

Civic empowerment through participation in public space design: Revitalizing parks and playgrounds in Dhaka, Bangladesh

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This paper is about public participation in public space design and its bigger influence on Sustainable Development. The projects in discussion are located in Dhaka, one of the densest cities on earth. With around 45 thousand people per square kilometer it lacks designed public space. Finding new space is way more difficult than revitalizing existing ones. So preservation and optimal utilization of remaining open spaces will play a key role in making the city sustainable. Given this scenario, Dhaka North City Corporation has taken the timely initiative of redesigning 17 neighborhood parks and play fields. We have joined this effort as the design consultant.

Inclusion of public opinion in public projects creates an overall environment of trust, ownership and justice, and in turn promotes sustainable growth. Hence these parks have been designed through active public participation.

The paper will elaborate on the process of including people, the findings, the extraction of design guidelines, the translation of the guidelines into designs, and the making of a larger green network for the city as a whole. The paper will also talk about how large scale SDG goals can be translated into small scale projects and local governments can interpret the goals into their regular activities.

Context Dhaka and the Project:

Dhaka, the capital of Bangladesh, is a 400 year old city. With a population of 20.28 million in 307 sqkm area its density is a mind boggling 66000 per sqkm.

United Cities and Local Government (UCLG) Public Space Policy Framework suggested that 50% of land should be allocated to streets and public space. This can be broken down into 30% for streets and sidewalks and 15 to 20% for open, green spaces and public facilities. Currently in Dhaka green space is 4% of total area. The city and its dwellers are pressed with unprecedented circumstances to survive. Due to Furious, unplanned and informal Urbanism open spaces are shrinking in alarming pace.

The project, in order to counter the before mentioned actions, is called **“Up-gradation, Regeneration and Greening of Urban Spaces”**. It involves redesigning of 17 existing parks and playfields in 3 areas with different socio-economic context: Planned high income area, planned middle income area and organically grown lower middle income area. These parks are mostly in dilapidated conditions with very little to no public amenities. This is an urban crisis and we saw it as an opportunity to initiate a movement to protect public spaces.

Understanding of a Park & Public Space:

Parks & playgrounds are organized green space used for recreational purpose. There are two categories 1. city level parks - 50-80 acre for all citizen 2. Local parks - around one acres for Neighborhood people mainly. (*Draft Structure plan of Dhaka 2016*). Here we are dealing with local parks.

Public spaces - are all places publicly owned or of public use, accessible and enjoyable by all for free and with-out profit motive. This includes streets, open spaces, parks, and playgrounds. Public space and streets define the character and quality of a city. If a public space is poorly designed, inadequate, inaccessible and privatized then that space becomes segregated.

According to UN Habitat global report 2009, a city can tackle inequality through the provision of inclusive, safe and accessible public space. But local authorities sometimes ignore the use of public space by the poor. In developing countries Public space is ‘the poor man’s living room’. It is also the place for recreation, social, cultural, and economic development of vulnerable group. Through participatory design process in designing parks, we can combat discrimination, improve the equity

and promote inclusiveness. This process has been introduced while designing these 17 parks and play grounds

Current Conditions:

There are 17 parks between 0.2 to 14.47 sqkm areas. Most are in dilapidated conditions with major illegal encroachment and minimal public amenities.

