

Urban95 Phase-II, Udaipur

Draft Feasibility Report

Sensory Park at Gulab Bagh



Technical Partner



City Partner



Bernard van Leer
FOUNDATION

Supporting Partner

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List of Abbreviations

S/n	Abbreviation	Definition
1	UMC	Udaipur Municipal Corporation
2	BvLF	Bernard van Leer Foundation
3	ICLEI- South Asia	ICLEI – Local Governments for Sustainability, South Asia
4	UIT	Urban Improvement Trust
5	PWD	Public Works Department
6	PHED	Public Health Engineering Department
7	AWC	Aanganwadi Centre
8	PHC	Primary Healthcare Centre
9	ECD	Early Childhood Development
10	GoI	Government of India
11	MoHUA	Ministry of Housing and Urban Affairs
12	NIUA	National Institute of Urban Affairs
13	SCM	Smart City Mission
14	AMRUT	Atal Mission for Rejuvenation and Urban Transformation
15	RTDC	Rajasthan Tourism Development Corporation
16	EU	European Union
17	PMU	Project Management Unit
18	ITDP	Institute for Transportation and Development Policy
19	NCAP	National Clean Air Program
20	CSCAF	Climate Smart Cities Assessment Framework
21	CDP	City Development Plan
22	LCMP	Low Carbon Mobility Plan

23	GHG	Greenhouse Gas
24	CFSC	Child- Friendly Smart Cities
25	KII	Key Informant Interviews
26	FGD	Focused Group Discussions
27	ITC	Infant, Toddler, and Care- giver
28	HIG	High Income Group
29	MIG	Middle Income Group
30	LIG	Lower Income Group
31	EWS	Economic Weaker Section
32	PT	Public Transport
33	IPT	Intermediate Public Transport
34	O&M	Operational & Maintenance
35	CSR	Corporate Social Responsibility



Udaipur Key Partners



City Partner, Urban95 Phase-II, Udaipur

The Udaipur Municipal Corporation (UMC) is the main civic agency responsible for provision, operations and maintenance of the urban services in the city municipal area. With an area of 64 sq km, it is the district headquarters and is divided into 55 wards. UMC is headed by Mayor and Municipal Commissioner (MC), wherein Mayor is the elected representative and represents councilors of all the wards, while MC is the administrative head and oversees the day to day working of Corporation.

Supporting Partner, Urban95 Phase- II, Udaipur

Bernard van Leer Foundation (BvLF) believes that giving all young children a good start in life is both the right thing to do and the best way to build healthy, prosperous and creative societies. A private foundation focused on developing and sharing knowledge about what works in early childhood development. Over the last 50 years BvLF has worked in all regions of the world. BvLF partnerships have informed public policies in more than 25 countries, led to innovations in service delivery and training that have been widely adopted by governments & NGOs, and generated breakthrough ideas that have changed the way stakeholders from parents to policymakers think about the earliest years of a child's life.



Technical Partners, Urban95 Phase-II, Udaipur

ICLEI – Local Governments for Sustainability is a network of more than 1,750 local & regional governments, supported by a team of global experts, driving sustainable urban development worldwide. Active in 100+ countries, ICLEI impact over 25% of the global urban population. ICLEI South Asia - the South Asian arm of ICLEI, aims to build and serve a regional network of local governments to achieve tangible improvements in regional and global sustainability through local initiatives. In Udaipur, ICLEI- South Asia is supporting UMC on the themes of climate change, sustainable urban mobility, built environment and low carbon –resilient development. It was also the technical partner for Urban95 Phase-I, and has helped Udaipur to become the lighthouse/ showcase city through the successful implementation of its various activities, especially the tactical interventions.



Headquartered in the Netherlands and a 91-year-old international organization, Ecorys provides research, consulting, programme management and communications services from its 22 offices spreading all over the globe and is known for its vision- "to address today's most important societal challenges." Having a multi-disciplinary team with good mix of researchers, policy experts, programme managers, communications specialists, planners & designers, they have marked their presence amongst the leading agencies such as World Bank, ADB, USAID, European Commission, DFID, AFD, EU, GIZ, EBRD etc. (in India & other countries) and have secured 3rd rank in the European Union under the field of Development.



1. Background

Indian cities are urbanizing and growing at an unprecedented speed in recent decades, and the growth has been so rapid and uncontrolled, that cities infrastructure services has been outstripped to meet the physical and social needs much faster than anticipated. With increase in urbanization and population, India is witnessing robust growth in younger population, with 10% (~36 million) is constituted by children below 6 years¹ and another 32% of its population (~120 million) is constituted by children between 6 to 18 years of age².

Growing up in the cities is as complex as it is exciting, as with plenty of opportunities- access to better schools, sports facilities and health care, the urban environment is also wrought with threats- pollution, lack of independent mobility, inadequate play spaces, lack of recreational/ public spaces and break down of community support structures, that impact the overall growth and development of a child.

It is a well- known fact that issues that make urban life difficult for an infant, toddler or a grown up child also make it difficult for their care giver too- parents, grant parents, and other vulnerable section of society in general- women, elderly and disabled people. Thus, making cities more infant, toddler, and their care giver (ITC) friendly is an objective that cuts across many overlapping problems and doesn't just benefit children. The overall focus on Early Childhood Development (ECD) into planning and management of cities is a matter of great concern in India.

Recognizing children as a national asset, Government of India (GoI) has initiated and taken up various programs, plans and policies, initiatives, flagship missions etc. to make cities more responsive and friendly from the perspective of children and their families, such as Smart City Mission (SCM) and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) with focus on ensuring public safety in public spaces, streets, roads etc. especially for children, women and elderly along with promoting development of pedestrian areas, enhancement of cities by creating and upgrading green spaces, parks and recreation centers especially for children.

In addition to the above, the latest and recent ECD focused initiatives at national level are-

- 1) 'Cycle4Change Challenge' and 'Street for People Challenge', initiatives of MoHUA in collaboration with Institute for Transportation and Development Policy



Figure 1 Young kids & children are the most impacted one with Air Pollution

1 Census 2011
2 Census 2011

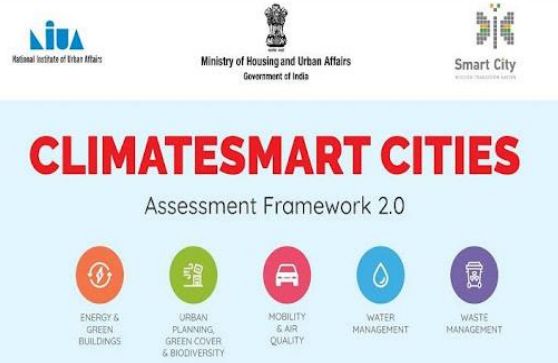


(ITDP), aiming at Inspiring Indian cities to create pedestrian & cycling- friendly streets through quick measures, in response to COVID-19;

- 2) 'Nurturing Neighbourhoods Challenge', an initiative of Ministry of Housing and Urban Affairs (MoHUA) in collaboration with Bernard van Leer Foundation (BvLF), aims to incorporate an ECD focused planning and management of Indian cities;



- 3) "Climate Smart Cities Assessment Framework (CSCAF)" as a step towards holistic, climate responsive urban development. Within the broader framework of urban planning, green cover and biodiversity by taking appropriate measures, to increase cities resilience to climate- related shocks. This is important from the



perspective of environment, with suitable adaptation (adapting to various measures such as distributed generation, energy efficiency, electric vehicle and alternate fuel transportation system) and mitigation measures (sustainable transport infrastructure, Integrated Waste Management, water management etc.). Cities can mitigate impact on health, environment and air pollution, in the form of Greenhouse Gas (GHG) emissions, which are known to have adverse impact on children health.

Figure 2 Recent Initiatives by National Government on making cities more resilience and ECD friendly & ECD responsive

The National Institute of Urban Affairs (NIUA) has also undertaken a programme on building Child- Friendly Smart Cities (CFSC) to promote policies and practices to make Indian cities child friendly within the urban agenda of building smart cities.



Figure 3 Pic Courtesy- CFSC, NIUA

In the process, NIUA has also partnered with Bernard van Leer Foundation (BvLF) to develop a programme focusing on interventions and advocacy related to the needs of small children. The goal of the project is to mainstream the needs of young children in Indian cities by addressing the gaps in Urban Planning & Design with objective of bringing greater awareness amongst urban planners and policy makers about the interrelationship between a young child's health and the built environment/ living conditions.

1.1 Urban95

Urban95 is BvLF's global initiative, aims to create healthy, prosperous, and vibrant cities where babies, toddlers and their families can thrive. The initiative is meant to make lasting change in the urban landscape and provide opportunities that can shape the crucial first five years of children's lives. The goal of this initiative is to support healthier, safer, and more exciting urban neighbourhoods for young children, for those who care for them, and for everyone.

1.2 Urban95 in India

The challenges of any urban city in India are mirrored across length and breadth of the country and can be broadly categorized into rapid and chaotic growth concentrated on informal, slum settlements with inadequate infrastructure; open defecation; parks not being accessible; lack of footpaths, streetlights, and safe places to cross roads; and children in some neighbourhoods needing to use public transport, which is not child-friendly, to get to the nearest school.

Thriving and happy children are indicators of a healthy and sustainable society with high levels of well-being. Children form an understanding of their environment through everyday discoveries and encounters in the park, at school, during a stroll in neighbourhood or by imagining and inventing games and stories. The built environment plays a crucial role in shaping young children's narratives of the city, and their understanding and experience of urban spaces.

Realizing the need to address the issues surrounding the ITC, Bhubaneswar in Odisha, Pune in Maharashtra and Udaipur in Rajasthan became the part of the Urban95 program as a part of its Phase-I which was for 1 year period.

1.3 Urban95 in Udaipur

Realizing the need to transform its urban built environment into more Infant, Toddler, and their Caregivers (ITC) responsive and ITC friendly, Udaipur in Rajasthan has agreed to be part of Urban95 Program, and in process has join hands with BvLF via a formal Memorandum of Understanding (MoU). The Phase-I of the Program began in June 2019 for a period of 18 months and given the success of the same, Udaipur now has moved into larger and bigger phase starting Feb'21, planned for 36 months.

The focus of Urban95 Phase-II in on scaling up and sustainability of various projects through various "lighthouse" projects in neighbourhoods, streets and junctions, parks, and health facilities, incorporating Urban95 components in policy, enhance institutional capacities through trainings and peer learning, and build a broad coalition of support by involving relevant stakeholders in projects and other initiatives.

