles-Corti, B., Ball, K., Hume, C., Roberts, R., ... Salmon, J. (2008). Do features of public open spaces vary according to neighbourhood socio-economic status? *Health & Place*, *14*(4), 889–893. http://doi.org/10.1016/j.healthplace.2007.11.002

- Farida, N. (2001). *Urban life and use of Public Space Study of responsive public open spaces for supporting urban life in Dhaka City* (Working Paper). Dhaka: Asiatic Society of Bangladesh.
- Garvin, E. C., Cannuscio, C. C., & Branas, C. C. (2012). Greening vacant lots to reduce violent crime: a randomised controlled trial. *Injury Prevention*, injuryprev–2012–040439. http://doi.org/10.1136/injuryprev-2012-040439
- Govindarajulu, D. (2014). Urban green space planning for climate adaptation in Indian cities. *Urban Climate*. http://doi.org/10.1016/j.uclim.2014.09.006
- Islam, M. S. (2011). *Reduction of Open Space in Urban Planning: A Case Study of Osmani Udyan*. BRAC University, Dhaka.
- Jacobs, J. (1961). *The Death and Life of Great American Cities* (Reissue edition (1992)). New York: Vintage.
- Japan International Cooperation Agency (JICA). (1991). *Master plan for Greater Dhaka food protection* project FAP 8A (Main Report and Supporting Report II). Dhaka: Flood Plan Coordination Organization.
- Kelly, G., Mulgan, G., & Muers, S. (2002). Creating Public Value: An analytical framework for public service reform. *London: Strategy Unit, Cabinet Office*.
- Kessel, A., Green, J., Pinder, R., Wilkinson, P., Grundy, C., & Lachowycz, K. (2009). Multidisciplinary research in public health: A case study of research on access to green space. *Public Health*, *123*(1), 32–38. http://doi.org/10.1016/j.puhe.2008.08.005
- Kuchelmeister, G. (1998). Asia-Pacific Forestry Sector Outlook Study: Urban Forestry in the Asia-Pacific Region - Situation and Prospects (Working Paper No. APFSOS/WP/44). Rome: United Nations Food and Agriculture Organization. Retrieved from http://www.fao.org/docrep/003/x1577e/X1577E00.htm
- Kuo, F. E., & Sullivan, W. C. (2001). Aggression and Violence in the Inner City Effects of Environment via Mental Fatigue. *Environment and Behavior*, 33(4), 543–571. http://doi.org/10.1177/00139160121973124
- Lydon, M. (2012). *Tactical Urbanism Volume 2*. Miami and New York: Street Plans. Retrieved from http://www.cnu.org/sites/www.cnu.org/files/tacticalurbanismvol2final.pdf
- Maas, J., Verheij, R. A., Groenewegen, P. P., de Vries, S., & Spreeuwenberg, P. (2006). Green space, urbanity, and health: how strong is the relation? *Journal of Epidemiology and Community Health*, *60*(7), 587–592. http://doi.org/10.1136/jech.2005.043125
- Maller, C., Townsend, M., St Leger, L., Henderson-Wilson, C., Pryor, A., Prosser, L., & Moore, M. (2008). Healthy parks healthy people: The health benefits of contact with nature in a park context (2nd ed.).
 Melbourne: Deakin University and Parks Victoria. Retrieved from http://parkweb.vic.gov.au/__data/assets/pdf_file/0018/313821/HPHP-deakin-literature-review.pdf
- NACTO. (2013). Urban Street Design Guide (2 edition). Washington: Island Press. Retrieved from http://nacto.org/publication/urban-street-design-guide/
- Nisbet, E., & Zelenski, J. (2009). The Nature Relatedness Scale Linking Individuals' Connection With Nature to Environmental Concern and Behavior. *Environment and Behavior ENVIRON BEHAV*, *41*(5), 715–740. http://doi.org/10.1177/0013916508318748