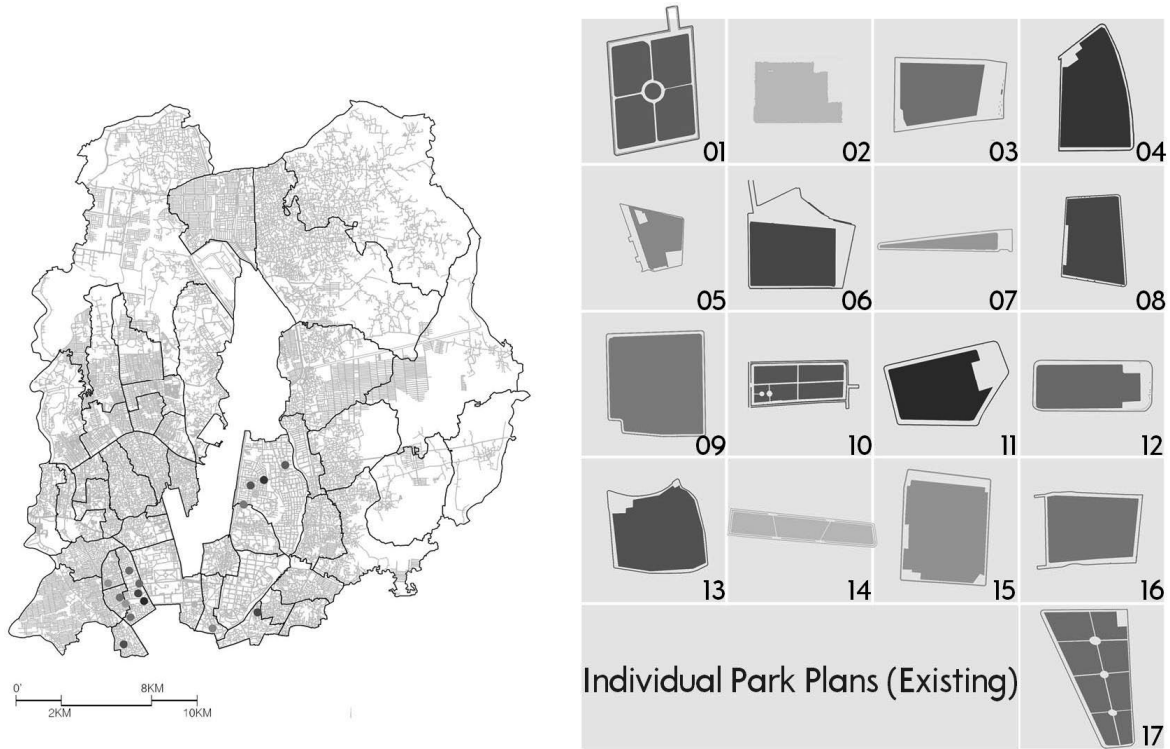


Figure 01: 17 parks location with respect to Dhaka city, North and their respective plans

The chart below shows the percentage of encroachment and number of public amenities present.

P&P	Area (skm)	Walk way	Sitting	Toilet	Drinking water	Children Play Area	Play field	Green Area	Drainage	Out door Exercising Area	Total % of Non-Park Entity
01	9.1										00
02	3.6										49
03	7.4										21
04	5.8										05
05	2.2										15
06	6.2										34
07	2.1										86
08	4.7										00
09	10.0										00
10	5.0										00
11	6.5										18

12	6.4									18
13	5.7									3.5
14	.206									61
15	3.4									8
16	4.3									4
17	14.4									00

Table 01: 17 parks area, current facilities chart and percentage of area encroached by non-park entity

A close observation of the current conditions gave a broader list of **challenges** to be addressed.

- Physical challenges: Illegal encroachment, lack of proper drainage, absence of lighting, lack of park facilities, lack of play facilities, water logging, urban flash flood etc.
- Socio-Economic Challenges: Lack of multi-generational use, lack of space for people from various socio-economic back ground, lack of gender –balance.
- Environmental challenges: lack of vegetation and unplanned vegetation, extreme noise and dust, lack of proper drainage etc.
- Governance: Lack of governance and maintenance.

Solution in Public Participation:

The project brief asked for only re-facilitating these areas. But we saw it as an opportunity to initiate a movement to protect public spaces. According to Habitat III public space issue paper the ‘Access to and the participation in public space is a first step towards civic empowerment’ thus engaging public in decision making is key to keeping these areas encroachment free and openly accessible to people. To find solutions for any multi-dimensional problem we needed to see it from multiple lenses. Through the participatory process “place making” concept can be introduced and inspire people to re-imagine collectively to improve their neighborhoods. This implies to protect number of rights and freedom, such as right to assembly, right to information, right to participate in decision making. We tried to include as many types of stakeholders in the participation process as we could. Namely: Users, non –users, students, women, children, persons with disabilities, older persons, government agencies, implementing agencies.

In order to ensure maximum participation of multi stake holders we used 3 methods of PP. namely:

- Public opinion survey through interview,
- Participatory Rapid Appraisal (PRA) method through active group sessions, and
- Mine Craft gaming software, with which the users designed the parks directly.

