Project **PROMISE**

A PROMISE to strengthen Local Governments

WARANGAL

OPEN SPACES

PROMotion of Inclusive, **Sustainable growth** and diversity to **strengthen Local Governments**

Project

PROMISE

WARANGAL

OPEN SPACES

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Project **PROMISE**

Message

Greetings!

Urban areas in India are growing at very fast pace majorly due to shift from rural areas and expanding infrastructural needs of the existing population of the city. The city governments play a significant role in addressing the above needs but at the same time it becomes difficult for the city governments to tackle the problems holistically due to their minimal capacities, and limited budgets. In order to assist the cities, the project team through this exercise has developed a holistic approach for the city governments to prioritize their projects/ initiatives within available resources based upon citizen feedback.

We are glad to provide our support in association with Administrative Staff College of India (ASCI) in the Open Spaces sector in Warangal which is also being developed as Smart Cities. This has been a unique initiative by engaging with the project city, its stakeholders including the technical staff, political representatives, end users- comprising of women, youth population, and people with special needs irrespective of age, gender and caste.

I would like to express our gratitude to European Union for providing us an opportunity to assist the city governments with regard to different sectors in each project city. I would also wish to thank the members of city core group committee and national advisory committee for their zcontinuous support provided towards completion of this report.

Warm Regards,
Mr. Emani Kumar
Deputy Secretary General, ICLEI – Local Governments for Sustainability &
Executive Director, ICLEI South Asia

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The Delegation of the European Union to India and Bhutan performs a variety of tasks aimed at enhancing the relations between the EU and India (and Bhutan) including cooperation on regional, global and security issues, close trade and economic ties, sectoral dialogues on smart and sustainable urbanisation, research and innovation as well as people-to-people contacts. Established in 1983, the EU Delegation to India is headquartered in New Delhi and relations with India have evolved significantly with the 2004 strategic partnership.

Administrative Staff College of India (ASCI) was established in 1956 and is now a premiere Institute for research, training, capacity building and information, dissemination in Urban development and management.

Greater Warangal Municipal Corporation
Warangal, Telangana

Karnal Municipal Corporation
Karnal, Haryana

Ajmer Municipal Corporation
Ajmer, Rajasthan

Jabalpur Municipal Corporation
Jabalpur, Madhya Pradesh

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Project **PROMISE**

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1 Introduction

"Promotion of Inclusive, Sustainable growth and diversity to strengthen Local governments" (PROMISE) is being implemented by ICLEI- Local Governments for Sustainability, South Asia in association with Administrative Staff College of India (ASCI), with support from European Union. The project is being carried out in four Indian cities, representing different geographical locations- Ajmer in Rajasthan, Karnal in Haryana, Jabalpur in Madhya Pradesh and Warangal in Telangana. The project was initiated in the selected cities in early 2016 and will continue to run till mid of 2019 with an objective to strengthen the local governments in carrying out the service level improvements. The project has been designed with an aim to help the selected cities to develop their capacity to plan, conduct, manage and evaluate their projects in an inclusive manner with a focus on all communities, vulnerable groups irrespective of their gender or religion.

The overall objective of this project is to improve Local Authority's capacity to improve quality of life in an inclusive manner. The project aims to support the local authorities to create, enable and institutionalize equitable and inclusive governance mechanisms, and facilitate the development of smart and sustainable growth in cities. The proposed project shall strengthen capacities of local authorities for integrated, participatory, inclusive and sustainable development and efficient resources mobilization and utilization to enhance service delivery, increase community participation and promote diversity in the urban system. The specific objective of the project is to develop a PROMISE tool for outcome based planning and evaluation of the development actions of local authorities. The PROMISE tool intends to help the cities in the following methods:

- Build managerial and technical capacity of local governments to develop projects jointly by engaging with and involving city staff, community, private sector, project team experts, local stakeholders and jointly implement projects in the city.
- Mobilize available opportunities and utilize resources in a diverse and strategic manner and help local governments to better leverage the opportunities available under national programs such as Swachh Bharat Mission, HRIDAY, Smart Cities and AMRUT, through well-defined criterion for project evaluation and implementation based on outcomes.
- Enable local governments to adopt participatory planning in project prioritization and execution.
- Ensure equitable and inclusive service delivery mechanisms through participatory governance that reach all sections of society, including the most vulnerable.
- Improve accountability of local authorities to diverse stakeholders and local communities.
- Acknowledge and promote diversity in local working environment of cities by encouraging citizen engagement in developmental project planning and execution.
- Besides the PROMISE tool, various other activities are being undertaken in each project city. This report is developed in specific to Warangal city i.e. Greater Warangal Municipal Corporation (GWMC), capturing the process and outputs of the project. As per the scope of the project, a pilot area covering Ward numbers 8,18 and19, locally known as Shiva Nagar was selected, in consultation with GWMC with an aim to carry out a detailed study and interventions.
- As part of the project a core group committee (core group) at city level has been formed in order to interact and have views from various experts encouraging community participation.

The core group of GWMC includes the following experts:

SL.NO	Officer	Designated Officials
1	Hon'ble Mayor, GWMC	Chairperson
2	Commissioner, Greater Warangal Municipal Corporation	Member
3	Corporate, Ward 9,GWMC	Member
4	Corporate, Ward 18,GWMC	Member
5	Chief Horticulture officer , GWMC	Member
6	Executive Engineer, GWMC	Member
7	Deputy City Planner, GWMC	Member
8	Assistant City Planner, GWMC	Member
9	Town Planning officer, GWMC	Member
10	Planning officer, KUDA	Member
11	Sri. Banda Prakash, Hon'ble Member of Parliament, Rajya saba	Member
12	Sri. Laxmi Kanth Rao, Hon'ble Member of Parliament, Rajya Sabha	Member
13	Sri. Dayakar P, Hon'ble Member of Parliament, Lok Sabha	Member
14	Tasildar, Khil Warangal Mandal , Warangal District (Urban)	Member

Table 1: Core Group
Source: Project Team

For developing a wider sense of the city and the Open spaces, the report also touches upon the following topics.

- **Introduction to the project**
This section provides the background of the study and outlines the study objectives, tasks and approach and methodology followed to complete the project.

- **City profile**
This section gives and overview of the city in terms of its history, demographics, socio-economic aspects along with current interventions in the city, towards over all development.