- NYCDOT. (2010). *Green Light for Midtown Evaluation Report*. New York City: New York City Department of Transportation. Retrieved from http://www.nyc.gov/html/dot/downloads/pdf/broadway_report_final2010_web.pdf
- Platform of Hope (Ashar Macha). (2011). Retrieved 20 July 2015, from http://www.designother90.org/solution/platform-of-hope-ashar-macha/
- RAJUK. (1995). Dhaka Metropolitan Development Plan (1995-2015). Dhaka: RAJUK.
- Rethorst, C. D., Wipfli, B. M., & Landers, D. M. (2009). The antidepressive effects of exercise: a metaanalysis of randomized trials. *Sports Medicine (Auckland, N.Z.)*, 39(6), 491–511.
- Roberts, J. (n.d.). How to Build a Better Block. Retrieved 20 July 2015, from http://betterblock.org/how-to-build-a-better-block/
- Roe, J. J., Thompson, C. W., Aspinall, P. A., Brewer, M. J., Duff, E. I., Miller, D., ... Clow, A. (2013). Green space and stress: evidence from cortisol measures in deprived urban communities. *International Journal of Environmental Research and Public Health*, *10*(9), 4086–4103. http://doi.org/10.3390/ijerph10094086
- Street, G., & James, R. (2008). The relationship between organised physical recreation and mental health. *Health Promotion Journal of Australia : Official Journal of Australian Association of Health Promotion Professionals*, *18*(3), 236–9.
- Veitch, J., Ball, K., Crawford, D., Abbott, G. R., & Salmon, J. (2012). Park Improvements and Park Activity: A Natural Experiment. *American Journal of Preventive Medicine*, 42(6), 616–619. http://doi.org/10.1016/j.amepre.2012.02.015
- Veitch, J., Salmon, J., Carver, A., Timperio, A., Crawford, D., Fletcher, E., & Giles-Corti, B. (2014). A natural experiment to examine the impact of park renewal on park-use and park-based physical activity in a disadvantaged neighbourhood: the REVAMP study methods. *BMC Public Health*, 14(1), 600. http://doi.org/10.1186/1471-2458-14-600
- Walljasper, J., & Project for Public Spaces. (2007). *The Great Neighborhood Book: A Do-it-Yourself Guide to Placemaking*. Gabriola Island, B.C.: New Society Publishers.
- Ward Thompson, C., Roe, J., Aspinall, P., Mitchell, R., Clow, A., & Miller, D. (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. *Landscape and Urban Planning*, *105*(3), 221–229. http://doi.org/10.1016/j.landurbplan.2011.12.015
- World Health Organization. (2009). *Global Health Risks Mortality and burden of disease attributable to selected major risks* (Text). World Health Organization. Retrieved from http://reliefweb.int/report/world/global-health-risks-mortality-and-burden-disease-attributable-selectedmajor-risks

9 Appendix

The appendix lists acronyms used in the report, as well as each of the questionnaires for the four surveys used in this study: the General Public Survey, the Park User Survey, the Direct Observation Park Survey, and the Activity Survey.

9.1 List of abbreviations

Acronym	Description
BRAT-DO	Direct Observation Bedimo-Rung Assessment Tools
CNG	Compressed natural gas; typically used to refer to a small, three-wheel taxi that runs on compressed natural gas
CPTED	Crime Prevention Through Environmental Design
DAP	Detailed Area Plan; part of DMDP
DCC	Dhaka City Corporation
DMDP	Dhaka Metropolitan Development Plan
JICA	Japan International Cooperation Agency
LEED ND	Leadership in Energy and Environmental Design for Neighbourhood Design
NACTO	National Association of City Transportation Officials
NAM	Non-Alignment Movement
NCD	Non-communicable disease
NYCDOT	New York City Department of Transportation
WBB	Work for a Better Bangladesh; also written as WBB Trust
WHO	World Health Organization