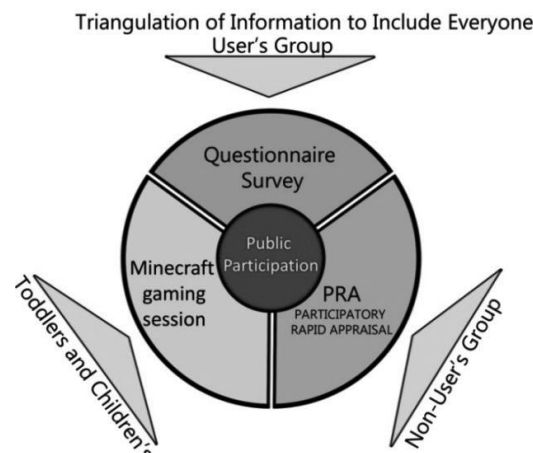


Diagram 01: Community Demand Forecast through Public Participation

Questionnaire Survey:

In each park 100 questionnaire samples were taken and results tabulated to project user demands. Each individual demand spider map is shown here along with the combined demand map.

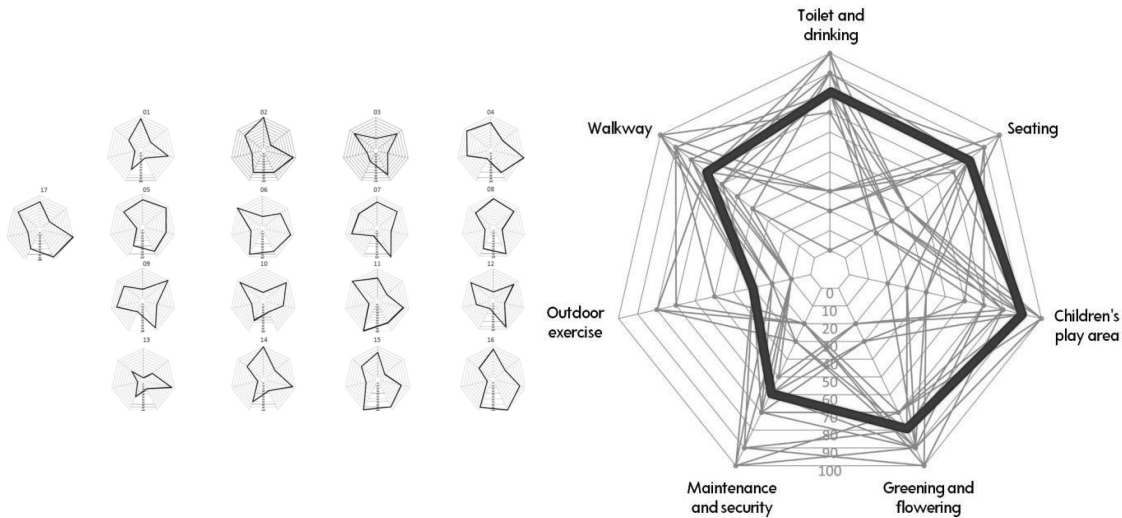


Diagram 02: Individual spider maps combined into one to forecast user demands

Participatory Rapid Appraisal method:

Participatory Rapid Appraisal (PRA) Session is a public opinion measuring tool. Organized in different communities where the P&Ps are located, the aim was to tap into local’s perception of problems and prospects of their parks and later incorporate their thoughts in design.

PRA Tools This exercise again gave us a clear indication of community demands.

There are 2 PRA tools. Namely:

- Identification of Problems and Proposals

In this tool, the participants are asked to write down the problems and proposals in different colored note cards so that they could be counted and prioritized according to the number of times they were mentioned by each individual participants.

- Dream Map

This tool involves drawing a map of the area and showing the location of the resources. Participants were asked to draw what facilities they wanted in the park and where they preferred to see them.

PRA results were then analyzed based on three parameters:

01. Intervention type: Structural, management and both
02. Time within which these problems should be resolved: urgent, medium, gradual
03. Number of votes received

Parameter 1 and 2 were given weightage between 0-10 and then all 3 parameters multiplied to get an overall weightage model. The models are given below.