2 Udaipur

Considered as one of the oldest cities in India and famous nationally and internationally as 'City of Lakes', Udaipur is the administrative capital of the district and is the only municipal corporation in the district with an area of 64 Sq km, divided into 70 election and revenue wards.

With the population 0.45 million³, city has 47932 young children population (0-6 years). The projected population for Udaipur in 2021 is estimated to be 0.83 million and 1.03 million in 2031⁴.

The city has witnessed multi-fold

development in the last two decades. It acts as an industrial, administrative, and educational center of the region. The city's connectivity and historic significance plays a major role in making it an important and famous city of the region and draws more than a million tourists annually⁵.

However, with increasing population and spread of the city, the overall quality of life is deteriorating for its citizens, especially for children and their care-givers from pollution and noise pollution perspective, as with growing city needs, the pollution levels are rising at alarming pace and due to lot of construction activities and growing vehicular traffic the avg. decibel levels are at 75 DB⁶ which are way above the standard 55DB for neighbourhood levels. Flooding and increasing temperatures are also worsening the emissions profile of the city, having adverse impact on ECD.

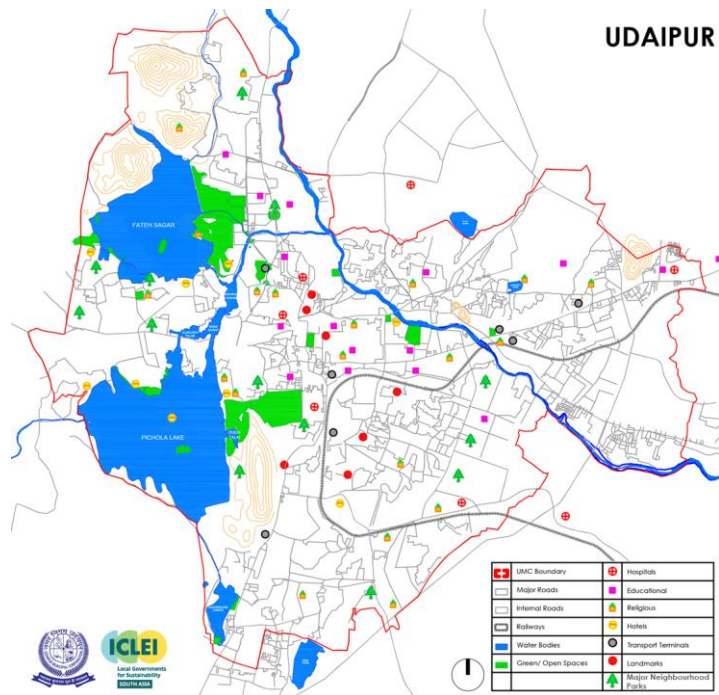


Figure 4 Municipal Area & Activity Mapping, Udaipur, Climate Action Plan for Udaipur, 2019-20, CapaCITIES

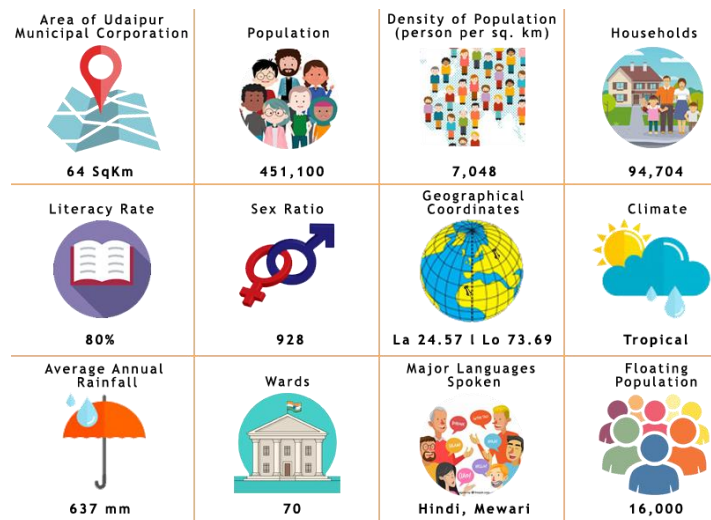


Figure 5 Quick Fact, UMC & Census, 2011

³ Census 2011;

⁴ Master Plan, Udaipur 2031;

⁵ Rajasthan Tourism Development Corporation (RTDC), Udaipur;

⁶ Low- Carbon Comprehensive Mobility Plan (LCMP), 2013- 41;

2.1 Demographics, Udaipur

Udaipur is the 6th largest city among cities having more than 1 lakh population in the state. The Municipal Corporation population accounts for 2.65% of the urban population of the state and 74.14% of the urban population of the district⁷. The city has witnessed considerable population growth in the last four decades while acting as a magnet city for the surrounding region. The growing economy and growing tourism sector have attracted both urban as well as rural populace. The decadal growth rate from 2001 to 2011 was 15.83% which is near to natural growth rate of population. Areas outside the core city started developing during the last few years.

According to Census 2011, the young children population (0-6 years) has been recorded at 47932

and significant improvement in the sex ratio has been observed over the decades in the UMC area, i.e. from 844 in 1981 to 928 (state average too) in 2011⁸. The sex ratio of young children (0-6 years) in Udaipur is 866 compared to the state average of 888⁹.

Table 1 shows the city's children population along with its child sex ratio of Census 2011.

Table 1 Age Wise Children Population (0-6 years) and Child Sex Ratio, Udaipur (Census 2011)

S/N	Total Children (0-6 years)	Boys	Girls	Child Sex Ratio
1	47932	25691	22241	866

2.2 Social and Cultural Resources

Famous not only for its lakes and gardens, and being the biggest city in the district, Udaipur is also hub of education and medical facilities in the district. The city has a wide range of educational institutions like universities and colleges which were established by the Government and private organizations.

Udaipur has many parks and gardens which form a major source of attraction for both locals as well as tourists. Due to the availability of lakes, water parks are being developed in different areas of the city. Gulab Bagh, Saheliyo ki Baadi, Nehru Park in Fatehsagar Lake, Moti Magri Park, Town Hall Garden, Sukhadiya Circle Garden, Manikyalal Verma Garden, Deendayal Upadhyay Garden, Sanjay Park, Aravalli Vatika, are few of beautiful gardens raising aesthetic appeal of the city and attract locals and tourist population. There are in all, 200 small, medium and big parks¹⁰ in the city,

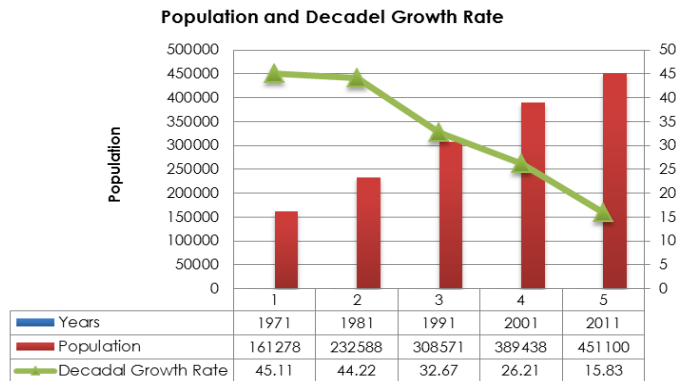


Figure 6 Population Growth Trend- Udaipur (Census 2011)

⁷ City Development Plan (CDP), Udaipur 2014;

⁸ Census, 2011

⁹ Census 2011

¹⁰ UMC

Udaipur is also considered to be a regional hub and pioneer in higher education and graduate programmes in the state, as is evident from its literacy rate, which at s 89.66% which is higher than the district (61%) and state average (66.11%).

It is home to old and famous educational institutes in the state. In last few decades a medical college, an agriculture college, the Udaipur Polytechnic College and an industrial training institute have been established. Udaipur boasts of having 3 universities and 13 major colleges and caters to large influx of students from across the country. Udaipur also has 23 (government) and another 300+ (non- government) primary schools across the city.

Health care facilities in the city are provided by both government and private institutions. There are two major hospitals in the city, i.e. the Maharana Bhopal Public Hospital and the Ayurvedic hospital along with numerous private hospitals such as JK Fortis, GBH American, Geetanjali and Pacific Hospitals etc.

The economic outlook of Udaipur is positive, with tourism being the center of attraction, growing at over 15% -20%¹¹ over the last few decades, which is faster than any other city in Rajasthan. Udaipur is also a hub for start-up companies, industries and educational institutions.

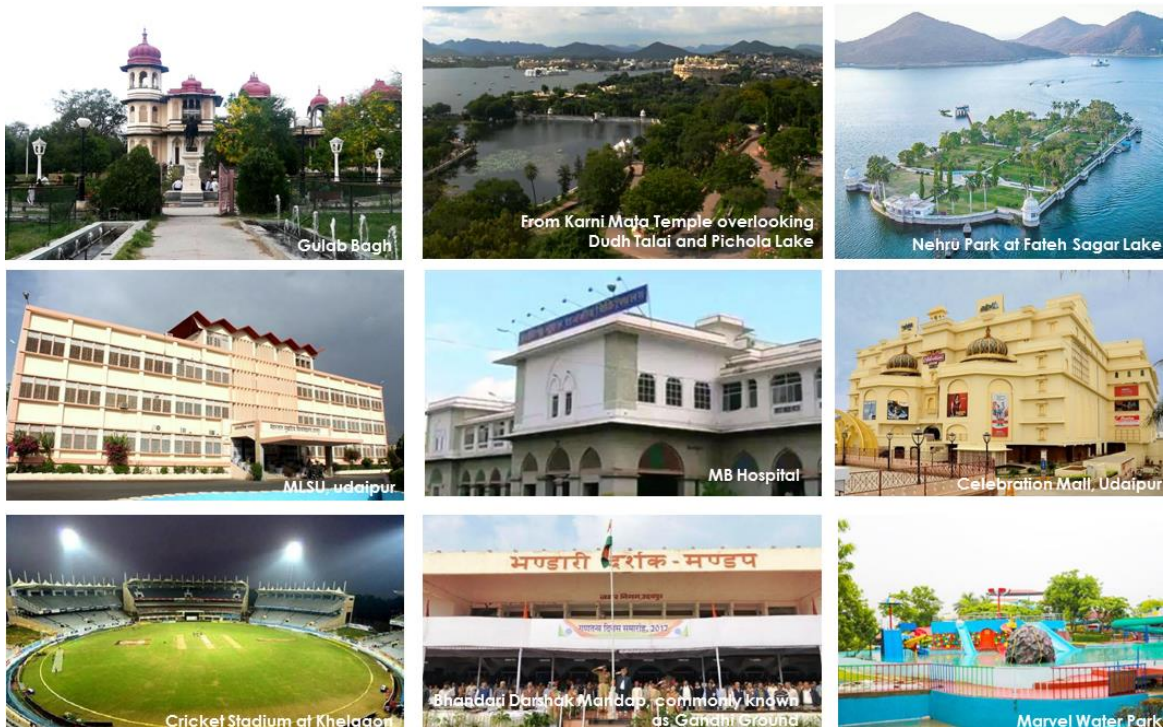


Figure 7 Social & Cultural Resources, Udaipur

¹¹ UMC Annual Report, 2015-16

3 Urban95 Sensory Park

As a part of Urban95 Phase-II scoping, an Urban Sensory Park is planned as one of the project to be developed under Phase-II at an city level park.