9.2 General Public Survey

Research by	: WBI	B Trust												
Name of Int	ervie	wer:												
Starting Tim	e:				Endin	g Time:.						-		
A1 Name of	the p	place who	ere ta	ke inter	view:									
A2 Which of	the fo	llowing ca	tegori	es best (describe	s your a	e? (Ple	ase ti	ck one on	ly)				
16 or under		17-19	20-	29	30-39	40-49	5	0-59	60-7	4	75 or	over		
1		2	3		40	50]	60	7			80		
A3 Categorie:	s of th	ne respon	dent (F	lease tio	ik as mar	ny as app	ropriat	ie)						
Children 1	0	Id age peo 20	ple	man 3D	wom 4	en	Disab	le per	rson					
	-				1 40	<u> </u>								
A4 How far (i	n Met	ter) of you	r hou:	e to a C	losest p	ark? (Ple	ase tick	one	only)		1			
<100 M	10	01-300 M	-	301-60	ом	601-	1000 M	1	>1000	м	-			
10		20	_	50			10	_	20		1			
Part B. Ab B1 Do you v Yes (Go to B3)	out V	/isiting F he park o	r oper	LIOSE T 1 space No	closest	to your	house on't kno	:? (Ple	ease tick	one o	inly)			
Part B. Ab B1 Do you v Yes (Go to B3) B2 If NO, wh	out \ isit th	he park o	r oper visit tl	No No	closest 2 closest	to your De to your	house n't kno house	? (Ple	ase tick	one o	inly) iny as	appro	priate	2)
Part B. Ab B1 Do you v Yes (Go to B3) B2 If NO, wh Lack of space	out V isit th hy the	he park o 10 ey don't n alk/play	r oper visit tl	n space No Bad	closest 2 closest closest	to your De to your	house on't kno house	? (Ple ow ? (Ple 20	ease tick	one o	inly) iny as iss bec	appro	priate f road	≥)
Part B. Ab B1 Do you v Yes (Go to B3) B2 If NO, wi Lack of space Lack of shelte	out V isit th hy the to wa	/isiting F he park o 10 ey don't i alk/play	visit ti	No Bad	closest 2 closest closest landscap	to your by our to your ing ity	house	? (Ple 20	ease tick	one o	inly) iny as iss bec	appro	priate f road	30
Part B. Abi B1 Do you v Yes (Go to B3) B2 If NO, wi Lack of space Lack of shelte Lack of park f Lack of acces:	hy the to wa	/isiting F he park o 10 ey don't n alk/play ure ntry in	visit th 10 70 100	No Bad Lack Bad Lack	closest 2 closest closest landscap of secur environn of acces	to your De to your ing ity nental is s to usin	house house	? (Ple 20 20 50 80 110	ease tick	one o	inly) iny as iss bec ason to go shade	appro	priate f road	2) 30 60 90
Part B. Abi B1 Do you v Yes (Go to B3) B2 If NO, wi Lack of space Lack of shelte Lack of park f Lack of access the park	out V isit th hy the to wa er iurnitu s to er	/Isiting F he park o 1 ey don't n alk/play ure htty in	visit th	No Bad Lack Bad Lack park	closest 2 closest landscap of secur environn of acces element	to your De to your ing ity nental is s to usin is	house house	? (Ple ow ? (Ple 20 50 80 110	ase tick	one o as ma f acce tion nal rea ealth t f tree	iny as iss bec ason to go shade	appro	priate f road	 30 60 90 120
Part B. Abe B1 Do you v Yes (Go to B3) B2 If NO, wh Lack of space Lack of space Lack of space Lack of access the park Mugging Other (please	out V isit th hy the to wa er urnitu s to er	Alsiting F he park o 10 ey don't n alk/play ure ntry in a in)	visit th 10 40 70 130	No Bad Lack Bad Lack park	closest 2 closest landscap of secur of acces element clean	to your De to your ing ity mental is s to usin is	house house	? (Ple 20 20 50 80 110 140	ease tick i asse tick i Lack o condit Person Bad H Lack o Other	as ma f acce ion nal rea ealth 1 f tree	iny as iss bec ason to go shade	appro	priate f road	2) 30 60 90 120 120
Part B. Abi B1 Do you v Yes (Go to B3) B2 If NO, wl Lack of space Lack of space Lack of space Lack of space Lack of space Lack of space B3 Can you (Please tick.)	hy the to wa er write write think one o	/isiting F he park o 1 ey don't n alk/play ure ntry in s in) s in) s of anyth only)	r oper risit tl 10 100 130	No Bad Lack Bad Lack Park Not at woul	closest 2 closest landscap of secur environn of acces element clean	to your De to your ing ity nental is s to usin is urage yo	house house sue g	? (Ple ow ? (Ple 20 50 110 140 se th	ease tick : ase tick : Lack o Condit persoi Bad H Lack o Other e park m	as ma f acce cion nal rea ealth n f tree	iny as iss bec ason shade	appro ause o	priate f road	e) 30 60 90 120 150 longer?
Part B. Abi B1 Do you v Yes (Go to B3) B2 If NO, wl Lack of space Lack o	hy the to water think one o	/isiting F he park o 1 ey don't n alk/play ure ntry in s in) s of anyth nly) 5 2	r oper risit th 10 40 70 130 130	No Park Park Park Park Park Park Park Park	closest 2 closest landscap of secur environn of acces element clean Id encou	to your to your ing ity mental is s to usin is urage yo 3□	house house sue g	? (Ple ow ? (Ple 20 55 110 140 se th	ase tick : ase tick : Lack o Condit persoi Bad H Lack o Other e park m	one o as ma f acce cion nal rea ealth t f tree ore o	iny as iss bec ason shade	appro ause o	priate f road	2) 30 60 90 120 150 onger?
Part B. Abu B1 Do you v Yes (Go to B3) B2 If NO, wh Lack of space Lack of sheft Lack of sheft Lack of sheft Lack of sheft Hugging Other (please B3 Can you (Please tick) Yes 10 B4 If you an often or stoo	hy the to wa the to wa the the to water the the towater the to water the to water the to water the tow	red 'Yes'	r oper r oper risit tl 10 40 70 100 130 130 130 130 130 130	Llose ti n space No Bad Lack Bad Lack Not Not at woul se desc	closest 2 closest andscap of secur environm of acces element clean id encou	to your to your ing ity nental is urage you 3 low, th	house house sue g	? (Ple ow ? (Ple 20 50 110 140 se th gs th	ease tick : acase tick : Lack o conditi persoi Bad H Lack o Other e park m at would	one o as ma as ma af acce ion nal reze ore o f tree ore o f ence	iny as iss bec iss bec shade	appro ause o	y for l	2) 30 60 90 120 150 Honger?
Part B. Abi B1 Do you v Yes (Go to B3) B2 If NO, will Lack of space Lack of space B3 Can you (Please tick Yes 10 B4 If you an offen or stc Provide of spi walk/play	hy the to water to write think one o Ne nswe ay for ace to	A stating F he park o 10 10 ey don't n alk/play are ntry in a in) of anyth only) of anyth of a	r oper r oper risit tl 10 40 70 100 130 100 0 , plea 10	Llose ti n space No Bad Lack Bad Lack Bad Lack Bad Lack park Not at woul on't kno se desc good la	closest andscap of secur environm of access element clean uld encou	to your to your ing ity ity ity arage you 3 low, th ng	house house sue g 2 2	2 (Ple 2 (Ple	ease tick : asse tick : Lack o condit person Bad H Lack o Other te park m at would povide safe term on th cess for all	one o as ma as ma facce con f tree ore o f ence and co e stree	only) iny as iss bec ason to go shade often, o ourag	appro ause o or sta	y for l	2) 30 60 90 120 150 150 150 150 150 150 150 15
Part B. Abu B1 Do you v Yes (Go to B3) B2 If NO, will Lack of space Lack of shether Lack of shether Lack of shether Lack of shether Lack of shether Lack of acces: the park Mugging Other (please B3 Can you (Please tick, Yes 10 B4 If you an often or sto Provide of spa walk/play Ensure of she protect from	hy the to wa er urnitu s to er write think one o No as to er ay for ace to	/isiting F in the park of interpark of interpark of interpark of interpark of interpark of in	r oper r oper r oper risit tt 10 40 100 130 0 0 0 10 10 10 10 10 10 10	I lose ti n space No Bad Bad Lack Park Not Not at woul on't kno se desc Presen good is Ensure	closest 2 closest landscap of secur environm clean ld encou w w cribe be ve and m andscapi of secur	to your to your ing ity eental is s to usin urage you alke ng ity low, th	house house sue g bou to u e thing 20 50	2 (Ple 2 (Ple 2) 3 (Ple 3) 3 (Ple 3) 3 (Ple 3) 3 (Ple 3) 3 (Ple 3 (Pl	ease tick : 3 ease tick : Lack of Conditional Bead H Lack of Conditional Co	one o as ma facee ion nal research f tree ealth 1 f tree ore o f ence and c e stre ree sh	iny as iss bec ason to go shade often, i ourag onveni iet to e ade	appro ause o or sta	y for l	2) 30 60 90 120 150 150 150 150 150 60 60