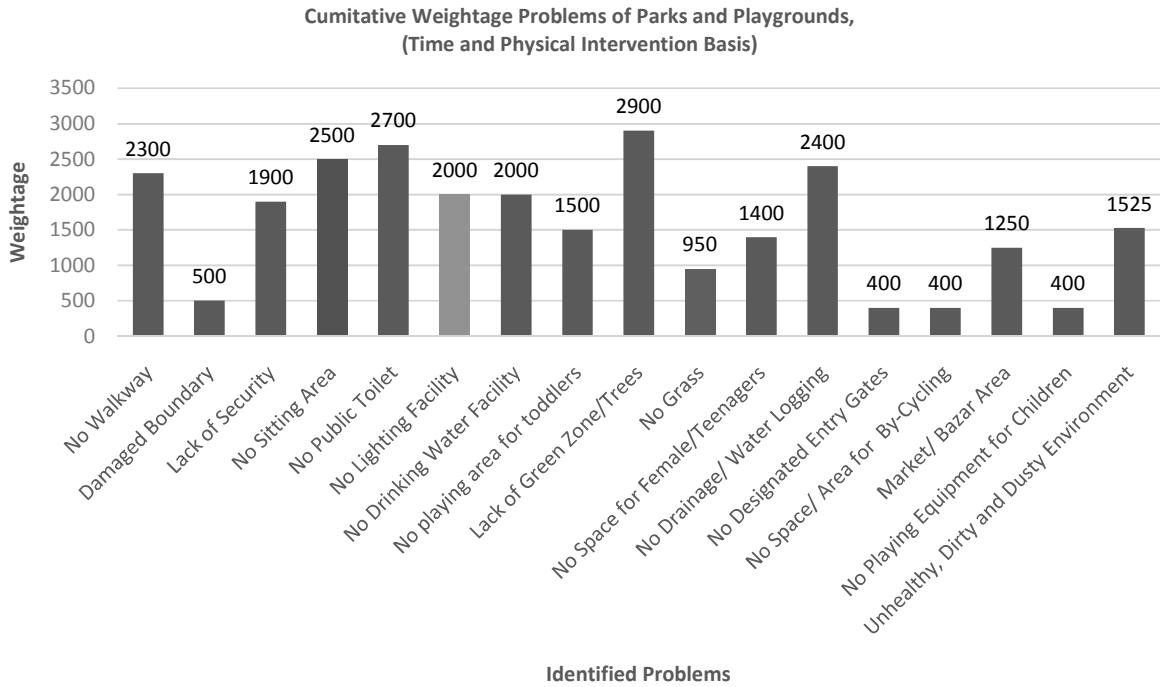


Table 02: PRA problem weightage model, showing pressing issues felt by locals

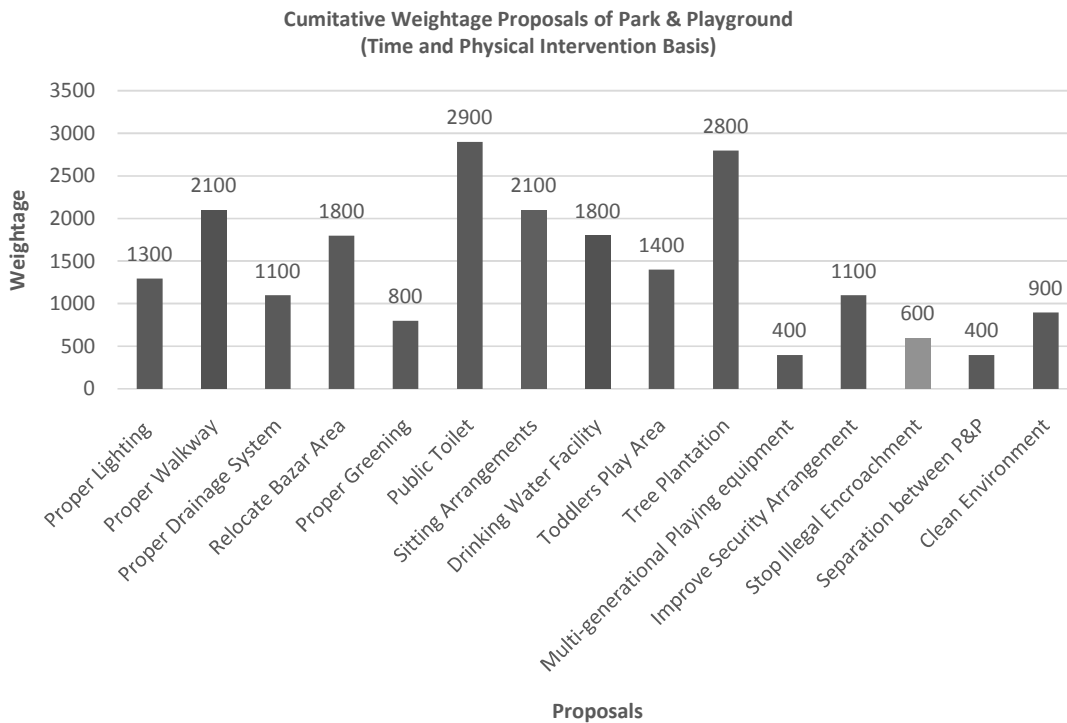


Table 03: PRA proposal weightage model

Survey through Minecraft gaming session:

We used Minecraft game as a tool to get opinion from school