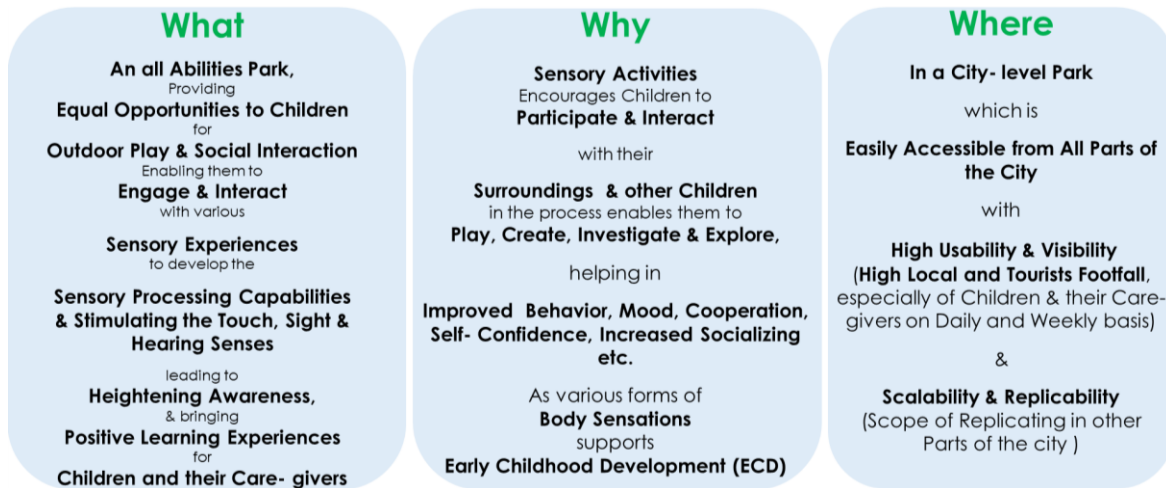


Figure 8 Sensory Park Introduction

Urban Sensory Park is a specialized and all abilities park aimed at exposing children to various sensory experiences for developing and/ or activating various sensory processing capabilities, stimulating the touch, sight & hearing senses & sensory experiences, helping in improving the overall cognitive, imaginative, creative abilities of children. Sensory Park also provides an opportunity to children and their care-givers to experience a stimulating and active atmosphere through various games, activities and social interaction which positively impact their physical and mental growth and overall development.

Sensory Park is also aimed to bring awareness in the city on the importance of ECD through various components & activities & games, such as sand, mud, water, planters and sensory play and many more, as according to Dr. Angela David, a developmental pediatrician based out of Bengaluru "Playing and engaging activities is everything in a child's life. When we look at developmental milestones in childhood,

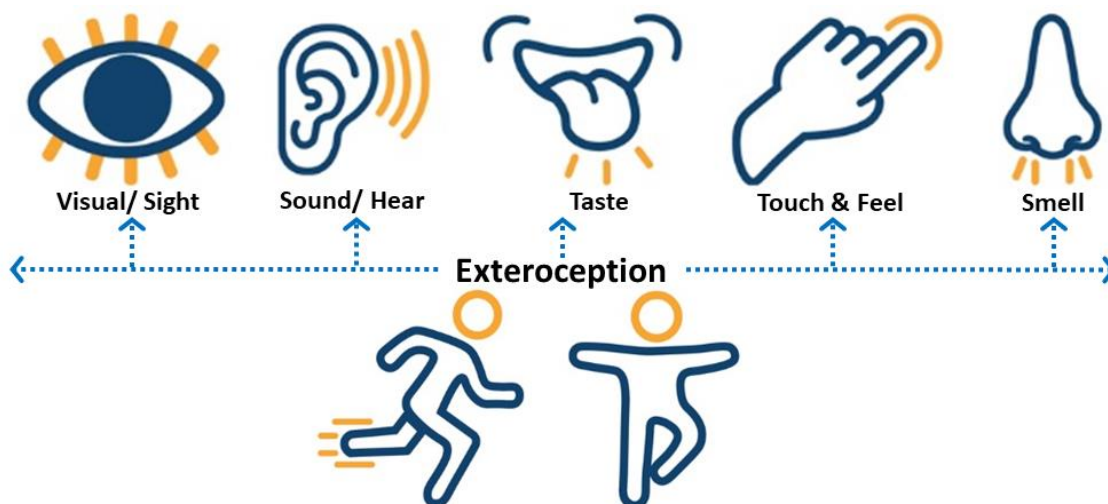


Figure 9 Sensory Integration & Simulation

everything that the child learns– motor skills, cognitive skills, logical thinking, speech, socialization – comes from play and related activities’¹².

It is also aimed at increased frequency and duration of targeted audience group (Children & Care- givers) in outdoor playing and engagement activities and also on targeting behaviours of concerned service providers in developing and maintaining such and other open green spaces in order to facilitate children and care- giver comfort, safety, hygiene, and stimulation etc., helping in children overall growth & development.

3.1 Sensory Park From ECD and Social Behaviour Change Communication (SBCC) Lens

- a. Involving & engaging kids as the direct and active beneficiaries by providing stimulating and active atmosphere which greatly impact their physical and mental growth & development;
- b. Developing, improving and/ or activating the gross & fine motor skills, locomotive skills, cognitive development and sensory processing capabilities by exposing and engaging children in specifically designed activities, experiences, in the process stimulating various body senses- touch & feel, sight, hearing, taste, smell, body movement and balance as well;
- c. Fosters listening skills & support ‘Auditory Processing Needs’ by stimulating the hearing senses;
- d. Also helps in Proprioception (Body Awareness- Movement, Action & Location) & Vestibular Input;
- e. Encourages Risk- taking abilities;
- f. Encourages Social Interaction & Development;

Below are the excerpts from various Indian cities representing various forms of Sensory Play

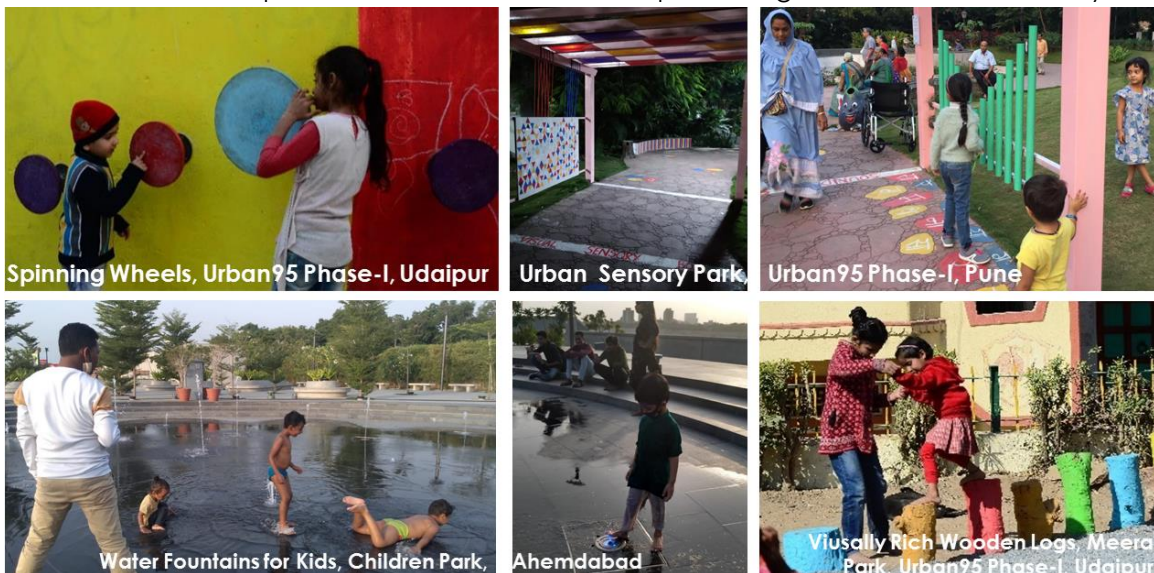


Figure 10 Examples from various Indian Cities showcasing various Sensory Experiences to Children

¹² <https://bengaluru.citizenmatters.in/childs-play-making-it-more-accessible-35058>

3.2 Literature Study

Given the project scoping and with no such facilities in Udaipur, various international and national case studies were referred to get an idea and understanding of what an ideal Sensory Park look like in terms of elements, equipments, spaces, zoning, area and cost requirement etc.

Moreover, being in Indian context focus has been given more to national case studies to get more realistic feel and flavor of what goes into having an holistic Sensory Park. Sensory Park of 4 different Indian cities were referred to, based on the available information on Web. Below table showcase the Snapshot of the same.