- **Rapid Assessment of Open spaces**
This section talks about the existing scenario of parks, open spaces and other recreational spaces in the city. This section is highly dependent on the level and amount of information made available by the municipal authorities.

- **Outreach Initiatives**
It discusses about the initiatives taken in the city under the PROMISE project to understand the priorities of the citizen's w.r.t recreational spaces and open spaces.

- **Recommendations**
Based on the project findings, this section discusses the areas of interventions suggested to be undertaken in the study area.

2 City Profile

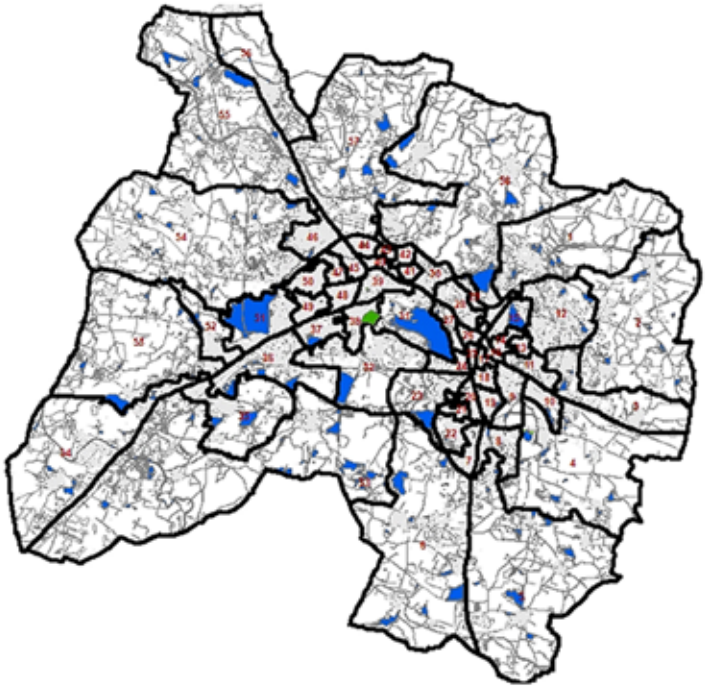


Figure 1: Ward map of GWMC

2.1 Background

Warangal, also known as Orugallu or Ekashila Nagaram meaning city of one rock, during 12th to 14th century, is the administrative headquarters of Warangal district and is one of the oldest municipalities having been established in 1899. Referred at times as a tri-city, Warangal is a cluster of three towns- Warangal, Hanamkonda and Kazipet. Today, Warangal is one of the major urban centers of the Telangana region, addressing the educational, medical, trading and cultural needs of the people not only from the district, but also from neighboring districts. The city has emerged as a regional hub for educational facilities with numerous schools, graduate and post graduate degree colleges, and reputed professional institutions viz., National Institute of Technology (NIT), Kakatiya University (KU), Kakatiya Medical College, and Kakatiya Institute of Technology and Sciences (KITS), etc.

It is a Class I city with 8.32 lakh population,as per 2011 census. The city is spread across 407.71 sq.km, with about population density of 2,041. The latest population (as on 2014) is 10.8 lakhs, as per Greater Warangal Municipal Corporation. It is located at a distance of 145 km from Hyderabad, which is the capital city of the state. GWMC is further divided into 58 wards. The national highway NH 202, connects Warangal to other major cities of the state/ country viz., Hyderabad. Warangal is also well connected to major cities of the country by rail network. Kazipet, situated 13 km from Warangal and known as Gateway to North India. It is the divisional headquarters of South Central Railways and is one of the biggest railway junctions. A diesel-electric locomotive shed is located in Kazipet. Shamshabad Airport of Hyderabad at 170 km distance is the nearest airport to Warangal.

The city has a rich cultural heritage and tourism importance, and attracts thousands of tourists every year. The predominant tourist attractions include Warangal Fort constructed in 13th century, Thousand Pillar Temple built by Rudra Deva in 1163 in Chalukyan style, Bhadra Kali Temple noted for its stone image of Goddess Kali, Siddeshwara temple built in 3rd century, among others. The Kakatiyas built many monuments including an impressive fort, four massive stone gateways, the Swayambhu temple dedicated to Lord Shiva, etc.

Greater Warangal Municipal Corporation (GWMC) is governed by the important legislations viz., Hyderabad Municipal Corporation Act, 1955 and The Andhra Pradesh Municipal Corporations Act, 1994, which extends to all the fourteen municipal corporations, along with the 74th Constitutional Amendment Act. The Government constituted the Kakatiya Urban Development Authority (KUDA) in the year 1982, covering 171 villages which included 27 villages from Karimnagar district and Warangal Municipal Corporation area comprising of 1805 sq km.

Functions of Kakatiya Urban Development Area majorly include the following,

- Preparation of Master Plan, Zonal Development Plans for the entire KUDA Metropolitan Region
- Undertake land acquisition and development.
- Achieve planned development by undertaking satellite townships and sites and services
- Undertake housing projects for various income groups under the Public Housing Groups with the financial assistance of HUDCO.
- Road widening schemes / new road development projects, development of commercial complexes, shopping areas/ office complexes,
- Providing infrastructure in the township areas, colonies and layouts
- Allot houses and plots to various income groups
- Develop recreational facilities
- Urban forestry.

Many agencies are involved in serving the citizens including the poor and the disadvantaged in GWMC Limits and its suburbs. Most of these agencies have varying spatial and functional jurisdiction. Functional areas of the agencies also differ significantly. The following table provides snapshot of roles and responsibilities of different agencies in the city.

Institutions	Area Coverage	Key services
GWMC	GWMC	Service Delivery , Policy Making and Regulation
Kakatiya Urban Development Authority (KUDA)	KUDA	Town Planning, preparation of Master Plan Development, zonal development plans, Construction of selected Flyovers and Parks, Service Delivery and Regulation

Table 2: Institutions and their responsibilities pertaining to Open Spaces sector in Warangal
Source: Project Team

3 Rapid Assessment of Open Spaces

3.1 Existing scenario of organized greens

Recreational facilities in general way are defined as spaces available in the city for recreation, social interaction and active physical activities. In India recreational facilities are defined by Town and Country planning organization through the 'Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI)'. As per URDPFI guidelines recreational spaces are termed as "open spaces" which include the following categories:

- Recreational spaces – libraries, clubs, swimming pools, in door game center, holiday resorts etc.
- Organized greens - park, amusement park, maidan, a multipurpose open space, botanical gardens etc
- Other open spaces - vacant lands/ open spaces including flood plains, forest cover etc.