Part C. About Visiting Parks in other parts of the city

C1 Do you visit-parks or open space in other parts of the city (i.e. not close to your home)? (Please tick one only)

	ſ	Yes	10	No	2□	Don't know	30
--	---	-----	----	----	----	------------	----

If yes, proceed to questions C2 to C4 If not proceed to question C5

C2. If yes, what parks? (Dease tick to select the parks)

(Flease tick to select	uie p	ansj			
Ramna Park	10	Osmani Uddyan	2	Shohorwardi Uddyan	30
Dhannmondi Lake Park	40	Chandrima Uddyan	50	Botanical Gurden	60
Fajle Rabbi Park	70	Gulshan Ladies Park	80	Gulshan Lake Park	9🗆
Other	10				
Other (please write in)					

C3. Why do you visit these parks?

(Please tick up main reasons for normally visiting the park)

To relax or think	10	For peace and quiet	2	To improve my health	30
To see birds & wildlife	40	To keep fit/slime	50	To Get some fresh air	60
To Meet friends	70	To follow the doctors advice	80	To play	90
Other	10				
Other (please write in)					

C4. How would you normally travel to the park? (Please tick one only)
on foot
ID Bicycle 20 Motorbile 30
private Car 40 Bus 50 Rickshaw 6
Taxi 70 Train 80 Other 90
Taxi 70 Train 80 Other 90

Lack of space to walk/play	10	Bad landscaping	2	Lack of access because of road condition	30
Lack of shelter	40	Lack of security	5	personal reason	60
Lack of park furniture	7	Bad environmental issue	8	Bad Health to go	90
Lack of access to entry in the park	10	Lack of access to using park elements	110	Lack of tree shade	12□
Mugging	13	Not clean	14	Transportation problem	15
Lack of time	16	Other	17		

 C6. Can you think of if providing anything that would encourage you to use the park more often, or stay for longer? (Please tick one only)

 Yes
 10
 No
 20
 Don't know
 30

2

Figure 9-1 General Public Survey, p. 1 and 2 of 3

C6a If you answered 'Yes', please choose option below, the things that would encourage you to

visit more often or stuy		iger. (Fieuse tick	one o	morej	
Provide of space to	1	Preserve and	2	Provide safe and convenient crossing	3
walk/play		make good		system on the street to ensure access	
		landscaping		for all	
Ensure of shelter to	4	Ensure of	50	Increase of tree shade	6
protect from rain/sun		security			
Improve the condition of	7	Other	80		
park furniture					
Other (please write in)					

Figure 9-2 General Public Survey, p. 3 of 3

9.3 Park User Survey

Research by: WB	B Trust							
Name of Intervie	wer:							
Starting Time:			Ending 1	lime:				
Name of the par	k or area (i	fapplicable	e):					
Part A. Surve	ey Inforr	nation						
A1 Day of the w	/eek:		A2 [Day of the	week:			
Monday	1			Rain		1	10	_
Tuesday	2			Cloud	1		20	-
Wednesday	3			Sun			30	_
Thursday	4			Cold			4	-
Friday	5			Warn	1		50	_
Saturday	6			Hot			6	-
Sunday								
A 2 14/6 - 6 - 6 - 6								
16 or under	17-10	20-20	20.20	your ager (i	Fiease tick o	ne oni	Y) 74	75 or over
10 01 01001	20	30-25	40	50	60.03	7	1	2010/01
10	20	50			00		-	00
		dent (Ple	ase tick on	ie only)				
A4 Gender of the Female M	ale							

Telephone (Not mandatory):

Email (Not mandatory):

Part B. About your visit:

B1 How often do you visit this park? (Please tick one only)

			Page no.
First visit	10	Go straight to C9	07
Once a year	20	Go straight to C9	07
2 or 3 times a year	3	Go straight to B3	03
Monthly	40	Go to B1b	01
Weekly	50	Go to B1b	01
More Often/ Daily	6🗆	Go to B1b	01

 B2 Which season do you prefer to visit or stay more in the park?