Table 2 Snapshot, Case Studies for Sensory Park

S/n	Parameters	Sensory Park, Pune, Urban95 Phase II	Sensory Park, Bhubaneshwar	Sensory Park, Chennai	Sensory Park, NIMPR, Kerala
1	Area	Approx. 1000 SqMt	Approx. 1500 SqMt	Approx. 1200 SqMt	Approx. 1200 SqMt
2	City/ Neighbourhood Level	Neighbourhood	Neighbourhood	Neighbourhood	Neighbourhood (within the Institute, however is open for Public use till Institute working hours)
3	Developed under/ by	Urban95 Phase I & Phase II	Smart City Project	Smart City Project	Institute itself
4	Features, Elements	Reflexology path, Plants, Play elements with sound effect, Attractive entrance, Mud Play and Sand Play etc.	Insulated pathways, playing equipment for children, an open-air gym, and other child-friendly services that comply with the universal access guideline	Scented & Edible Plants, Tactile Sculptures & Handrails, Water Features for Sound play, Textured Touch-pads, Magnifying-glass Screens, Braille Signages etc.	51 Medicinal plants with Fragrance, playing equipment's for engaging the Children with Sensory Elements for therapy purposes by the NIPMR Professionals
5	Pathway Material	Natural & Artificial-Sand, Tiles, etc.	Artificial- EPDM	Natural & Artificial-Grass, Tiles, Gravel, EPDM etc.	Natural & Artificial-Grass, Tiles, Gravel, EPDM etc.
6	Costing	Approx. 25 Lacs seeing the Site Area, overall Elements	Approx 1 Cr.	NA	NA
7	Source	https://instagram.com/urban95pune?igshid=YmMyMTA2M2Y=	https://www.smartcitiescouncil.com/article/bhubaneswar-gets-indias-first-sensory-park	https://cscl.co.in/sensory-park	http://www.nipmr.org.in/Sensory-Garden.html



Figure 11 Excerpts of National Case Studies; Top Left- Sensory Park, Urban95 Phase-II, Pune, Top Right- Sensory Park, Bhubaneshwar, Bottom Left- Sensory Park, Chennai, Bottom Right- Sensory Park, NIMPR, Kerala

4 Site Selection

A suitable site for accommodating Sensory Park plays an important role for demonstrating and projecting it as one of the lighthouse project under Phase-II and as per the scope, it was envisaged to build the same in any city- level park.

Given the above context and based on case studies learnings, list of parameters has been drafted in order to check the feasibility and finalize the site for developing the said Sensory Park within one of these city- level parks.

Below table shows the list of identified parameters for finalizing the site for Sensory Park.

Table 3 Parameters for Site Selection

S/n	Parameters	Details
1	Usability	City- level Park with Higher Footfall of Targeted Audience- Children (0-6 years) and their Care- givers on Daily and Weekly basis
2	Visibility	High visibility for locals and tourists, Udaipur being an major tourist city and famous nationally & internationally
3	Accessibility	Easily accessible from all parts of city and should be well Connected via Public Transport (PT) and Intermediate Public Transport (IPT)
4	ITC Dedicated Zone within the Site	Presence of ITC dedicated space is an added advantage with the assumptions of having existing footfall of Targeted Audience
5	Availability of approx. 750- 1000 sqm	Enabling transformation of that space/ pocket into an Sensory Park
6	Accessibility & Visibility within the Park	Easy Accessibility & Visibility of the Identified Pocket shall attract more Targeted Audience
7	Proximity to other ITC Destinations & Services within and around the Garden As an added Advantage with the Assumptions of extra footfalls of Targeted Audience	Good to have High no. of other ITC Destinations within the Garden and in close proximity of it as well, such as - Garden & Parks - Schools- AWC, Play/ Pre- Primary Schools etc., Crèche - Health Facilities- PHCs, clinics, Hospitals - Other Touristic Hotspot of the city
8	Existing Services/ Facilities within the Site	Site having High Existing Utilities (Toilet and Drinking Water Points) & Facilities (Shaded Resting Spaces, Parking Facilities in & around, other Attractions etc.), helping in huge capital
9	Varied Mix of Users	Equal Opportunities to varied Section of Society
10	Custodian/ Ownership	Good to know Custodian of the Site for Liasoning, Approvals/ clearances, Budgetary Ideas etc.
11	Community Interest for Long- Term Sustainability	Community Ownership Likeability in Operational & Maintenance (O&M) such as Neighbourhood Committee or under Adopt the Park Scheme (CSR) for long- term Sustainability of the Sensory Park

Taking these parameters into account, 3 city- level parks were identified as the potential parks, namely Gulab Bagh, Rajiv Gandhi Park and Sahilyon ki Bari and detail study has been carried out for each of these parks to finalize the site for developing this park.

Below sections covers the details of these shortlisted gardens and the identified pocket within these garden based on the above parameters and finalization of a space within Gulab Bagh as the site for development of Sensory Park.

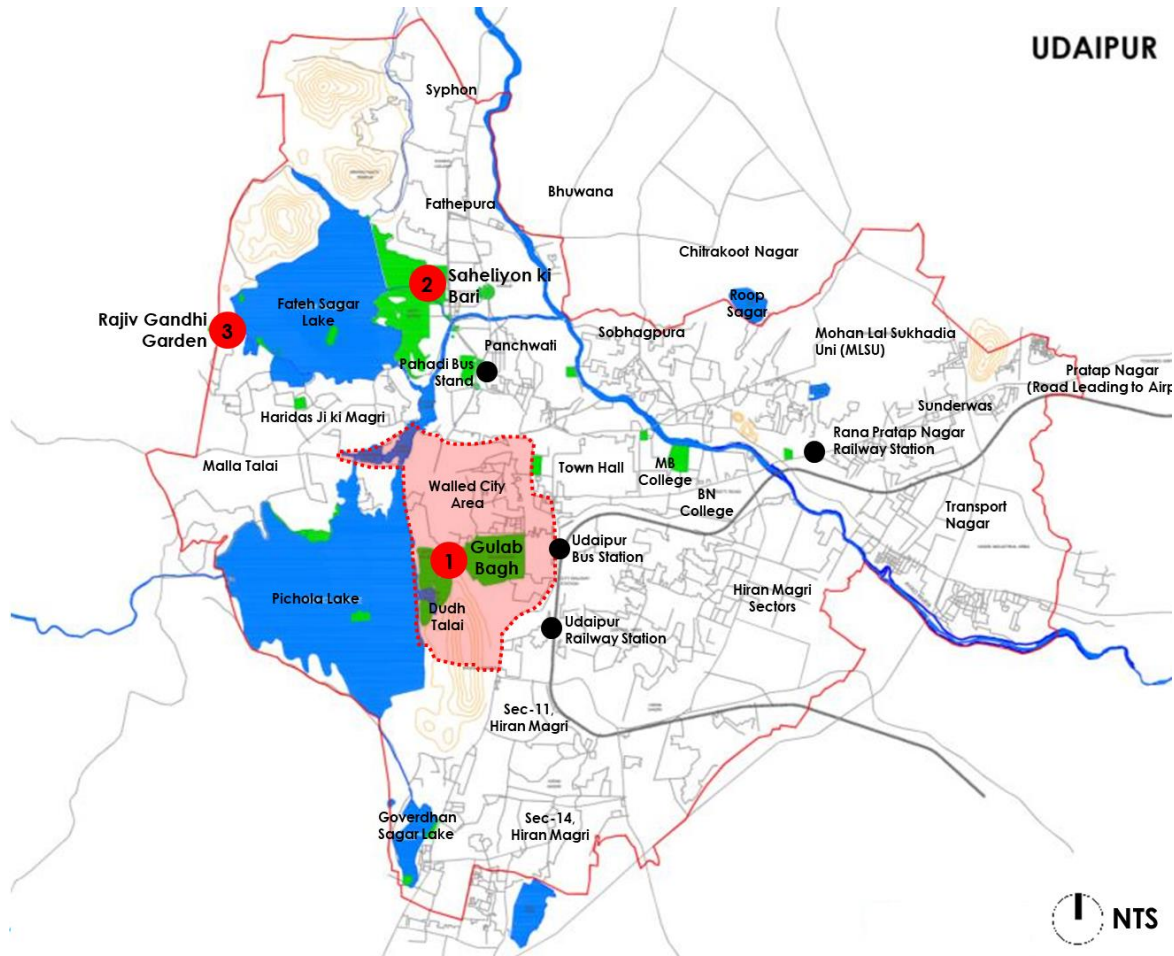


Figure 12 Map Showcasing Location of 3 City- level Parks 1- Gulab Bagh,2- Saheliyon ki Bari, 3- Rajiv Gandhi Park

4.1 Gulab Bagh

Built by Maharana Sajjan Singh in the 1881 and situated near to City Palace, Sajjan Niwas Garden, famously known as Gulab Bagh, literally translated as ‘Rose Garden’ due to innumerable varieties, colors of roses it has till mid-2000s, but over the time with growing needs of the city has consolidates in few corners of the Garden, with other areas converted and developed into activity zones for other uses for its high numbers of visitors (locals and torusits) on daily basis.

Hailed as one of the most beautiful and largest garden in the state, spreading over 100 acres (40 ha) of land, Gulab Bagh boosts of lush green campus, several places of attraction including, water bodies and several government offices (2 forest offices, 2 PHED offices, 1 PWD office).



Figure 13 Gulab Bagh and its Surrounding

Below are highlights of this Garden.

- Officially known as Sajjan Niwas Garden & built in 1887, is one of the landmark Garden of Udaipur, with a Legacy of 120+ years;
- City- centric garden with an area of approx. 100 Acres (40 Ha);
- Well connected & easily accessible from all parts of city by local transport, taxis & autos;
- Has its own micro climate with abundance greenery in form of variety of trees, plants, shrubs etc.;
- 4 entrance gates out of which 2 remains open for vehicular entry (E1 & E4) till parking location within the park and 1 with pedestrian entry (E2);
- 2 & 4 wheeler parking provision within the garden & other parking facilities within close proximity with approx. capacity of accommodating 350+ 2 wheelers and almost similar numbers of 4 wheelers as well;
- Surrounded by mixed residential neighbourhoods (HIG, MIG, LIG);
- Approx. 3000 visitors on weekends, including tourists (mix of national and international) with high numbers of Children & their Care- givers as regular visitors;
- Several places of attraction within the garden- Public Library, Ponds, Step Wells, Fountains, Bird Park, Open Gym, Nakshatra Garden (literally translated as Astrological Garden), Navlakha Mahal cum Museum (place of pilgrimage for Arya Samaj followers), Places of Religious Interest (Temples & Dargah) along with defunct Toy Train which is currently getting revitalized and is expected to be operational within this year;
- Has various sculptures, traditional & heritage structures such as traditional Chattiris (Cantopehas), murals of animals depicting Wildlife etc.;
- Specially designed yet interconnected pathways known as 'Vithikas' made using different pathways materials (Sand, Gravel, Fine Aggregates etc.);
- Presence of ITC Dedicated Zone known as 'Haathilwala Park' with numerous playing equipments such as swings, slides, enclosed sand pits & shaded resting spaces;
- Various tourist hotspots within close proximity- Dudh Talai, Manikya Lal Verma Park, Deen Dayal Upadhyaya Park, Karni Mata Temple, City Palace, Jagdish Temple, Ganghaur Ghat, Bagor ki Haveli, Pichola Lake etc.;

- n. Being the city- centric & one of the legacy garden, it has the merit of getting few parts developed under Corporate Social Responsibility (CSR) by private enterprises;
- o. Custodian- Udaipur Municipal Corporation (UMC).**



Figure 15 Main Entrance, Gulab Bagh and Saraswati Library overlooking Engaging Pathway with Fountains on either side



Figure 14 Navalakra Mahal & One among 12 Baoris (Stepwell)



Figure 17 Bird Park & Toy Train (the picture is from the times when it was operational)



Figure 16 Animal Murals & Sculptures depicting Wildlife

4.1.1 Identified Sensory Pocket within Gulab Bagh

Situated within Gulab Bagh, the identified Sensory Park pocket measures approx. 1200 SqMt and is strategically located within Gulab Bagh from accessibility and adjoining ITC attractions perspective with utilities (water ATM, toilets) within 50- 100M proximity.