Organized greens with regard to Warangal city include parks, play grounds, multi-use grounds, theme parks etc. This section includes outputs from detailed assessment of existing organized green spaces in GWMC, developed as part of the project, based on the secondary and primary data available.

The analysis is done based on the following features:

a) Access and availability
b) Situation of existing parks
c) Land availability
d) Operational and maintenance

3.1.1 Access and Availability

i. Per capita availability

Per capita availability is the amount of organized green spaces available to citizen per person. As per URDPFI guidelines, the per capita availability of open spaces (Refer open spaces definition page 15) prescribed is 10-12 sq.m, out of which the prescribed per capita availability for organized green spaces is 3 sq.m.

Hierarchy of organized green spaces	Area per capita
Housing Area level	1 sq.m
Neighbourhood level	0.7 sq.m
Community level	0.5 sq.m
District park/Sub city park/ City level	1.5 sq.m

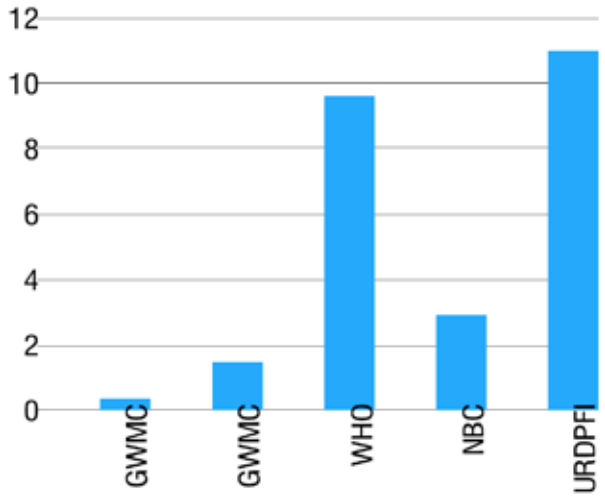
Table 3: Per capita requirement of organized green spaces w.r.t hierarchy
Source: URDPFI guidelines

Based upon the above standards, per capita availability of organized green spaces in Greater Warangal was found to be about 0.44 sq.m, considering GWMC boundaries with population of 10,88,329.The table below gives the details.

	Number	Area in Acers
Parks	39	67.58
Zoo	1	50
Total	40	117.58
Population GWMC	1,088,329	
Per capita in Sq.m	0.4	
Bench mark in Sq.m	3	

Table 4: Per capita availability of organized green spaces in GWMC
Source: ICLEI SA's analysis

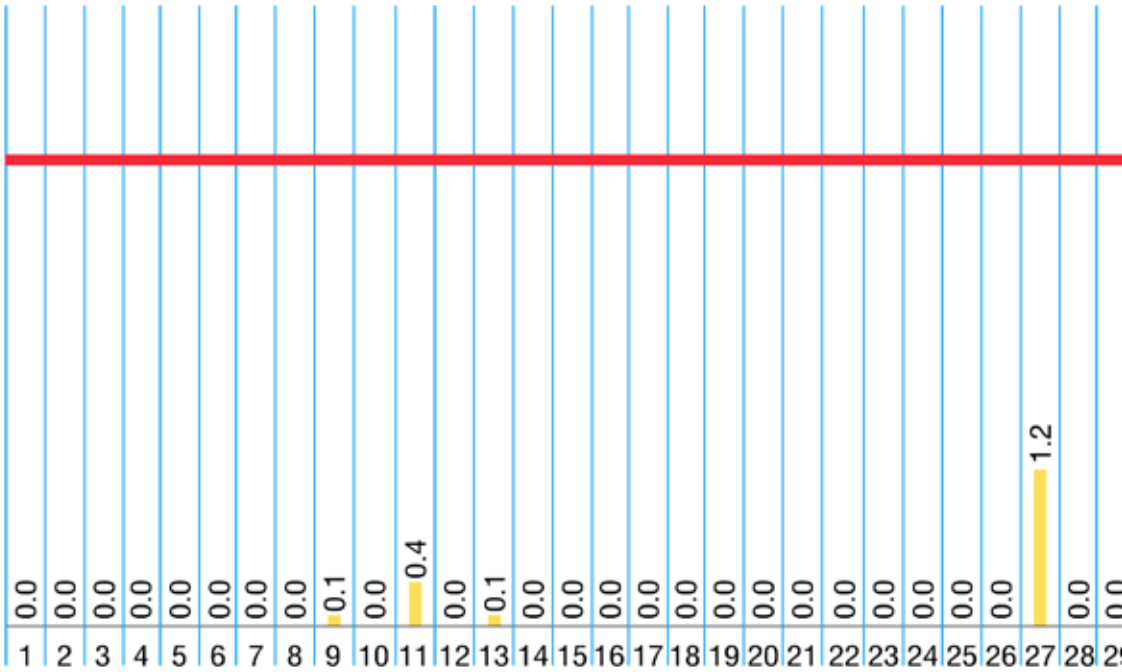
Per capita organized greenspaces in Warangal city(in Sq.m)