 Winter
 Summer
 Rainy

 ID
 2a
 3a

Why(Specific):.....

 B3 Which season you don't prefer to visit or stay in the park?

 Winter
 Summer
 Rainy

 ID
 2a
 3a

Why(Specific):.....

B4 Wh usually (Please t	en yo r trave tick one	u visit this el from? e only)	park,	where do y	ou	B5 Ho park? On	OW 1 (Ple
Home	10	Work	20	Shops	3	foot	
Hotel	40	School	50	College / University	60	Car	40
Friends/	relativ	es house	70	Other	80	Taxi	7C
Other (p	lease v	vrite in)					
						Other	(plea

B5 How would you normally travel to this											
park	? (Plea	se tick one on	ly)								
On 1 cycle 2 Motorbike 3											
foot	foot										
	40	Bus	50	Rickshaw	6						
Car											
Taxi	70	CNG three	80	Other	90						
	wheeler										
Other	(please	e write in)									

 B6 Approximately how long is your journey to the park? (Please tick one only)
 1 10 minutes
 20

 1 - 20 minutes
 10
 11 - 15 minutes
 20

 16 - 20 minutes
 30
 21 - 30 minutes
 40

 More than 30 minutes
 50
 11 is depend of traffic when travel by vehicle
 60

B7 Do you normally visit the park or open space alone or in a group? (Please tick one only)
Alone 10 (Go straight to B7) Alone

Figure 9-3 Park User Survey, p. 1 and 2 of 5

In a group 2 Go t	to B6b	0 & B6c)				Very 1□ Good 2□ Fair 3□ Poor 4□ Very 5□ No 6□ Don't 7□
Both (equally divided) 3 (Go t	to B6b	0 & B6c)				good poor opinion know
B8 When you visit as part of a g appropriate)	roup	, who normally visits the park with	you?	(Please tick as man	y as	C1a Enter any comments provided by the respondent in the space below.
Husband-wife 1D Children		2 With family 3				
Friends 4 Team / C	lub	5 School group 6	-			
Other Other (please write in)		/L Go straight to B/	-			
oute (press time in)						C2 How would you rate the standard of cleanliness and maintenance of the park? (Please tick one only)
B9 Why do you visit this park	?					Very 1 Good 2 Fair 3 Poor 4 Very 5 No 6 Don't 7
(Please tick up main reasons f	for no	ormally visiting the park)				good poor opinion know
To relax or think 1□ For peace = To play 4□ To keep fit To Mast friends 7□ To follow t	and q	uiet 2 To improve my hei 5 To Get some fresh	alth air	30		C2a Enter any comments provided by the respondent in the space below.
Other (please write in)	une de			<u>, , , , , , , , , , , , , , , , , , , </u>		
B10 What do you normally do	o wh	en you visit the park?				
(Please tick as many as appror	nriat	e)				C3 How enjoyable is it for you to get around the park? (Please tick one only)
Enjoy the beauty of the	10	walk	2□	Watch sport or	3□	Very 1 Good 2 Fair 3 Poor 4 Very 5 No 6 Don't 7
surroundings				games		good poor opinion know
Exercise	40	Cultural Program/Enjoy	50		6	
Play sports or games	70	eat or drink	80	Other	90	C3a Enter any comments provided by the respondent in the space below.
Other (please write in)	-		-		-	
L						
B11 Do you get these benefit	with	nout park?				
Yes No Don	τκησ	ow				
20 30						C4 How would you rate the sports facilities that are available?
R12 Do you think these activi	itiae	are important?				(Please tick one only)
Ves No Don'	't kno	ow				Very good 1 Good 2 Fair 3 Poor 4
10 20 30	C KII					Very poor 5 No opinion 6 Not Applicable 7 Don't know 8
· · · ·						
Part C. About the park of	r op	en space				C4a Enter any comments provided by the respondent in the space below.
We want to know if you think this p buildings, landscape and wildlife are	ark or	r open space is a welcoming, healthy, sa perly cared for	fe and	secure place, where the	he	
oundings, remascape and wirdlife are	c prop	city carea for.				
Ct II and and a second second second						
(Please tick one only)	iesigi	n and appearance of the park?				
(Flease tick one only)						

Figure 9-4 Park User Survey, p. 3 and 4 of 5

C5 Can you think of anything that would encourage you to use the park more often, or stay for longer? (Please tick one only) Yes 10 No 20 Dort HonyDidn't 30 Answer

C5a If you answered 'Yes', please choose option below, the things that would encourage you to visit more often or stay for longer.)