Currently a unused pocket but having the major advantage not only because of its proximity to numerous ITC Zones and utilizes but also because of its existing dense green cover, counting upto 30 fully grown trees of different variety & sizes, hence has its own micro-climate. The existing green cover plays an important dual role proving natural shading and various natural sensory experiences, i.e. Visual, Hear, Touch & Feel etc. as well.



Figure 22 Identified Site and Adjoining ITC Zones



Figure 21 Key Map Showcasing the Identified Site, Adjoining ITC Zones and Nearby Facilities and Utilities



Figure 20 Water ATM within Identified Site and Picture overlooking the Adjoining Built Structure



Figure 20 Road Leading to Toy Train Track and now is part of the Site and Site from the Back Side



Figure 20 Under Construction Toy Train Track on the Back Side and Wildlife Statue in Haathiwala Park Overlooking Site

4.1.2 Adjoining ITC Activity Zones and Facilities

The adjoining ITC attraction includes Haathiwala Park- ITC Dedicated Zone, 2 big lush green lawns or activity cum playing zone, newly constructed Bird Park, upcoming Toy Train Station and Lotan Magri- loosely translated as Mound or Sloping Gardens within very close proximity stretching maximum upto 100M, hence caters to high ITC footfall.

The identified Sensory Park site is well connected with other parks of the garden and is easily accessible with natural shaded pathways and corridors.



Figure 23 Haathiwala Park (ITC Zone) having abundance of Playing Equipments & Shaded Resting Spaces- the back side with Transparent Railing is overlooking Identified Site



Figure 24 Big Open & Lush Green Lawns (100M from Identified Site)



Figure 25 Adjoining Spaces- Lotan Magri with Traditional Chattri (Mound with Cantophas)



Figure 26 Shaded Pathways all around the Identified Site

4.2 Rajiv Gandhi Park

Built in the memory of late Prime Minister Rajiv on the and operational since 2008, Rajiv Gandhi Park is another city- level park on the banks of Fateh Sagar Lake, spreading over approx. 15 Acres (6 Ha) and has striking resemblance to famous Mysore's Brindavan Garden.

The park through its architecture with beautiful fountains, lush greenery, numerous statues depicting wildlife and animals throughout the garden pass on the message of conserving nature, wildlife, & water.



Figure 27 Rajiv Gandhi Park and its Surrounding

Below are highlights of this Park.

- a. Situated in northern part of Udaipur on a small hillock on Rani Road, overlooking Fateh Sagar Lake;
- b. Gives an impression of Mysore's Brindavan Garden;
- c. Measuring approx. 15 Acres (6 Hectare) and is easily accessible by local transport, taxis & autos;
- d. Has various Green Pockets, Water Fall cum Fountains, Traditional Chattirs, numerous Sculptures and Murals of Animals depicting Wildlife etc.;
- e. Multiple Entrances to the Garden, however only 1 Gate remains open for Public;
- f. Dedicated parking within & in front of the park with approx. capacity of approx. 150+ 4 wheelers and 50+ 2 wheelers along with space for Buses as well within and in front of the park ;
- g. Has Food Court adjacent (in front) to the Park;
- h. Presence of high nos. visitors on weekends, including tourists (mostly national), with high nos. of children & their care- givers as regular visitors;
- i. Dedicated ITC Zone with abundance of playing equipments such as Swings, Slides, & Shaded Resting Spaces;
- j. Has its own micro climate with abundance greenery in from of variety of trees, plants, shrubs etc.;
- k. Nominal entrance fee for entry into this park, however free for Children upto 5 years.

- I. Hawala Village on the back side with limited attractions in the close Proximity (Sanjay Gandhi Park);
- m. Custodian- Urban Improvement Trust (UIT), Udaipur



Figure 28 View from in between the Park showing Manicured Lawns, Multi- level Fountain, Traditional Chattri (Cantopha), and Fateh Sagar



Figure 29 Sculptures and Murals Depicting Wildlife



Figure 30 Shaded Pathways, Worli and other Painting on Tree Trunks, and Vertical & Elongated Sculptures as an additional Beautification Elements to the Park

4.2.1 Identified Sensory Pocket within Rajiv Gandhi Park

Situated within Rajiv Gandhi Park, the identified Sensory Park pocket measures approx. 1000 SqMt and is strategically located from accessibility and adjoining ITC attractions perspective with utilities (water ATM, toilets) within 100M proximity.

Currently a underutilized pocket but having the advantage of being close to numerous ITC Zones and utilizes but also because of its flat topography, well maintained and manicured lawn, existing green cover and statues depicting wildlife within and around the pocket.

The existing green with its own micro- climate and with is adjoining water body in from of multi-levelled fountain plays an important role in form of proving various natural sensory experiences, i.e. Visual, Hear, Touch & Feel etc. as well.

Below are the few Excerpts of the identified site for Sensory Park



Figure 31 Identified Site and Adjoining ITC Zones



Figure 34 Key Map Showcasing the Identified Site, Adjoining ITC Zones and Nearby Facilities and Utilities



Figure 33 Access towards the Identified Sensory Pocket and Entry to the same



Figure 32 Views overlooking the Identified Sensory Pocket from different Angles

4.2.2 Adjoining ITC Activity Zones and Facilities

The adjoining ITC attraction includes Dedicated ITC Dedicated Zone, lush green lawns or activity cum playing zone all around, multi- levelled fountain.

The identified Sensory Park site is well connected with other parks of the garden and is easily accessible from all parts of the parks with natural shaded pathways and corridors

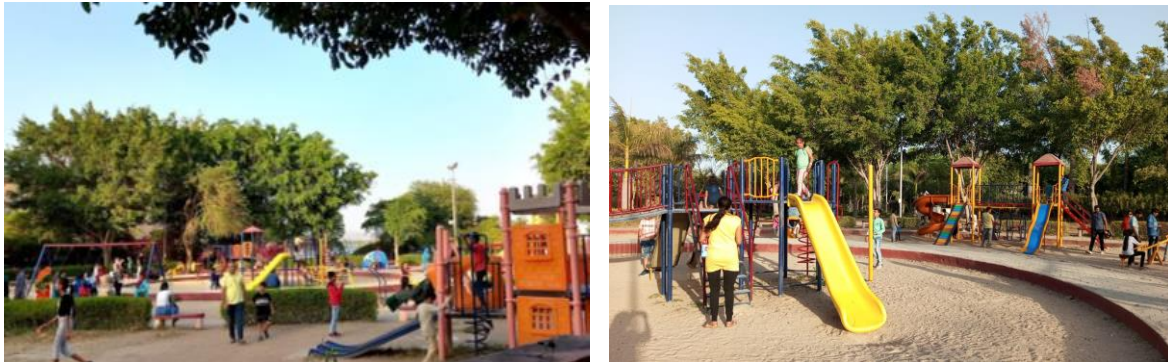


Figure 36 ITC Dedicated Zone Within the park with Series and Variety of Playing Equipments (Swings, Slides, Merry go round, Hurdle & Climbing Installations etc.)



Figure 35 Adjoining Lush Green Activity cum Playing Zones



Figure 37 Adjoining Multi- levelled Fountains and way Towards Facilities and other Lawns

4.3 Saheliyon ki Bari

Built in 18th-century and Saheliyon ki Bari also known as the Garden of Maidens, the garden was designed specifically to create a recreational spot for Queen and its maidens. Famous for its lush green lawns, flowerbeds, canopied walking lanes and marble art including marble pavilions, traditional Chattris (Cantopehas), elephants and bird shaped fountains in the four beautiful lotus pools, the garden presents a very pleasant ambience for tis visitors and famous as must visit place for tourists.



Figure 38 Saheliyon ki Bari and its Surrounding

Below are highlights of this Park.

- a. Situated in northern part of Udaipur on a busy Sub- arterial road and measuring approx. 15 Acres, Saheliyon ki Bari has its own micro climate with abundance greenery in from of variety of trees, plants, shrubs etc.;
- b. Famous for landscaped lush green lawns, lotus pond, canopied walking lanes, marble pavilions, flowerbeds, and ornamental fountains made out of metal and marble;
- c. Is also famous for its pressure & dancing fountains, traditional chattris etc.;
- d. Has other touristic attractions within close proximity- Fateh Sagar Lake, Sukhadia Circle, Moti Magri, Neemuch Mata Temple etc.;
- e. Presence of high nos. of visitors, but mostly tourists;
- f. Surrounded by HIG Neighbourhood, the garden is easily accessible by local transport, taxis & autos;
- g. On- Street parking in front of Garden with capacity of 50+ 2 wheelers with an off-street parking lot in State institute of Educational Research and Training (SIERT) Campus with capacity of approx. 35 4 wheelers. Both are paid parking for its visitors;
- h. Lies on the another Phase-II Intervention Site (1.5 kms and 3 Junctions);
- i. Nominal entrance fee for entry into this park;
- j. Absence of any ITC dedicated zone, hence not able to attract local citizenry, especially children and their care- givers;
- k. Custodian- Public Works Department (PWD)**



Figure 39 Lotus Pond surrounded by Sculpted Fountains, Traditional Chattris



Figure 40 Lush Green & Well-Manicured Lawns



Figure 41 Marble Chequered Corridors with Fountains and Colorful Flowerbeds

4.3.1 Identified Sensory Pocket within Saheliyon ki Bari

Situated within Saheliyon ki Bari, the identified Sensory Park pocket measures approx. 3500 SqM and is situated in front of the garden ticket window.