Per capita availability of parks in the city
Source: ICLEI SA's analysis

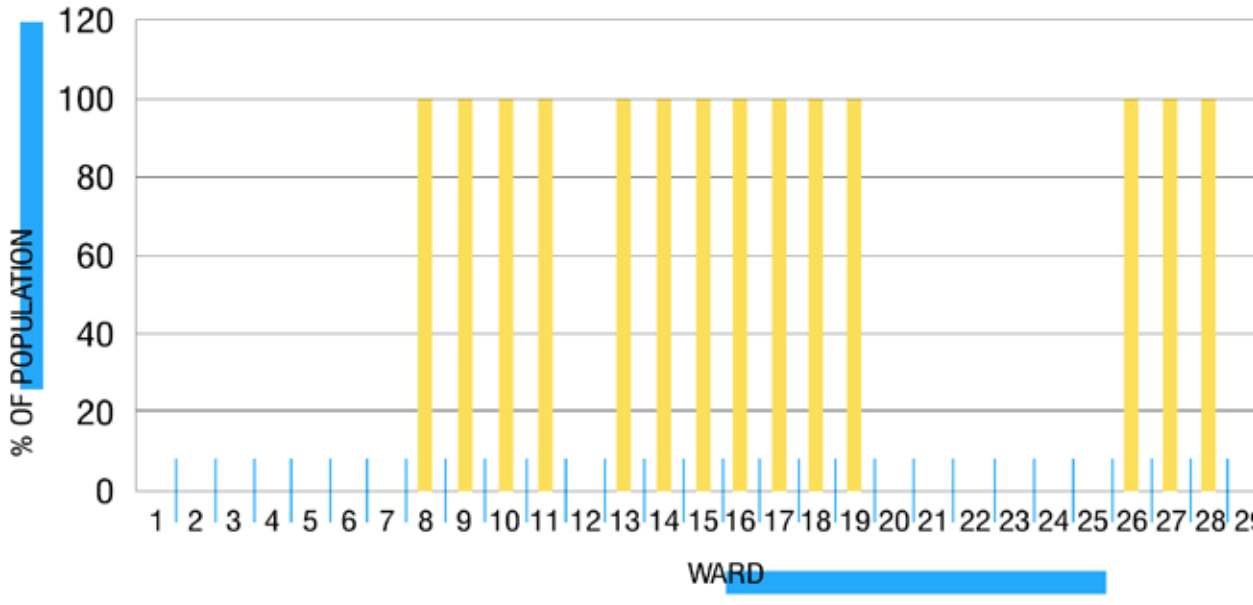
As shown in the table above, 0.4 sq.m is extracted from the land available from existing parks and zoo in the city. In addition to the existing parks there are about 332 parks with total of 28.44 acres of open spaces in the city available to be developed as organized greens. Considering the additional open spaces it is seen that the city has potential to increase per capita availability from 0.4 sq.m to 0.5 sq.m, which is still less than the prescribed standards. Thus, there is a need to develop alternative strategies for improving the availability of organized green spaces in the city.

The existing parks in the city are not equally distributed specially in the city. The graph below provides an overview of ward wise availability of parks in the city.

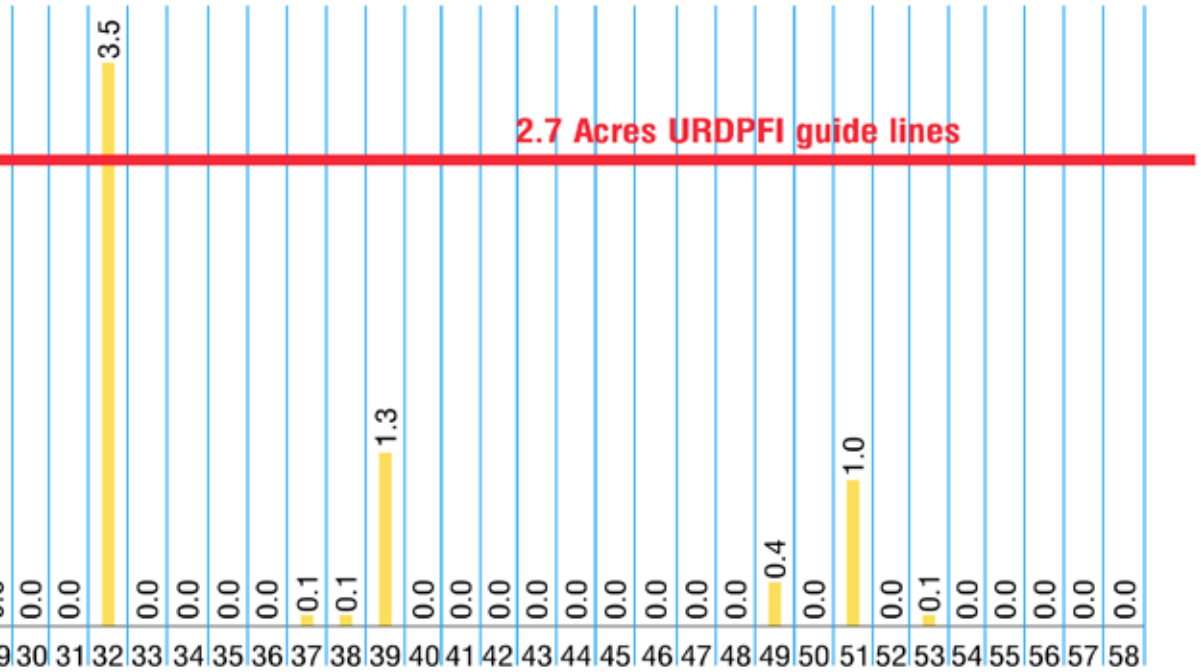


ii. Coverage

Coverage is defined as the total number of households or population having access to parks. Considering the capacity of the existing parks as per the land available, it is calculated that the existing parks can cater about 3.2% of the population. Based upon primary surveys, the minimum distance for access to parks is considered to be 1 to 1.5 km and it is seen that the existing coverage of population in Warangal city, which has access to parks in 1 to 1.5 km is about 54%. The following figure gives ward wise scenario indicating inequitable spatial distribution of organised green spaces across the city. Refer Annexure 1 for calculation details.

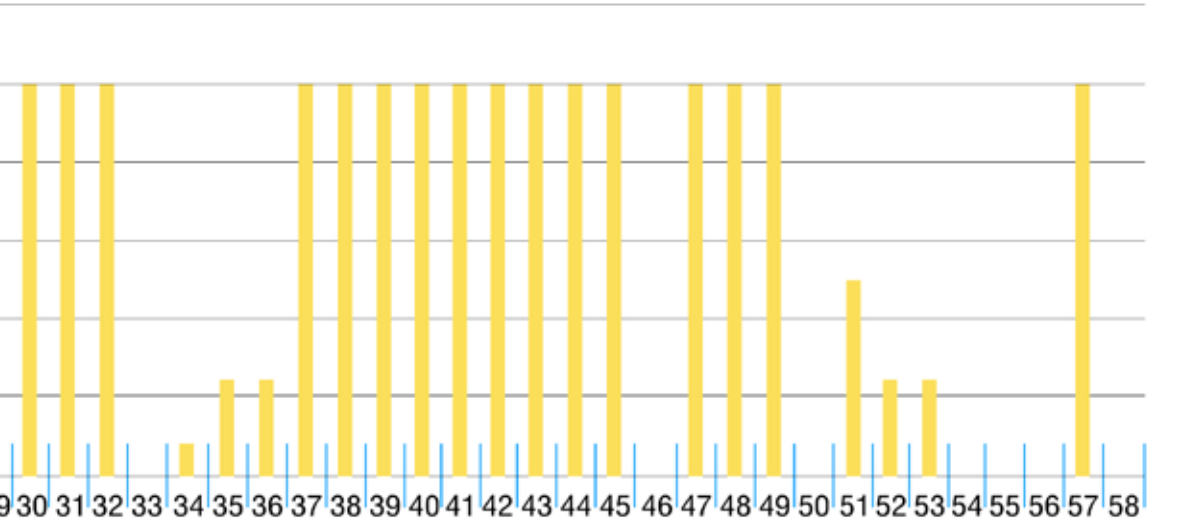


Based on the existing access and coverage of organized green spaces i.e. parks, the required land or demand requirement in terms of housing area parks is 93 acres and neighbourhood area parks is 62 acres. The ward wise details are provided in Annexure 2.