(incuse tiek one t		(0)			
Provide of space to walk/play	10	Preserve and make good landscaping	2□	Provide safe and covenient crossing system on the strret to ensure access for all	3□
Ensure of shelter to protect from rain/sun	40	Light	50	Increase of tree shade	6□
Improve the condition of park furniture	7	Other	80		
Other (please write	e in)			•	

Figure 9-5 Park User Survey, p. 5 of 5

9.4 Direct Observation Park Survey



Figure 9-6 Direct Observation Park Survey, p. 1 and 2 of 8

Public Spa	aces Audit To	bl				lealthBridge	Public Space	s Audit	Tool				HealthBridge
21. Is the	ere a fee to use t	he toilet?											
			_				1 lane	2-3 la	nes 4-	5 lanes	6 or more	lanes	
	Yes	No					10	2		30	40		
22 1415-	10	20					3. What crossin	ng aids are	present on	the street	? (Mark all th	at apply. Look on be	oth sides of street)
22. Wha	it's rate for differ	ent uses of tr	te tonet?				Nothing		Crosswalks	Flag	hine Liehts	Stop signs	Traffic Lights
ĺ	Urine	S	tool	Bath			10		2		30	40	50
[10		2	30			Speed bump	Ze	bra crossing		Police	Other (specify)	
23 Pate	the cleanliness of	f the toilets:					6		70		80	90	
23. 1010	the creatiness of	a the conecs.											
[Poor	Av	erage	Good	Unable	e to assess	Specify:		_				
[10		2	30		4	A Milant is the t	traffic unk	ume of the c	reet? (Rie	k one met an	during the second h	and of your watch
24. Who	is the responsib	e authority f	or cleaning th	e park?			count the numb	ber of veh	icles that go	by in one	ninute in eith	er direction.)	and of your watch,
							fine second second		. 10				
[Government	Pr	ivate	Others			nive cars of fev	wer	minute	110	greater cars	per minute	
	10		2	30			1		20	-	30		
										-			
specity:							5. Is there a sign enter 999	n specifyi	ng the speed	limit on t	he street? If s	so, note speed limit.	If there is no sign
25. Locat is funct	te all of the wate tional if water co	r taps in the nes out in an	area. Rate the adequate str	e functionality of th ream for drinking.)	e water	taps. (A water tap	6. Are there an	y footpat	hs along the	street?			
						1	One side	Both S	ide No	footpath	7		
No tap	os Taps	but not	Some ar	e All are fun	tional	Unable to access	10	2		30	1		
10	Tur	2	30	4		50	7. Rate the con-	dition of	the footpath	s.	_		
26. Locat	te all the art or n	nonuments o	n the area. Ra	te the general cond	lition of	the	2				01		N. C. mark
art/mo	onuments in the	area. (Note: [Decorative for	untains should only	be count	ted under "water	10		2		3000	4	ST ST
feature	es.")							- 1					
Poor	r A	verage	Good	No art/monu	ments	Unable to assess	8. Access to Par	rk throug	h street.				
10		20	30	40		50	Poor	_	Average		Good	Unable to assess	No footpath
-							10		2		30	40	5
27. Whil	le you were in th	e area, did y	ou see any pa	rk workers or polic	e officer	s? (E.g. caretakers,	9. What are the	e sources	of shade alo	ng the stre	eet? (Mark all	that apply)	
parkse	curry guards, et						Trees		Adjoining	1	Shelters	No Shade	Others (specify)
Yes	No						10	_	Buildings	_	10		-
10	2						10		20		50	+0	50
Street Ques	stions						Specify:						
These quest streets with	tions are to be us nin the park). Pic	ed to assess k the longest	the condition street or the	of the streets surro most used public st	unding t reet and	he park (not assess.	Green Space Qu	uestions					
1. What typ	oe of street is it?						1. Does this	s park ha	ve any green	space?			
Borders Pa	rk Crosser Pa	with in	nark				Yes	No					
1	2	3	1				10	2	1				
			-				2. Describe	the area					
2. How mar	ny lanes does the	street have	? (A lane can	go only in one direct	tion; a ro	ad with one lane of							
traffic in ea	ch direction wou	id have 2 lane	es.)				Landscaped	Natu	ral	Mix	Other (spec	ify]	