Currently a underutilized pocket, it is just an open lawn with good green cover in form of variety of trees, having Utilities such as toilets, water points within nearby vicinity.

Below are few excerpts of the same.



Figure 42 Identified Site and Adjoining Facilities



Figure 43 Key Map Showcasing the Identified Site and Adjoining Facilities



Figure 45 Entrance Corridor Leading to Ticket Window (on the Left) then to Garden and 2 Wheeler Parking for Staff



Figure 44 Views overlooking the Identified Site from different Angles

4.3.2 Adjoining ITC Activity Zones and Facilities

As discussed earlier, Saheliyon ki Bari doesn't have any dedicated ITC Zone hence it has nominal presence of local visitors including Children and their care- givers.

5 Site Finalization for Developing Sensory Park

Based on the detailed studies of these potential sites and assessing each of them against the set parameters, identified pocket within Gulab Bagh has been found to be the most suitable site, hence has been finalized as site for developing Sensory Park.

Few parameters has played an important role in finalization of this site as other parameters faired almost equally for all the sites as represented in Table 4.

Table 4 Details of All the Selection Garden vis-a-vis Set Parameters

S/n	Parameters	Gulab Bagh	Rajiv Gandhi Park	Saheliyon ki Bari
1	Usability	Being the city- centric garden and situated within the dense setting of 'walled city' and caters to high footfall on weekdays & weekends as well with highly integrated ITC and other Activities cum Engagement Zones, has very high usability throughout the year. Suitability- High	Being a Contour Garden, the users accessibility is limited to ground level and slight upper level only, which is not even one- fourth of total park area. Moreover, no ITC Friendly and elderly friendly accessibility hampers the accessibility to other part of park, even if one wish to visit the entire park. Suitability- Low	A major tourists attractions, caters to limited local users and with no ITC zone and facilities, is not an ITC Friendly garden Suitability- Not Suitable
2	Visibility	Being the city- centric garden and situated within the dense setting of 'Walled City' with its close proximity to lot of other tourist has high visibility among locals and tourists as well Suitability- High	Being situated on northern side of city on the banks of Fateh Sagar Lake on Rani Road, caters of local ITC crowd mostly on weekends with limited touristic interest Suitability- Moderate	Same as above Suitability- Not Suitable
3	Accessibility	Well connected with high nos. of off- street and on- street parking in and around the Garden. Suitability- High	Well connected with limited parking availability. Suitability- Moderate	Well connected with limited parking availability Suitability- Moderate
4	ITC Dedicated Zone within the Site	Yes Suitability- High	Yes Suitability- High	No Suitability- Not Suitable
5	Availability of approx. 750- 1000 SqMt Land for Developing Sensory Park	Yes Suitability- High	Yes Suitability- High	Yes Suitability- High

6	Accessibility & Visibility within the Park	Yes Suitability- High	Yes Suitability- High	Yes Suitability- High
7	Proximity to other ITC Destinations & Services	Being the city- centric garden and situated within the dense setting of 'walled city' it has numerous ITC destination within its close proximity such as playschool, pre- primary schools, Aanganwadi Centers (AWCs- govt. run school for children upto 6 years, Pregnant & Lactating women), Primary Healthcare Centers (PHCs) and private healthcare facilities, neighbourhood parks etc. Suitability- High	Being on the banks of Fateh Sagar Lake, with low density village on the back side has very limited ITC destination within the close proximity Suitability- Not Suitable	Being surrounded by HIG neighbourhood has various play schools, pre- primary schools, private clinics and hospitals, neighbourhood parks etc. Suitability- Moderate
8	Existing Services/ Facilities within the Site	Varied Activities and Facilities – a Library, ITC Dedicated Zone, Bird park, under construction Toy Train, Rose Garden, Pond, Temples, Open Gym, Nakshatra Garden (Constellation cum Acupressure Garden), Navlakha Mahal, water bodies in form of fountains and ponds etc., numerous green lawns along with sufficient utilities and facilities in form of strategically located water points and toilets, shaded resting spaces, parking in and around the site etc. Moreover all these facilities are closely integrated and interconnected to each other by shaded pathways Suitability- High	Varied Activities and Facilities – numerous green lawn, ITC Dedicated Zone, shaded resting spaces, food court just outside the park, however have limited parking facilities and moreover given that only one- fourth space is utilized due to accessibility issue, lot of other attractions (Chattri, Temple etc.) are being missed by visitors. Suitability- Moderate	Varied Activities and Facilities – numerous green lawn with beautiful fountains and manicured flowering beds, shaded resting spaces, food street just outside the garden, however have limited parking facilities Suitability- Moderate
9	Varied Mix of Users	Yes- Mix of EWS, LIG, MIG and HIG as well Suitability- High	No- LIG, Lower MIG with just a low density village on the back side of the Park Suitability- Not Suitable	HIG Suitability- Not Suitable
10	Custodian/ Ownership	UMC Suitability- High	UIT Suitability- Moderate	PWD Suitability- Moderate

11	Community Interest for Long- Term Sustainability	Yes, as few of the pockets and facilities are already developed and is maintained by private agencies Suitability- High	Not so Suitability- Moderate	No Suitability- Not Suitable
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5.1 Outcome

The above table clearly indicates that the identified site at Gulab Bagh is the most suitable site from all perspective as it fulfills all the set criteria, which is not the case with other two garden.

Moreover, UMC being the custodian of Gulab Bagh also had an added advantage, as UMC being the Implementation Partner and is well very aware the Urban95 Program and its goals, which is not the case with other two, specifically with PWD. Moreover, UMC also has indicated in past that they would be interested in developing any new facility in Gulab Bagh, hence has readily agreed to develop Sensory Park in Gulab Bagh within the identified pocket



Figure 46 Map Showcasing Integrated ITC Facilities and Utilities

6 Site Surveys, Analysis and the Results

After finalization of site at Gulab Bagh, various surveys has been conducted on a regular weekend (Sunday, 24th July'22) and weekday (Wednesday, 27th July'22) via 20 mins representative sample by using Gehl toolkit and the same shall be carried after on-ground implementation of semi- permanent cum tactical intervention to assess whether the intervention is useful in meeting the objectives for what it has been envisaged, by gauging the difference pre and post implementation and the results of the same shall be helpful in making suitable changes (if any) in the design or its elements. The same process shall be followed post implementation of the overall design.

As a part of these surveys, Footfall Count at Entrances and major Activity Zones were conducted along with Activity & Sensory Mapping. Intercept and Urban95 Quality were also gauged using visual/ observation technique. A noise survey was also conducted. Below are the details of the same.

Total Station Survey (TSS) was also done for getting spatial arrangement, levels and measurement of the site along with location of all existing elements on site such as trees, Water ATM, defunct built structures etc.

6.1 Footfall Count- Entrances and Other Activity Zones

Age and gender wise footfall count at 2 entrances (main entrance and back side entry, as other 2 remains closed) were conducted and the same were conducted at other activity zones, specifically at Haathiwala Park (ITC Dedicated Zone) and lawns in front of Saraswati Library to gauge the difference in overall footfall of the visitors entering



Figure 47 Key Map Showcasing Footfall Count at Entrances & Other Activity Zones (Haathiwala Park & Green Lawns in Front of Saraswati

Library to gauge the difference in overall footfall of the visitors entering into the garden and then engaged in ITC Zones. The same has been represented in Table4 & 5 and Fig 46 & 47.

Table 5 Footfall Count at Entrance on a Regular Weekday and Weekend

S/n	Category	Entrance-1		Entrance-3	
		Weekend Sunday, 24 th July'22, 6:00-6:20 PM	Weekday Wed, 27 th July'22, 6:20-6:40 PM	Weekend Sunday, 24 th July'22, 6:00-6:20 PM	Weekday Wed, 27 th July'22, 6:20-6:40 PM
1	Baby	13	9	6	5
2	Toddler	11	7	18	9
3	Child up to 5	19	8	16	8
4	Caregiver	64	35	57	29
5	General User	96	81	41	67
6	Total	203	140	128	118

Table 6 Footfall Count at Entrance on a Regular Weekday and Weekend

S/n	Category	Haathiwala Park (ITC Dedicated Zone)		Green Lawns in front of Saraswati Library	
		Weekend Sunday, 24 th July'22, 6:30- 6:50 PM	Weekday Wed, 27 th July'22, 6:50- 7:10 PM	Weekend Sunday, 24 th July'22, 6:30- 6:50 PM	Weekday Wed, 27 th July'22, 6:50- 7:10 PM
1	Baby	7	4	6	4
2	Toddler	9	3	8	7
3	Child up to 5	17	7	11	9
4	Caregiver	53	27	36	29
5	General User	27	21	47	32
6	Total	113	62	108	81