Area (acres) per 1000 population

Source: ICLEI SA's analysis



Ward wise % of population having access to parks within 1 to 1.5 Km distance

Source: ICLEI SA's analysis

3.1.2 Assessment of existing parks in the city

Assessment of existing 39 parks through critical analysis method based on following aspects and respective indicators was carried out as part of the current situational analysis. These indicators were identified based on basic elements prescribed in Service level Improvement Plan (SLIP) for green spaces and parks for Warangal city under AMRUT scheme, considering the time frame, man power and data availability.

Aspects	Indicators	Score – Indicator individual level	Score at Indicator level	Overall score as per priority (Total 15)
Access	Availability of access roads	Yes – 5, No – 0	2	2
Availability	Safe boundary wall	Yes – 5 , No – 0	2	2
Facilities	Availability of basic facilities like – • Play area • Plants and shrubs • Walking track • Lighting, • Seating arrangement	All – 5, More than 3 facilities – 3 Less than 3 facilities – 0	4	4
Operational and maintenance	Existing condition of facilities	Good – 5 Average – 3 Bad – 1 Not in use - 0	2	4
	Availability of lights, toilets, compost plant, regular cleaning	All – 5 More than 3 facilities – 3 Less than 3 facilities – 0	2	
Usage	Usage of parks a per reconnaissance observation and FGDs	Good – 5 Average – 3 Used in small number – 1 Abundant - 0	3	3
		Total	15	15

Table 5: Critical Analysis indicators

Source: ICLEI South Asia

Based on the critical analysis method as per the indicators mentioned, the status of the existing parks was categorized as per the following.

i. Good – Score 150 - 200
ii. Better – score 100 -150
iii. Average – score 50- 100
iv. Bad – score 0-50

The city wise scenario of existing parks based critical analysis specially is demonstrated below. The detailed park wise output of critical analysis is provided in Annexure 3.

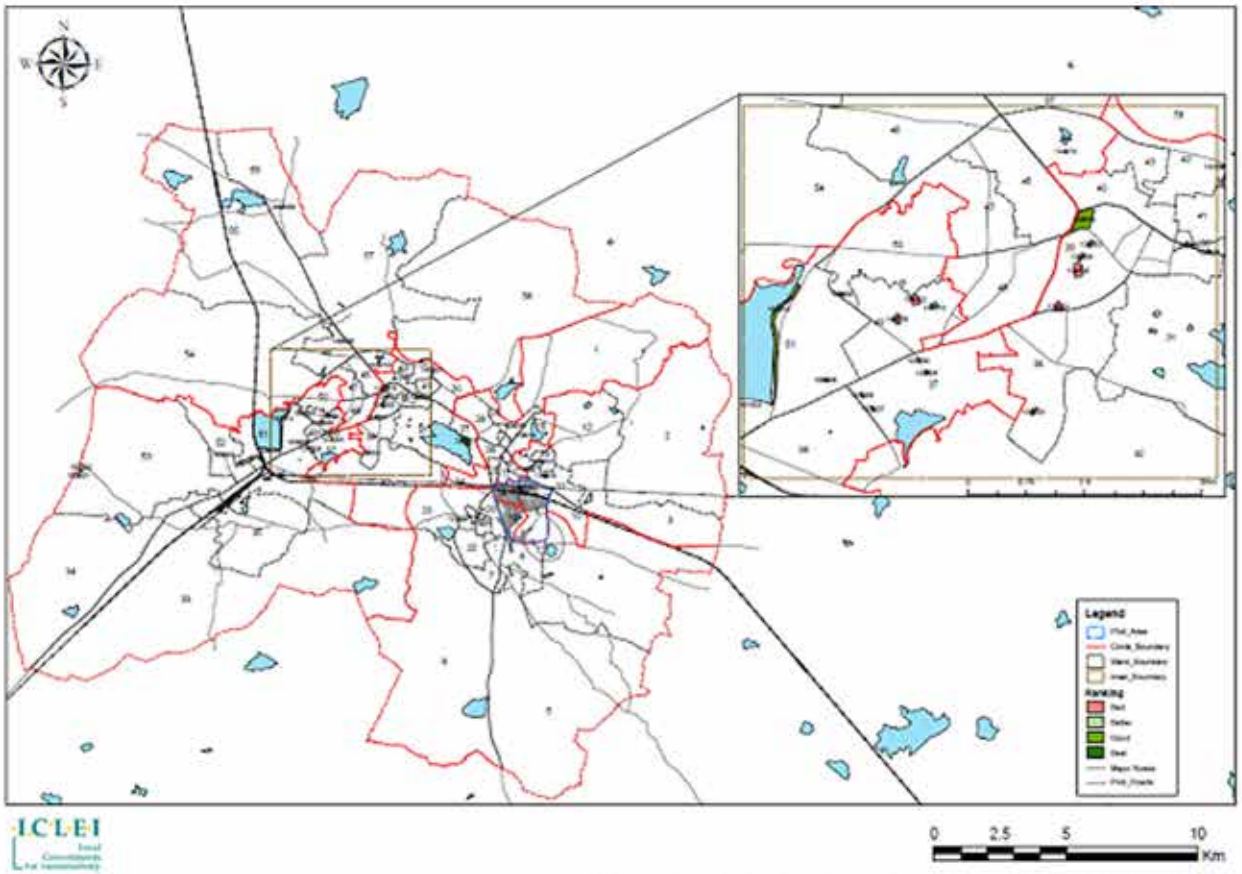


Figure 2: Map showing the parks with colour code as per critical analysis of existing parks
Source: ICLEI South Asia's Analysis