children about respective parks. They made models of how they want to see their parks through minecraft. The models are shown below and then we got a table of proposals.

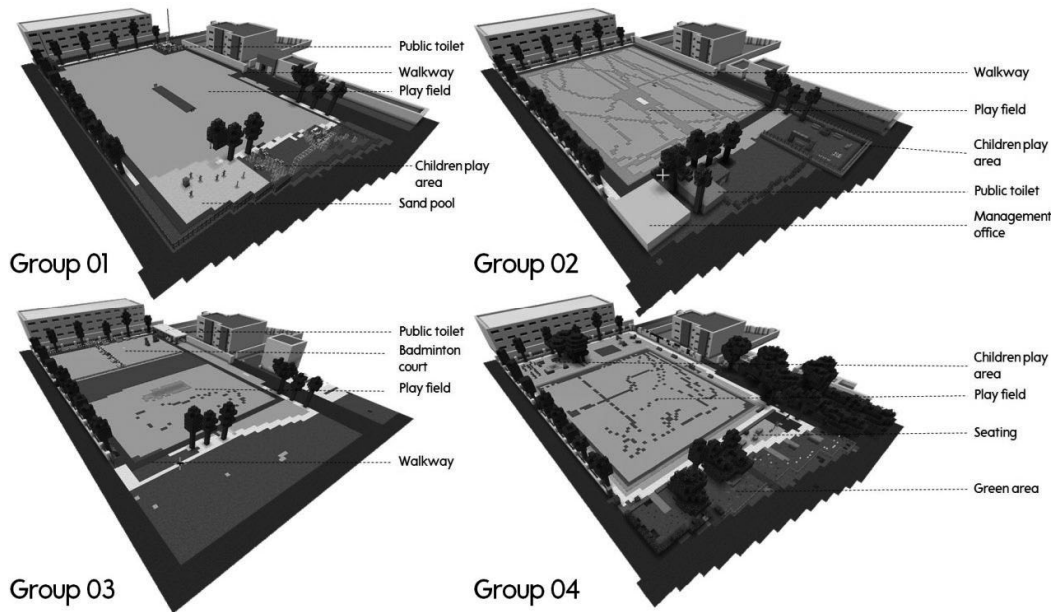


Figure 02: Minecraft models done by students showing how they want to see their parks