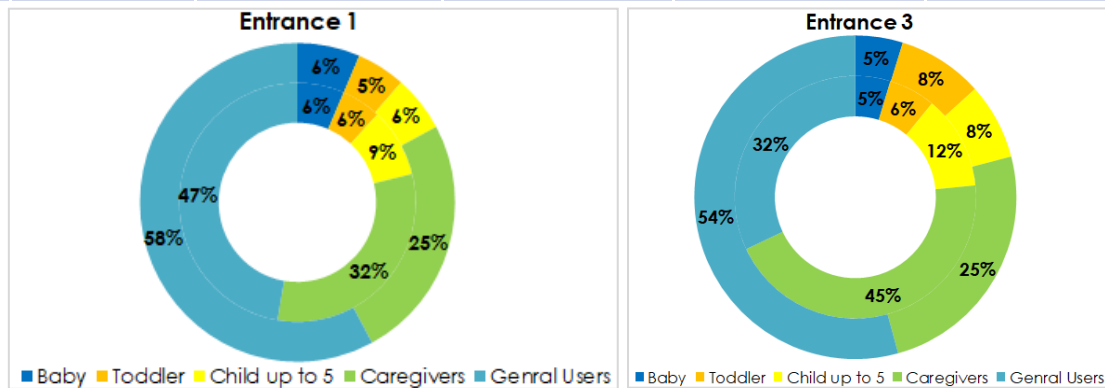


Figure 48 Footfall Count Activity Zone on a Regular Weekday and Weekend

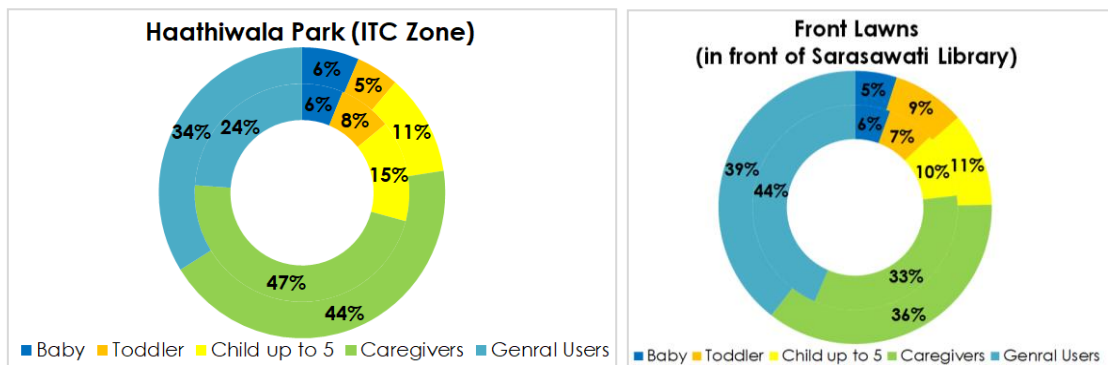


Figure 49 Footfall Count at Entrances on a Regular Weekday and Weekend

6.2 Activity cum Stationary Mapping

A 20 mins 'Activity cum Stationary Mapping' was conducted to gauge various activities the users are engaged in. Below are graphical representation of the same.



Figure 50 Activity cum Stationary Mapping on a Weekend and Weekday showcasing the difference in Numbers of Users and the Activity they are Engaged in

6.3 Sensory Mapping

A Sensory Mapping was also conducted to gauge the existing sensory features already available at Gulab Bagh. It clearly indicate that Gulab Bagh is already full of sensory features and having the Sensory Park shall be a value addition to its existing features. Below is graphical representation of the same.

 Touch & Feel	 Visual/ See	 Sound/ Hear	 Smell/ Odour	 Balance
Nature Specifically Planned Medicinal Garden with different Paving & Plants Flaura & Fauna Trees, Plants & Shrubs, Flowers Earthen Material Grass, Sand, Mud, Gravel	Natural- Flaura & Fauna 'Numerous Vithikas'- Uniquely Planned Boulevard & Avenues (Pathways & Corridor of different Earthen Material with Specific Vegetation & Plantation of Dedicated Species) Specifically Planned Medicinal Garden with different Paving and Colorful & Fragrance based Plants Landscapped Garden, Trees, Flowers, Plants & Shrubs, Grass, Sand, Water, Birds, Butterflies, Insects, Water Sunset, Machla Magra (Hillock),	Nature Birds & Insects Chirping/ Sound Water Gurgling (Fountains & pond) People Banter & Chatter, Kids Laughter	Specifically Planned Medicinal Garden with different Fragrance based Plants	Nature <u>Lotan Magri</u> (Sloping Gardens)
Water Fountains, Stream	Artificial Uniquely Designed Buildings & Structures- Gates, Saraswati Library, Karni Mata Temple, Traditional Chattris, (Cenotaphs), Navlakha Mahal, Temples, Gandhi Statue, Animals & Bird Sculptures, Victorian Era Fountains, Pond (Kamal Talai), Baori (Step Wells), Visually Appealing & Aesthetically Designed Light Poles	Music, Songs from Strategically placed Speakers on Main Pathways	Fragrances of Uniquely Planned Boulevard & Avenues with Specific Vegetation & Plantation of Dedicated Species	Artificial Steps Climbing & Barriers (placed on Main Pathways/ Corridors for avoiding Vehicular Movement within the Park)
Uniquely Designed Buildings & Structures Gates, Saraswati Library, Navlakha Mahal, Gandhi Statue, Animals & Bird Sculptures, Temple Playing Equipments Slides, Swings, Open Gym, & Others	Brightly Coloured Playing Equipments (Slides, Swings etc.) and Visually Appealing & Aesthetically Designed Animal Shaped Dusbins Open Gym, & Others	Mantra Chanting in Temple, Temple Bell	Fragrances of Trees, Flowers, Leaves, Wet Mud	Slides and Swings, Traditional Games

Figure 51 Sensory Mapping at Gulab Bagh

6.4 Urban95 Quality Criteria and Intercept Survey

A Urban95 Quality Criteria has been done for Gulab Bagh using Gehl Toolkit visual observation. Below Table showcase the details of the same

Table 7 Urban95 Quality Criteria, Gulab Bagh

Parameters	Indicator	Existing Situation
Protection	Protection from Crime and Violence	- One of the Safest Park in the city with High footfall, throughout the day (almost) on daily basis with Adequate Lighting in almost entire park
	Protection Against Unpleasant Sensory Experiences	- Waste lying in some Unused and Inaccessible Corners - Open Cables in some Parts of the Park
Basic Needs	The Feeling of Comfort	- Comfortable with Easily Accessible Pathways of different Forms & Materials - Away From Traffic & Noise - Presence of Good Shaded and Seatings (Concrete & Metal Benches, Steps and Low- heighted Platforms)
	Opportunities for Good Hygiene & Health	- Garbage and Waste lying around in some Places within the Park presenting Unhygienic Experiences

Parameters	Indicator	Existing Situation
	Convenient Opportunities for Consumption	- Ample of Restaurant, Cafes & Streets Food Vendors outside the Park - Allowed to Consume Food/ Snacks from Home
Comfort	Opportunities to Stop & Stay	- Ample of Shaded Seating - Natural Scenery all around with numerous Engagement Activities (Playing Equipments, Wall Murals, Uniquely Built Structures, Views & Vistas)
	Opportunities to See	- Natural Scenery, Views & Vistas, Uniquely Built Structures
Interaction	Opportunities to Play	- Dedicated ITC Zone (Haathiwala Park) with Adequate Playing Equipments - Numerous Lawns & other Playing & Engagment Zones for Users to get Engage in other Games & Activities
Connection	Opportunities for Flexibility	- Flexible to Engage with this Park during Entire Day
	Opportunities to Access	- Being the City Centric Park is Easily Accessible from other Parts of the City - With Multiple Entries and Ample Parking within & Outside the Park make it easier for its Users to Access the Park Easily
	Highly Integrated	- Being the City Centric Park with other Tourists Attractions (City Palace, Dudh Talai, Karni Mata Temple, Jagdish Temple, Lake Pichola etc.) in close proximity - Caters to all Sections of Society (LIG, MIG & HIG)

Table 8 Intercept Survey, Gulab Bagh

S/n	Category	Existing Situation
1	Safety	One of the Safest Park in the city with High footfall, throughout the day (almost) on daily basis with Adequate Lighting in almost entire park
2	Spending Time	Natural Scenery all around with numerous Engagement Activities (Playing Equipments, Uniquely Built Buildings & Sculptures, Views & Vistas) for Users to get Engage in Games & Activities
3	Meeting New People	Caters to all Sections of Society (LIG, MIG & HIG) with High footfall throughout the day provide Opportunity to Meet New People
4	High Quality Place for a Child to Play	Dedicated ITC Zone (Haathiwala Park) with Adequate Playing Equipments Numerous Lawns & other Playing & Engagment Zones for Users to get Engage in other Games & Activities
5	Ease of Movement	Easily Accessible along with Interconnected and especially Designed Pathways in from of 'Vithikas' with different Materials (Sand, Gravel, Fine Aggregates etc.)
6	Comfortable for Care-giver	Presence of Good Shaded and Seatings (Concrete & Metal Benches, Steps and Low- heighted Platforms)

6.5 Inferences

Overall all these surveys has helped in gauging the existing scenario at Gulab Bagh in terms of numbers of overall visitors (mix of locals and tourists) vis-a- vis numbers of children and their care- givers, the kind and type of activities and opportunities to engaged in.

The Urban95 Quality Survey and Intercept Survey also showcase that Gulab Bagh is not only safer for its users but has all the available facilities and utilities users can ask for in form of safety, cleanliness, comfortable place to be at with numerous opportunities of space and social interaction from various sections of society of different age group, gender etc.

The surveys also reveals that Gulab Bagh is having rich natural and artificial sensory features, hence is a good select for developing a Sensory Park.

Moreover its existing features has also helped in evolving the conceptual design proposal at the identified site, integrating lot of existing features and elements into the design.

7 Draft Conceptual Design

After site finalization, having obtained TSS with support from UMC and case studies learnings, set of 'Broad Design Ideas' were formulated along with 'Sensory Simulation Elements' categorizing them as 'Natural and Artificial Elements' and a draft conceptual plan has been evolved using these as a base for the same. Below mentioned are the details of the same.

7.1 Broad Design Ideas

As mentioned above, below are the broad design ideas formulated based on case studies learnings and were used in evolving the draft conceptual design.

- a. Interactive & appealing entrances for increased usage & participation;
- b. Aesthetically designed key map showcasing facilities & features in the park;
- c. Interactive wayfinding/ signages for easy access within the park;
- d. Barrier Free Movement by following universal standards to make it an 'all abilities park' by suitable infrastructural provisions;
- e. Pathways & Stop Points using variety of natural & artificial materials- Sand, Grave, Grass, Water, Artificial Grass Carpets, EPDM flooring, Acupressure flooring etc.;
- f. Defined & demarcated yet integrated spaces for children of different ages from 0- 6 years, i.e.
 - Crawl- 0-9 Months
 - Walk & Few Games- 9 months- 2 years.
 - All Engagement Zones & Activities- 2 years- 6 years
- g. Specified area with natural elements- sand pits, water fountains, plants/ shrubs planted in lower beds etc. for children to access, engage & connect with, allowing children to access nature- Interconnected playing equipments for easy & uninterrupted access and use;
- h. Interactive ITC friendly shaded resting spaces in and around various zones;
- i. Adequate lighting for increased sense of safety
- j. Promoting 'Circular Economy' via 3 R's (i.e. Reduce, Recycle & Reuse) for inculcating 'Best out of Waste Practices' and set it as an examples for Development Authorities to bring this in regular working practices as well;
 - 'Wooden Logs' for Playing cum Seating;
 - 'Used Tyres' as Playing Equipments, Seating, Planters,
 - 'Old and Discarded Utensils' for Musical Installations.