3.1.3 Land availability

There are about 340 open land parcels and lay outs available in GWMC with about 156.8 acres of land, owned by GWMC, for developing organized green spaces like parks, play grounds etc. 10% of the available land is encroached as per the secondary data from GWMC. The details of the types and forms of encroachments are discussed in Chapter 4.
Considering the existing available vacant land in the city, the potential increase in per capita availability of organized green spaces is 1.5 sq.m as compared to 3 sq.m/ capita as per URDPFI guidelines. The shortage in organized green spaces (mentioned above) is the reality in majority of urban areas of India and also in Warangal. This is due to the following reasons:

1. Lack of land availability with growing urbanization and increasing land values.

2. Limited financial affordability of local authority

3. Lack of institutional structure with comprehensive perspective towards development of organized green spaces.

4. Lack of detailed guidance in terms of norms, standards, approach for development of socially acceptable and satisfactory spaces like parks, play grounds etc.

The map below provides an overview of the ward wise availability of open spaces and parks in the city. The map indicates that there is an unequal distribution or availability of open spaces and parks as compared to the total ward area.

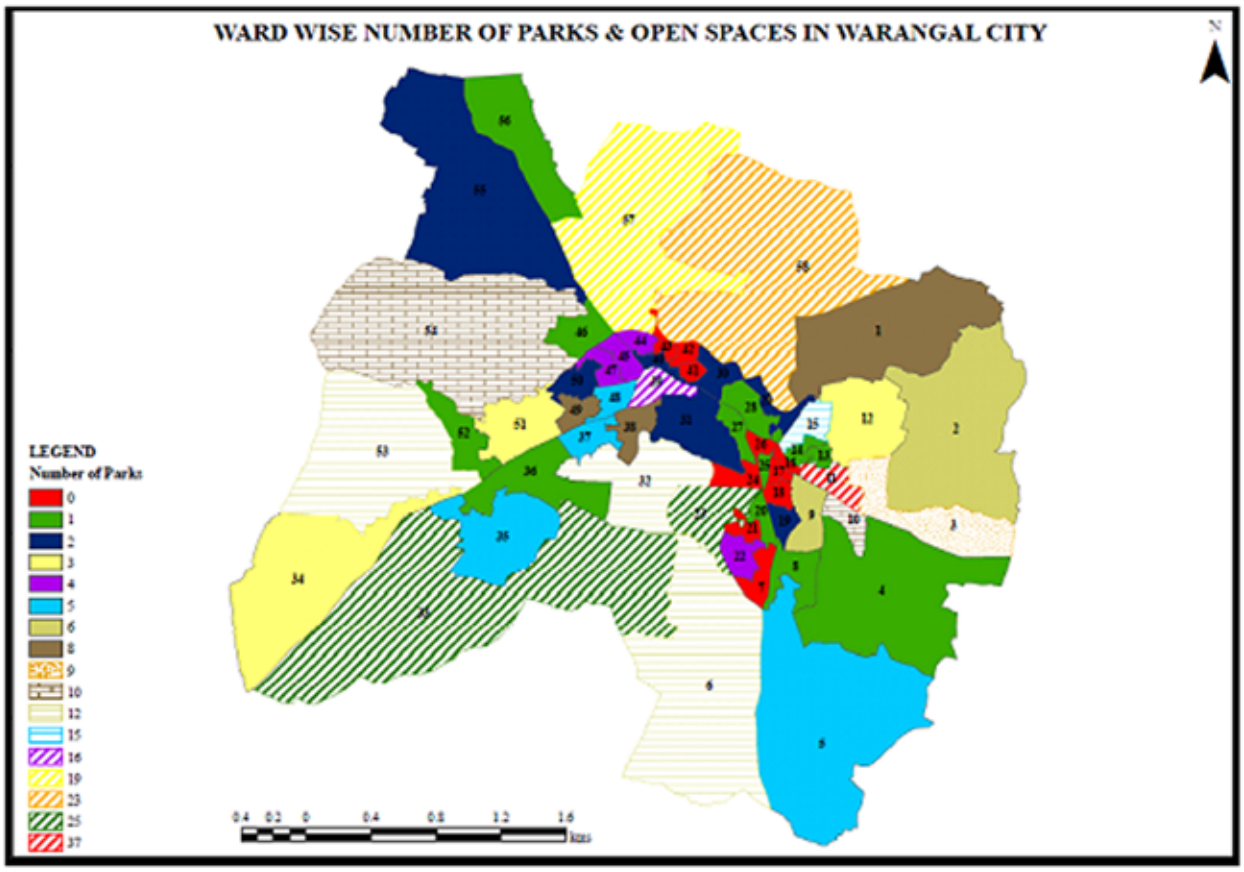


Figure 3: Ward wise map- Number of open spaces and parks in the city

As per the draft master plan 2041 for Warangal city comprising of Kakatiya Urban Development Area (KUDA), the land use allotted for 'Vacant/Agricultural/open spaces/parks' has decreased from 89.6% to 31.6%, starting from the year 2012 to 2041 (propose Master Plan), indicating the limited land available for organized green spaces in the city for future growth. The table below provides the details of land use for Warangal city.

Land Use	GWMC - 2012		GWMC - 2041	
	Extent in sq.km	%	Extent in sq.km	%
Residential	65.93	3.6	179	9.9
Commercial	2.24	0.1	3	0.2
Mixed land use	0	0.0	170	9.4
Industrial	0.46	0.0	22	1.2
Public and Semi public	7.92	0.4	37	2.0
Recreational zone	0	0.0	34	1.9
Roads/ Transport use zone	7.22	0.4	122	6.8
Public utility use zone	0	0.0	3	0.2
Growth Corridor	0	0.0	205	11.4
Special areas (Heritage areas)	0	0.0	z8	0.4
Vacant/Agricultural/open spaces/parks	1620.9	89.6	570	31.6
Protected and under developed use	96.01	5.3	303	16.8
Others/ Village extension zone	8.73	0.5	150	8.3
	1809.41	100.0	1806	100.0

Table 6: GWMC existing and proposed land use

Source: KUDA — GWMC draft master plan 2041

3.1.4 Operation and maintenance

Operation and maintenance has two components i.e. cost effective infrastructure and regular maintenance. In terms of regular maintenance the current shortage of manpower in GWMC is 56%.