Figure 9-7 Direct Observation Park Survey, p. 3 and 4 of 8





Figure 9-8 Direct Observation Park Survey, p. 5 and 6 of 8

ublic Spaces Au	dit Tool			lealthBridg	Public Space	es Audit Tool			HealthBr
hildren's playspace	questions				Sports fie	d Questions			
What tups of	nbu oquinment is prose	e? (Mark all th	hat apply		1. What s	tructures are present	on this ground? (Ma	rk all that apply)	
. what type of	play equipment is prese	it: (Mark all tr	ат арріу)		Football Go	al Posts Badn	ninton Net	Handball Bar	Cricket Pitch
Swing Set	Slide	Climbi	ing Apparatus	Merry-go-Round	10		20	30	40
10	2		30	4	Net Ball	osts	None	Other (specify)	
Football Goal bar	Cricket Pitch		Tunnel	Other (specify)	50		6	70	
50	6		70	80	Specify:				
ecify:					2. What i	the intended use of	this field? (Mark all t	hat apply)	
What type of present, check a	surfacing is under the pl il that apply).	ay equipment?	(Mark one; if mul	Itiple surfaces are	Eaoth		ricket	Badminton	Multi purpo
					10	······	2	30	4
Asphalt	Concrete		Grass	Sand	Can't t	ell (Other		
10	2		30	40	50		6		
Soil	Unable to asses	Other (s	pecify)						
50	60	-	7		Specify:				
ecify: How much de paint on equipn	eterioration or corrosion nent surfaces, rusted piec	is evident over 25, exposed har	rall on the play equ rd surfaces)	uipment? (e.g. chipped	3. Rate th patches, I Poor 10	e condition of the gro ioles, roots, large rock Average 2	ks, poor drainage, etc.	Unable to assess	
How much de paint on equipn	eterioration or corrosion nent surfaces, rusted piec Very Little 2□	is evident over 25, exposed har Some 3 🗆	rall on the play equ rd surfaces)	uipment? (e.g. chipped	3. Rate th patches; Poor 10 4. Are str	e condition of the gr ioles, roots, large roc Average 2 uctures broken or mi	Ssing on the field?	Unable to assess	
Pecify: How much depaint on equipm None 1	eterioration or corrosion nent surfaces, rusted piec Very Little 20	is evident over es, exposed har Some 3□	rall on the play equ rd surfaces) A lot 4	uipment? (e.g. chipped	3. Rate th patches, I Poor 10 4. Are str Yes - missi	e condition of the gr ioles, roots, large roci Average 2 uctures broken or missing No – not missing	ssing on the field?	Vinable to assess 4	Other:
How much di paint on equipn None 1 Is the playgro	eterioration or corrosion nent surfaces, rusted piec Very Little 20	is evident over es, exposed har Some 3 3 led by a fence	rall on the play equ rd surfaces) A lot 4 that could be lock	uipment? (e.g. chipped	3. Rate the patches, Poor 1 4. Are str Yes - missin 1	Average 20	ssing on the field?	Vnable to assess Unable to asses Unable to a	Other
How much de paint on equipn None 1 Is the playgre out? Yes 1 None Ves 1 None Yes 1 None	terioration or corrosion nent surfaces, rusted piec Very Little 2 und equipment surroun No	is evident over es, exposed har Some 3 3 led by a fence	rall on the play equ rd surfaces)	uipment? (e.g. chipped	3. Rate th patches, I Poor 1□ 4. Are str Ver = missi 1□ 5. Are th intended Yes 1□	e condition of the gr ioles, roots, large roci 2 2 actures broken or mi: 2 re any lights on the g for illuminating the fit No Suff 2	Iconsider eveni st, poor drainage, etc. Good Sing on the field? Sing on the field? Sing Yes - broker Sing (Hint: Locate eld.) Sing 4	i No- not broken any lights first, then det	Other:
How much depaint on equipn None I Is the playgre out? Yes I What are the se Trees	terioration or corrosion ent surfaces, rusted piec Very Little 2 und equipment surroun No 2 urces of shade in the chi Adjoining	is evident over es, exposed har 30 led by a fence dren's play spa Shelters	rall on the play equ rd surfaces) A lot 4 that could be lock ace area? [Mark al No Shade	uipment? (e.g. chippen	3. Rate th patches, I Poor 1□ 4. Are str Yes - missi 1□ 5. Are th intended Yes 1□	e condition of the gri oldes, roots, large roci actures broken or mi- g No – not miss 2 – re any lights on the g for illuminating the fi No Suft 2 –	sund. (Consider even s, poor drainage, etc. sing on the field? ing Yes - broker ground? (Hint: Locate id.) inclent Not Sufficient A	ess of the surface, leng) Unable to assess 4 No- not broken 4 any lights first, then det	Others
None 10 Sthe players	terioration or corrosion terioration or corrosion Very Little 20 und equipment surroun No 20 Adjoining Buildings 20	is evident over es, exposed har Some 3 led by a fence dren's play spa Shelters 3	rall on the play equ rd surfaces)	uipment? (e.g. chipped ded or keep people II that apply) Others	3. Rate the patches, in the pa	e condition of the grip coles, roots, large rock 2010 actures broken or mi g No – not miss 9 No – not miss 100	s, poor drainage, etc. Good 30 sising on the field? Yes - broker yround? (Hint: Locate eld.) Ticlent Not Sufficie 20 40 ? (This would require	Unable to assess Unable to assess 4 No- not broken 4 any lights first, then det nt	Others