Figure 53 Interactive & Visually Appealing Entrance



Figure 52 Aesthetically Designed Key Map showcasing Facilities & Features in the Park;



Figure 54 Aesthetically Designed and Visually Appealing Way Findings



Figure 55 Interactive Pathways & Stop Points using Variety of Natural & Artificial Material- Grass, Gravel, EPDM



Figure 56 Low Heighted Plantation for Activating Various Senses- Touch & Feel, Visual, Smell, Taste

7.2 Sensory Simulation Elements- Natural and Artificial

As mentioned above, below are the 'Sensory Simulation Elements- mix of natural and artificial material' used in evolving the draft conceptual design.

- a. Natural & Artificial Playing Elements- Mud, Sand & Water Play, Well Connected & Brightly Colored Playing Equipments;
- b. Plants/ Shrubs for Activating Various Senses
 - Visual- Colorful Flowering Plants, Butterflies, Bees etc.
 - Touch & Feel- Plucking, Crushing,
 - Smell- Good Fragrance based Flowering Plants
 - Taste- Low heighted Seasonal Plants/ Shurbs with Edible Flowers, Fruits, Leaves- Rose, Tomato, Carrots, Mint etc.;
- c. Natural & Artificial Elements with Good Sound/ Hearing Effect-
 - Natural- Butterflies, Bees, Cricket, Birds Chirping;
 - Artificial- Wind Chimes, Musical Installations, Water Fountains with Gurgling effect;



Figure 58 Visual & Sound Based Installation & Activities



Figure 57 Low Cost Playing cum Seating Installations



Figure 59 Mud, Sand and Water Play

7.3 Draft Conceptual Design

Taking all the above pointers in consideration, a draft conceptual proposal has been planned, including emphasizing on '95' of 'Urban95' as the base of the design as visible in the Fig 59.

The overall park has majorly four 'Engagement Zones' and other sensory features and elements within the park such as walking track/ trail (mix of various natural and artificial elements, flowering beds, sensory panels and writing boards, musical installations, shaded resting spaces made of various ITC friendly materials, visually appealing entrance and railing and many more at designated places.

The details of these 'Engagement Zones' and design elements are mentioned in Table9 .



Figure 60 Draft Conceptual Plan for Sensory Park, Emphasizing on '95' of 'Urban95'



Figure 61 Draft Conceptual Plan for Sensory Park

Table 9 Engagement Zones and their Details (Elements, Features, Material etc.)

S/n	Engagement Zones	Details
1	Engagement Zone 1	<ul style="list-style-type: none"> - Mound cum Zig- Zag Wooden Logs & in- built Engaging/ Playing Equipments, landing in Sandpit - Child Friendly Hanging Bridge & Tree House connected with Existing Tress - Sandpit, surrounded by Natural Carped Grass & other Sensory Pavings - Shaded Resting Spaces using Benches (Metal, Wooden, Concrete)
2	Engagement Zone 2	<ul style="list-style-type: none"> - Mounds of Various sizes with in- built Engaging/ Playing Equipments, a small cave within this Mound landing in Sandpit (Diff. Aggregates), Smaller Mounds and with Wooden Platform, Rope Hanging & Balancing
3	Engagement Zone 3	<ul style="list-style-type: none"> - Water Play- Waterfall Wall - Lilly Pond on other side
4	Engagement Zone 4	<ul style="list-style-type: none"> - Open Lawn & Shaded Resting Spaces for Crawling Children and their Care- givers
5	Other Sensory Elements & Features	Specified Area with Sensory Paving using Various Materials, Musical Installations (on- ground and different Wind Chimes hanging from Trees), Sensory Panels, Writing Boards, Colorful Cloth Hangings etc.





Figure 62 Bird Eye View of the Park Showcasing Various Engagement Zones

7.4 Proposal Elements with Materials and Reference Images



Figure 63 Proposed Elements with Materials in Conceptual Design



Figure 64 Representative Images for Engagement Zone 1



Figure 65 Representative Images for Engagement Zone 2



Figure 66 Other Visually Appealing and Aesthetically Designed Elements and Features- Starting from Top Right- Railing, EPDM Flooring, Sensory Paving, Writing Boards



Figure 67, Sensory Panels, Colorful Tree Hangings, Musical Installations

8 Overall Project Cost

Given the overall design and its elements/ components and based on the case- studies from other Indian cities, the approximate cost for sensory park is envisaged to be in range of Rs. 80 Lacs to 1 Cr. Below mentioned are the items/ elements as per the design proposal based on which this approximate cost has been defined

Table 10 Elements Listing based on which the Approximate Cost has been Defined

S/n	Particular	Nos, Area, Dimensions
1	Visually Compelling & Aesthetically Designed Entry Gate	1 nos.
2	Front & Side Fencing (Wood)	77 sqm
3	Back Side Fencing (MS)	260 sqm
4	Main Circulation Area	180 sqm
5	Walking Track (Mix of Natural- Fine Aggregates, Interlocking Paver Blocks) & Artificial- EPDM) Flooring Elements	Natural- 30 sqm Artificial- 110 sqm
6	Hedging	155 sqm
7	Green Lawn with 'Doob' Grass	245 sqm
8	Selection 1 Grass	52 sqm
9	Sensory Pavings	20 sqm
10	Gazebo- Made of RCC with Wooden Finish	16 sqm
11	Wooden Platform with Hanging Bridge	2 Wooden Platform and Connected Hanging Bridge
12	Playing Equipments- Slides, Swings and others	3-4 nos.
13	Mounds (3 nos.) & supporting elements	33 cum

14	Sand Pit, Mud Pit	100 sqm
15	Seating- Pre- cast, MS, Tyre	15- 20 nos.
16	Water Body with stone Pitching (Mix of Lilly pond and Water- play for Children) with necessary Treatment/ Filtration Plant	30sqm
18	Musical Installations- Made out of MS, Aluminium Pipes	3-4 nos.
19	Wind Chimes (Spread out across the site)	10- 15 nos.
20	Visually Compelling Cloth Hangings (Spread out across the site)	25- 30
21	Flowering beds of discarded Fruit/ vegetable crates (Wooden/ Plastic)	25 sqm (15- 20 nos.)
22	Aesthetically Designed Way Findings around the park	8- 10 nos.
23	Wooden logs	NA
24	Lighting Poles	15- 20 nos.
25	Bore well and necessary plumbing	1 nos with 150
26	Site Clearance- Excavation, Levelling etc.	-
27	Site Drainage	-

9 Social and Behavioural Change Communications (SBCC) for Sensory Park

Social Behaviour Change Communication (SBCC) as the name suggests is the comprehensive communication strategy in context of Urban95 program to not only achieve the set/ envisaged objectives effectively for any of the project to be implemented under the program and but also to gauge, map and measure the long term behavior change of the targeted audience (children and their care- givers and service providers) using various tools, means and mechanism to achieve the desired outcome as stated in the RFP.

A comprehensive SBCC approach can be a very resourceful tool, when implemented in a planned, coordinated manner and within a wide range of interventions and can results into sustained change in an individual or communities adopts new behaviors and social norms or participate in civic engagement process.

In continuation to the above, a detailed SBCC strategy has been planned for Sensory Park and has been explained below.

1. **Community Mobilization** for sensitizing active and more importantly passive users about the importance of sensory parks and its numerous benefits via extensive Information Education Communication (IEC) and/ or Communication & Outreach (C&O) within (and outside the park as well- set periphery (600m or 20 mins walk, more based on the need) on sample size basis (nearby Residential Colonies, local community- household having a children below 6 years of age - Mix of HIG, MIG, LIG & EWS, NGOs, CBOs, RWAs- if any, Community groups etc.) using various means such as In- Depth Interviews, Focused Group Discussions (FGDs), Key Informant Interviews (KIIs) etc., disseminating information on overall objective, design, benefits etc. All the above shall be conducted via specifically designed questionnaire and aesthetically designed outreach material (Banner/ Poster, Leaflets for distribution- if required);
2. The same shall be also be done at all the ITC Destinations (including but not limited to city or neighbourhood level park(s)- if any, Aanganwadi Centers (AWCs), Primary Healthcare Centers (PHCs), private play schools & pre- primary schools, clinics, hospitals etc.) within the 600m radius of Gate 1 and 3;
3. **Use of Mass Media** for popularizing the project objectives and for larger visibility of the new facility to the targeted audience including means such as Digital/ Electronic- TV, Radio, Print- Newspaper, Magazines and Social Media- Facebook, Instagram, Twitter, WhatsApp etc.;
4. It is also planned to have visually compelling signages in form of posters and/ or banners, disseminating information in from of 'scientifically proven facts', strategically placed not only in and around ITC dedicated zones but also at places having huge gathering of care- givers such as open gym, general exercise zones, yoga zones (if any), laughing clubs and many more including in route of walkers, joggers, at resting spaces etc. The same is also planned to placed/ hanged at all the identified ITC destinations;
5. Moreover, specially designed **Events (Playing) & Competitions (Singing, Dance and/ or Drawing etc.)** shall be planned before starting and during on- ground execution

stage also, for popularizing the project objectives and for larger visibility of the new facility to the targeted audience and the same shall be discussed with the stakeholders at regular intervals, which shall prove helpful while conducting any such events;

10 Semi- Permanent Project (Tactical Intervention)

As a part of finalizing the draft conceptual design before going into on- ground implementation for the entire space, it is envisaged to test the ideas in real world scenario in terms of its usability, adaptability and acceptance, behavior change of the users (children and their care- givers) and also to gauge their reactions to such kind of theme based spaces and facilities via a semi- permanent project in one part of the site and by using as much design elements as possible.

This is envisaged to taken for all the Urban95 projects in the city, as the concept and ideas are new to its citizenry. However, given the situation that a semi- permanent project for Sensory Park might not provide the desired results as it being one- of- its kind facility and moreover a very new concept in its entirety, compared to other projects for its intended users, with them having almost no exposure to such different & specialized kind of facility to understand and engage, hence it was agreed upon to directly go into full- fledged execution of the entire proposal.

“A city that works for young children tends to become a place that works for everyone”