Details	No.
Total no. of Man power (2 head mali, 28 mali)	30
Total area of existing parks in acres	67.58
Manpower required (@1 / acre)(as per swachh park guidelines)	68
Shortage in manpower	38
Shortage of man power	**56%**

Table 7: Existing manpower
Source: ICLEI South Asia's Analysis

In addition to the maintenance of infrastructure, there is a need for incorporating cost effective components in the park, considering the long term financial sustainability for park maintenance. Parks should not be over-embellished, regardless of whether they are managed by the city or another entity. Embellishments should be appropriate for the type and scale of park that is being provided. The capital costs of assets installed in parks, should consider low lifecycle costs, along with establishment costs. Thus, there is a need for assessment of cost effective infrastructures and services with regard to existing and upcoming parks.

3.1.5 Upcoming developments

• AMRUT PROGRAMME

Recreational facilities with regard to parks is one of the priority areas, identified under AMRUT. Thus, as a part of AMRUT scheme upgradation of selected existing parks and development of identified community parks is being taken up in Warangal. The details are as follows:

a) City level- Improvement of public gardens, Development of Wadepally tank bund park, improvement of children park , Balasamudram, development of Ekashila park

b) Community level- Development of Prasanth nagar park, exercise colony open space, open space in Balasamudram, Pragathi nagar park, park at SRT colony.

• 20 community parks are under proposal for developing in the city as part of Directorate of Town and Country Planning initiatives.

3.2 Future Plans of the City

The study on organized green spaces such as parks with regard to norms and standards was conducted for Warangal and it was observed that all the indicators fall in the low category when compared with the URDPFI Guidelines, Smart city guideline, urban green guidelines, etc. The indicators studied are provided in Table 8.

	Sub-Indicator
Availability	Total no .of existing parks
	% of existing parks with basic amenities available
	Per capita availability of existing parks in GWMC in sq.m
	Per capita availability of existing parks and vacant land in GWMC in sq.m
Approach and Access	% of population with access to parks within 0.5 km radius
	% of population commuting to existing parks by walking or running
Community involvement and behavior	The number of awareness campaigns held per year to promote and encourage adults sports participation and its reach
	The number of sporting events promoted and participation rates of those events
	The number of public-private partnerships undertaken to promote sports and physical activity participation
	% of community's perception of environment as it relates to physical activity - The proportion of children and youth who report being outdoors for several hours daily, and reporting well-maintained facilities, parks, and playgrounds which are also safe.
Monitoring	% of vacant land available , suitable for developing recreational facilities encroached
Operational and maintenance	Man power for maintenance and existing condition of parks as per Swachh parks guidelines

Table 8: Future plans of city

Source: ICLEI South Asia's analysis

After analysing the status of indicators, extensive discussions were held with the members of core group to understand the indicator wise existing scenario of the city, where the city perceives to see itself after next five years and what all initiatives it plans to take up to achieve its goals in next five years. The responses received from the committee members were mapped and are presented below in order to identify the following key parameters.

- Priority Indicator of the city
- Existing situation of the city with regard to the indicator
- Where the city perceives to reach after 5 years with regard to the indicator
- Initiatives the city has planned to achieve its goals.

AVAILABILITY

Existing Scenario 2018
Warangal city with about 10,88,000 population there are only 28 parks and 1 zoo available in the city i.e. 0.4 Sq.m per capita space available(organized green space), as against 3 Sq.m as per URDPFI guidelines.

By 2023
Availability of organized green spaces for all user in the city.

Initiatives
- Enhancing and upgrading existing park with children, old age, women and PHC friendly in the city, along with other user groups.
- Mobilizing funds from state and central level programmes like Amruth, Smart cities and mobilizing other available funds like CSR funds, PPP modals etc.

APPROACH AND ACCESS

Existing Scenario 2018
- There are few wards and communities where parks are not available and only source of recreation is city level parks.
- No parks are integrated with existing foot paths system and no infrastructure available for walking or bicycling, such as sidewalks or bike lanes etc.

By 2023
Safe and comfortable access to organized green spaces with in travel time of 10 to 15 minutes by walk, running etc.

Initiatives
Upgrading the existing approach roads to parks w.r.t to road safety and security adding value to overall road network of the city. For example: Warning signage, speed breakers, open drain closures, plantation, parking system etc.

COMMUNITY INVOLVEMENT AND BEHAVIOR

Existing Scenario 2018
Majority of the citizens visit existing community parks and city level parks once in a month or occasionally

By 2023
70% usage of existing parks in the city.

Initiatives
- IEC activities to encourage physical activities among the citizens at regular intervals involving local resources like yoga associations, dance classes, youth associations, etc.
- Out sourcing or making available existing parks and community halls for yoga classes, dance classes etc, creating an opportunity for community to take part.

OPERATIONAL & MAINTENANCE

Existing Scenario 2018
- Anti-social activities observed in few existing community halls.
- No optimum utilization of existing parks in the city.

By 2023
Fulfulling all the indicators as per swach parks- standard operating procedures, which lays out the infrastructure norms, assessment & inspection procedures and checklists and sanitation and waste management best practices to be followed in parks. Prescribed by MoUD(erstwhile MoHUA)

Initiatives
- IEC activity to develop sense of ownership among the community
- Involving the community participatory O&M models developed for existing and upcoming community parks in the city.
- Mobilization of CSR funds of O&M of parks in the city.

4 Outreach Initiatives

Moving ahead with the project activities in the city which included an overall assessment of the parks and open spaces in the city, the project team in consultation with the core group members, identified Shivay Nagar area (lying in ward numbers 9, 18 and 19) to carry out pilot interventions in the city. The total population of intervention area is 40,939 out of which 48% comprises of non-slum population and 52% comprises of slum population. As per the existing situation the study area has one community park in ward number 9, which is not functional but is used to store garbage and also has a compost plant within its premises. In addition to this, there are recreational facilities such as Ekashila park and Warangal fort at a distance of 2-4 km from the study area.