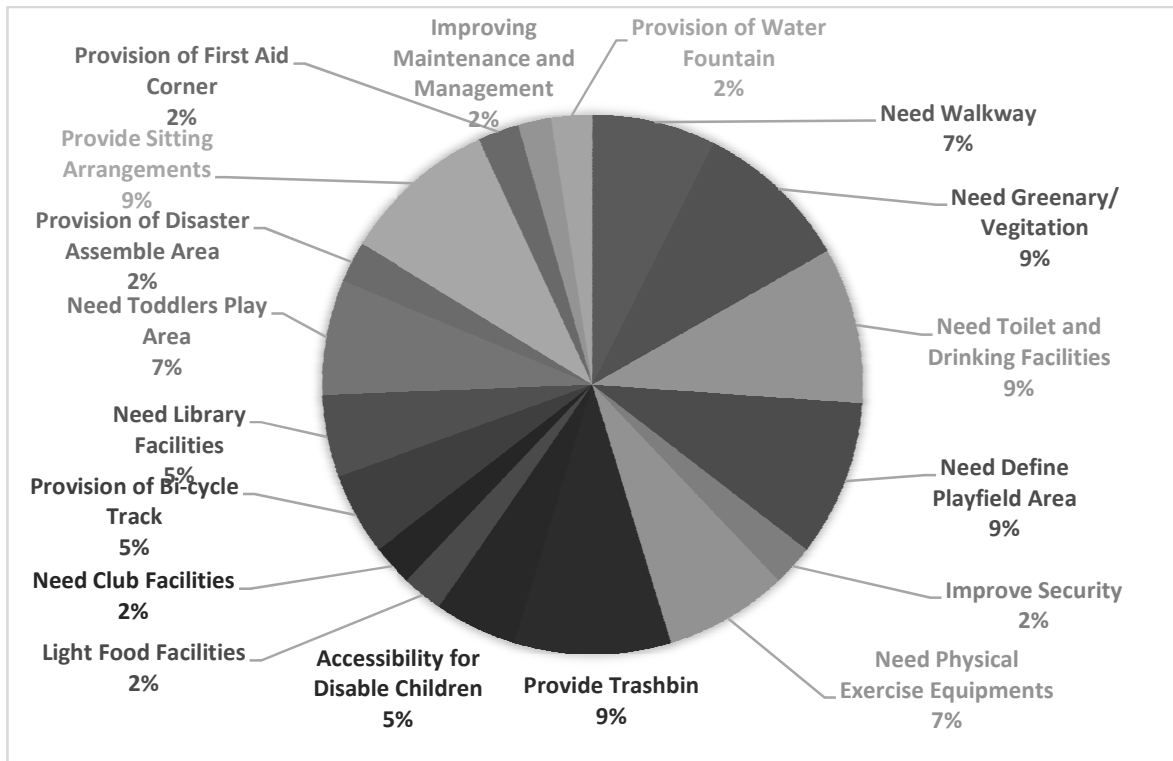


Diagram 03: Pie Chart derived from Minecraft Gaming Session outcome

Principles Agreed for Design

After compilation of all preliminary data and reviewing national, international laws and guidelines we came up with a list of design principles. This gave us clear idea of community demand. All P&Ps will be designed as:

A place of communal gathering, rest and play.

A place with maximum reflection of public opinion in terms of facilities.

To balance the best use of space with the diverse needs of local community.

Equally accessible for all age, sex, economic classes and physical ability.

Multi-functional, having both park and play field facilities.

Transparent from outside.

Sustainable with responsible construction, drainage, water use, energy consumptions.

A place of emergency evacuation.

A project with judicious construction budget

Based on these principals all the P&Ps were designed. We have shown a table below showing all facilities provided.