How much d paint on equipn In equipn In equipn In equipn In equipn In equipne equipne equipne equipne Ves Ves Tees Tees In How much equipment	terioration or corrosion terioration or corrosion terioration or corrosion very Little 2 und equipment surroun No 2 urces of hade in the chi Adjoining buildings 2 c d on un saa at the new	s evident over s, exposed har <u>Some</u> 3 led by a fence dren's play spa Shelters 3	rall on the play equ rd surfaces) A lot 4 that could be lock ace area? (Mark al No Shade 4	uipment? (e.g. chipped ded or keep people li that apply) Others S	3. Rate the patches, and the patches, an	e condition of the grip coles, roots, large rock actures broken or mi g No – not miss re any lights on the g for illuminating the fit No Suft 20 : is alay ground be locked m entering. The pres	sund. (Consider events s, poor drainage, etc. Good 3 ssing on the field? yound? (Hint: Locate add.) Ficient Not Sufficie 4 ? (This would require ence of an actual lock	ess of the surface, leng Unable to assess 40 10 10 10 10 10 10 10 10 10 1	Others
How much was What are the sc Trees How much was	terioration or corrosion terioration or corrosion terioration or corrosion very Little ve	s evident over s, exposed har <u>Some</u> <u>3</u> ied by a fence ' dren's play spa Shelters <u>3</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>	all on the play eq rd surfaces) A lot 4 that could be lock ace area? (Mark al No Shade 4 A lot	uipment? (e.g. chipped	3. Rate th patches, Poor 1 4. Are str Ver - missi 1 5. Are th intended Ves 1 6. Can the p people for	condition of the grip condition of the grip colors, roots, large roc Average 20 actures broken or mi: g No – not miss 20 re any lights on the g root model root source Average actures broken or mi:	sund. (Consider events s, poor drainage, etc. song on the field? ing Ves – broker ing – ves – ve	ess of the surface, leng Unable to assess 4 No- not broken 4 any lights first, then det nt a fence with a gate that is not necessary.)	Other:
How much d paint on equipn None I Is the playgro out? Yes I What are the sc Trees I I How much wast None I	terioration or corrosion terioration or corrosion very Little 2	s evident over s, exposed har <u>Some</u> <u>3</u> led by a fence' dren's play spa Shelters <u>3</u> <u>space?</u> <u>Some</u> <u>3</u>	ali on the play eq rd surfaces) A lot 4 that could be lock ace area? (Mark al No Shade 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	uipment? (e.g. chipped def or keep people Uthat apply) Others S	3. Rate th patches, Poor 10 4. Are str Ves-misin 10 5. Are th intended 10 6. Can the p people fr Ves 10	condition of the grip relation of the grip relation of the grip relation of the grip relation of the grip of	stand, (Consider events, s, poor drainage, etc. s, poor drainage, s, poo	ess of the surface, leng Unable to assess 40 10 10 10 10 10 10 10 10 10 1	Other 50 ermine if they a
How much department of the second of the sec	terioration or corrosion terioration or corrosion terioration or corrosion very Little 2 und equipment surroun No 2 und equipment surroun Adjoining building 2 do you see at the play Urate urate very used	s evident over es, exposed har 3 3 Hed by a fence t dren's play spa Sheiters 3 space? Some 3	all on the play eqg df surfaces) A lot 4 that could be lock ace area? (Mark al No Shade 4 A lot A lot	uipment? (e.g. chipped ad or keep people It that apply) Others 50	3. Rate th patches, Poor 10 4. Are str Ver - missi 10 5. Are th intended Ves 10 6. Can the p people fn Ves 10 7. What are	Condition of the grip relation of the grip rel	s, poor drainage, etc. Good Good SC Sing on the field? Sing Yes – broker Yes – broker Yes – broker SC Yes – broker Hint: Locate eid.) SC 4 Chis would require ence of an actual lock on the playgrounds?	ess of the surface, leng) Unable to assess the other of the other	Others
How much department How much depart on equip In the equip In the equip In the equip In the equip department In th	Letterration or corrosion enterit surfaces, rusted piec Very Litile 2 Urry Litile 2 Algoning Buildings Buildings 2 Litile 3 Lit	s evident over s, exposed har 30 led by a fence dren's play spa Shelters 30 30 30 30 30 30 30 30 30 30	all on the play equ d surfaces) A lot A l	uipment? (e.g. chipper	 3. Rate the patches, in the patch	Average condition of the group of the service of shade sources of sources o	ound. (Consider events s, poor drainage, etc. Good 3C yround? (Hint: Locate id) ficient Not Sufficient Not Sufficient ? (This would require ence of an actual lock on the playgrounds?	ess of the surface, leng Unable to assess 40 No- not broken any lights first, then det nt s fence with a gate that is not necessary.) (Mark all that apply)	Others
How much day and the player out?	terioration or corrosion terioration or corrosion very Little 2 very Little 2 und equipment surroun No 2 doyname doyname doyname doyname doyname tere tere	s evident over s, exposed har <u>Some</u> 3 ied by a fence <u>shelters</u> <u>shelters</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>some</u> <u>so</u>	all on the play equ d surfaces)	It hat apply) Uthers Ut	 3. Rate the patches, in the pack of the pack	condition of the grip condition of the grip const, large recipies, roots, large recipies, roots, large recipies, roots, large recipies, roots, large root missing the fit const roots and the second secon	s, poor drainage, etc. accord a science of	All of the surface, leng is a standard of the surface, leng is a standard of the same standar	Others Others Could prevent Others

Figure 9-9 Direct Observation Park Survey, p. 7 and 8 of 8

9.5 Activity Survey



Figure 9-10 Example of a filled-out Direct Observation Park Survey