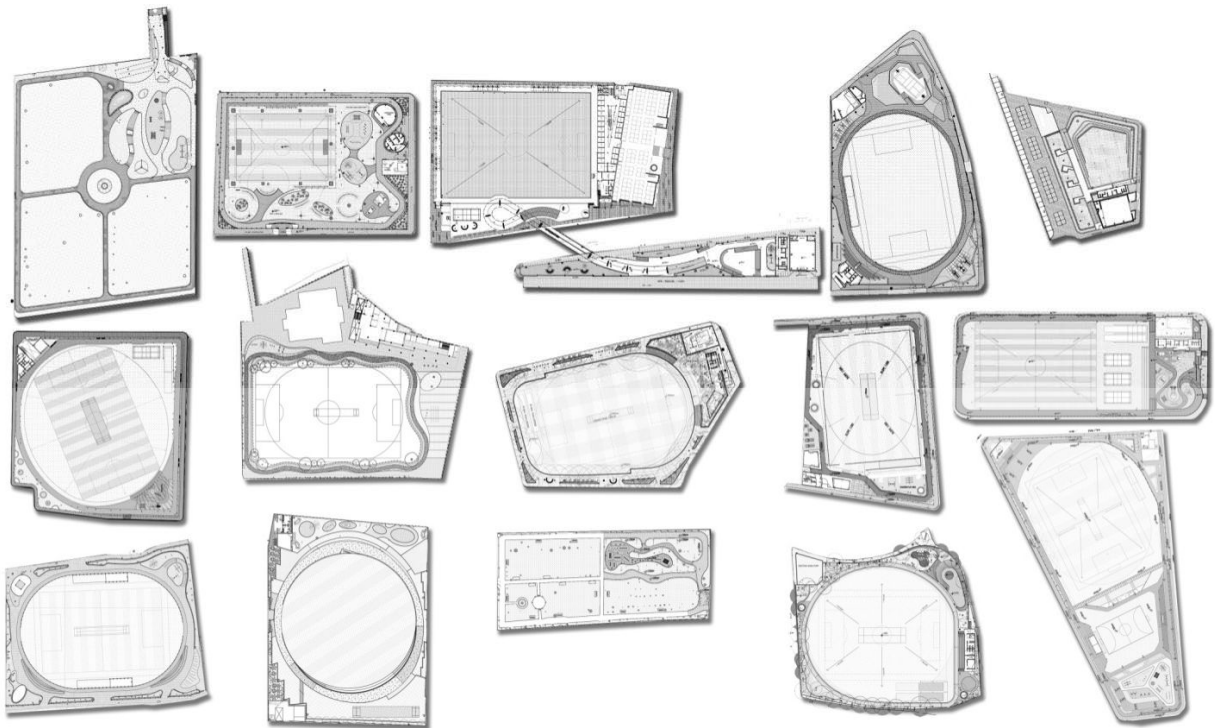


Figure 03: Individual Park and Playground Design

Parks	Facilities																			
	Pavement		Disability Facilities			Disaster Risk Reduction	Sport & Exercise Facilities						Public Toilet	Resting Facilities	Park Management	Renewable Energy		Culture Facilities		
	Walk way	Cycle way	Disability children play equipment	Accessibility	Disability toilet	Signage with Analysis for DAA	Children Play Area	Football	Cricket	Badminton	Net Practice	Exercise Yard/Gymnasium	Skating	Toilet & Drinking Water	Sitting bench	Maintenance room	Solar panel	Proper Drainage	Art wall	Library/Mobile library
1																				
2																				
3																				
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16																				

Table 04: Facilities designed for all the parks and playgrounds

We have approached this as a collective problem solving activity but also took care of unique needs of each P&P. The variety in the above table is a product of those unique features. For example in some parks there were desire for libraries and in some for outdoor exercise place and in some cricket practice net. The plan configurations would also express this variety.

Conclusion:

One of the target set out in SDG Goal no 11 is to provide Universal access to safe, inclusive, accessible green and public spaces, particularly for women, children and the persons with disabilities’ by 2030. We tried to achieve this target through designing series of parks and play ground with City Corporation. One of the key design aspects was to provide quality design and

through design, empower woman and provide opportunities for children. So these 17 parks and playgrounds were designed with balance facilities for all user groups, like children, Toddlers, women, youth group, elder persons, persons with disability etc.

Studies have demonstrated that interaction with nature and green parks is associated with improvement of general and mental health. The world health organization recommends a minimum of 9 square meter green spaces per capita and that all residents live in a 15 minute walk to green space. Also it refers to improvement of urban ecosystem, like air pollution reduction and urban cooling. Which have multiple long-term health benefits. So we proposed a Vision of **Green network** starting from community level to city wide. Instead of isolated parks we envision a Green Network, connected through cycle and walking path. The next phase of this project is there.

It is vital that these parks and playgrounds are well managed and well protected public space. To ensure that a co-management policy guideline has been proposed, comprised of representatives from stakeholder groups, local authority, peoples representative and technical team of park management. Absence of frame works or weak legal frameworks coupled with poor policy always resulted in grabbing of park and green areas by the politically and profit motivated private actors. We also proposed a legal framework to well protect these parks and playgrounds. The role of legislation, regulation and enforcement is a key mechanism to secure the provision.

Our hope is that we have set an example through the design process of these parks about how to include public in public space design, how to empower them, how to translate large scale SDG goals to small scale initiatives. Now in construction phase, these parks hopefully will become the change maker that this city of ours needs and initiate urban transformation.

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