Figure 4: Ekashila Park under Redevelopment

Figure 5: Warangal Fort

4.1 Citizen Engagement

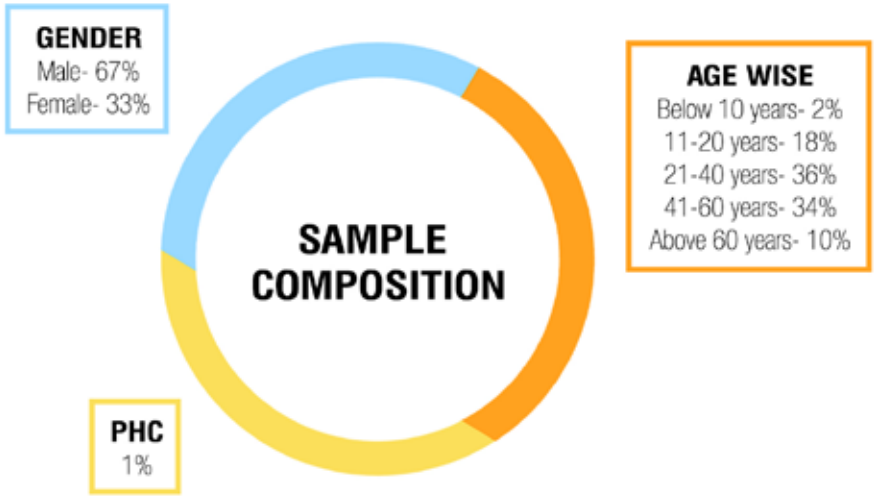
In order to engage with the citizens and understand the situation of ground level issues, the project team analyzed the presence of various stakeholders in the study area, in consultation with the core group members. This was followed by bifurcation of stakeholders into different categories such as welfare associations, women groups, school children and conducting one to one meetings and focused group discussions. The outreach initiatives undertaken by the project team are discussed below.

Primary Surveys

Primary surveys in ward numbers 9,18 and19 were carried out in order to understand the priorities of the citizens relating to recreational facilities or organized green spaces from different stakeholder groups, irrespective of their caste, gender and age. With a purpose to have an inclusive and heterogeneous sample, following set of stakeholders- old aged people, women, youth population; children were consulted during the primary surveys.

The objectives of the survey are listed below:

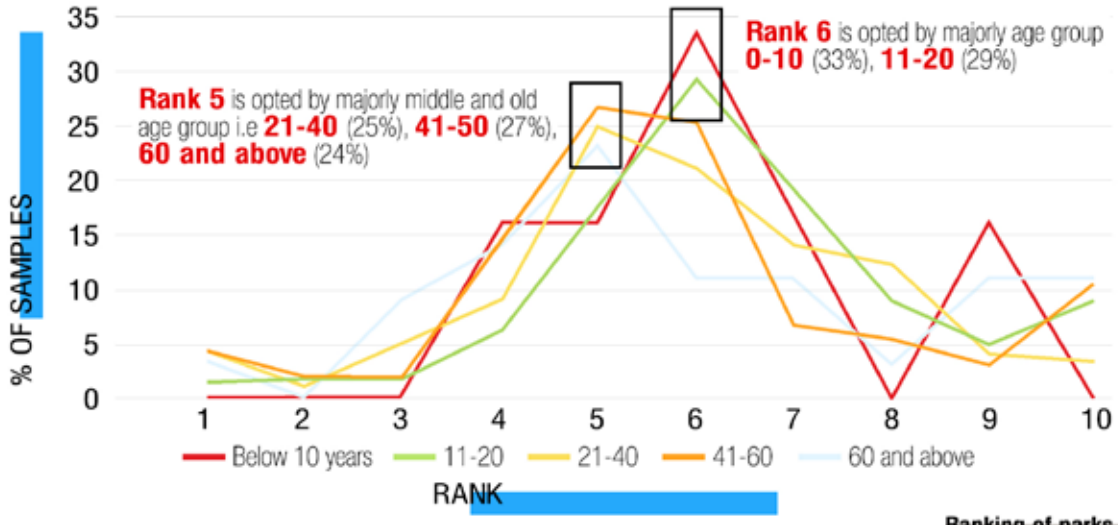
- To capture the need and demand for green spaces in Warangal
- To identify qualitative and quantitative indicators (facilities, services, standards etc) in consultation with the community.
- To validate scope of community participation in development, operational and maintenance of recreational facilities or parks.
- Sample details
  - Random sampling method was adopted for carrying out house hold survey with a sample size of 4%.
  - Range of 30% to 35% of sample from each intervention wards was taken (9,18,19 wards) for conducting primary surveys.
  - Sample comprised of 75% respondents from non – slum areas and 25% respondents from slum areas



The responses from the primary survey were compiled to understand the importance of parks for various stakeholders in the form of ranking. In terms of health, recreation and urban environment an attempt has been made to capture the perception of the community in the city. As part of the surveys, it was observed that on a scale of 1 to 10 (with 1 being the highest), majority of the respondents ranked parks services in range of 5 and 6, compared to other services like water supply, sanitation, drainage, solid waste management, schools etc. The graph below shows the importance of parks and open spaces to respondents falling in different age groups. The graph clearly indicates the preference of middle aged people towards parks and open spaces as compared to the respondents falling in the age group of less than 20 years

Ranking of parks as per its importance w.r.t to other services

(like water, sanitation, SWM, roads, schools, drainage, etc.)



Ranking of parks

Source: Project team

Primary surveys helped the project team to comprehend that park and open spaces have a great importance in the daily routine of the residents but at the same time it is felt that the surroundings, location, access, design of park, presence of facilities within the park/ open space play a very important role in optimum utilization of the park/ open space. The prominent suggestions from the respondents are listed below:

- A well designed park can improve health by providing spaces for exercise and relaxation as majority of the community visit for fresh air and peace.

- The respondents shared that parks should facilitate social networking, that can provide emotional relief and it was observed from the primary surveys that about 73% of the respondents visit parks with their family and about 13% of the respondents visit parks in a group.

- Accommodating multiple uses parks can welcome many users and maximize benefits to communities.

- As per the primary survey conducted the following pie chart shows the perception of the community with regard to travel distance where maximum percentage of people prefer to travel between 1-3 km only to reach a park/ open space.

4.1.1 Existing usage of parks and open spaces

Non-usage and infrequent usage of existing parks is a common phenomenon observed in Warangal. Non-user in context of Warangal is defined as the person who use the parks occasionally i.e. less than once in a month and infrequent users are those who visit parks at least once in a month. Similarly frequent users are those who visit parks weekly or daily. As per the primary sample survey conducted, it is observed that about 47% are non-users, 30% are infrequent users and 23% are frequent users in the city.

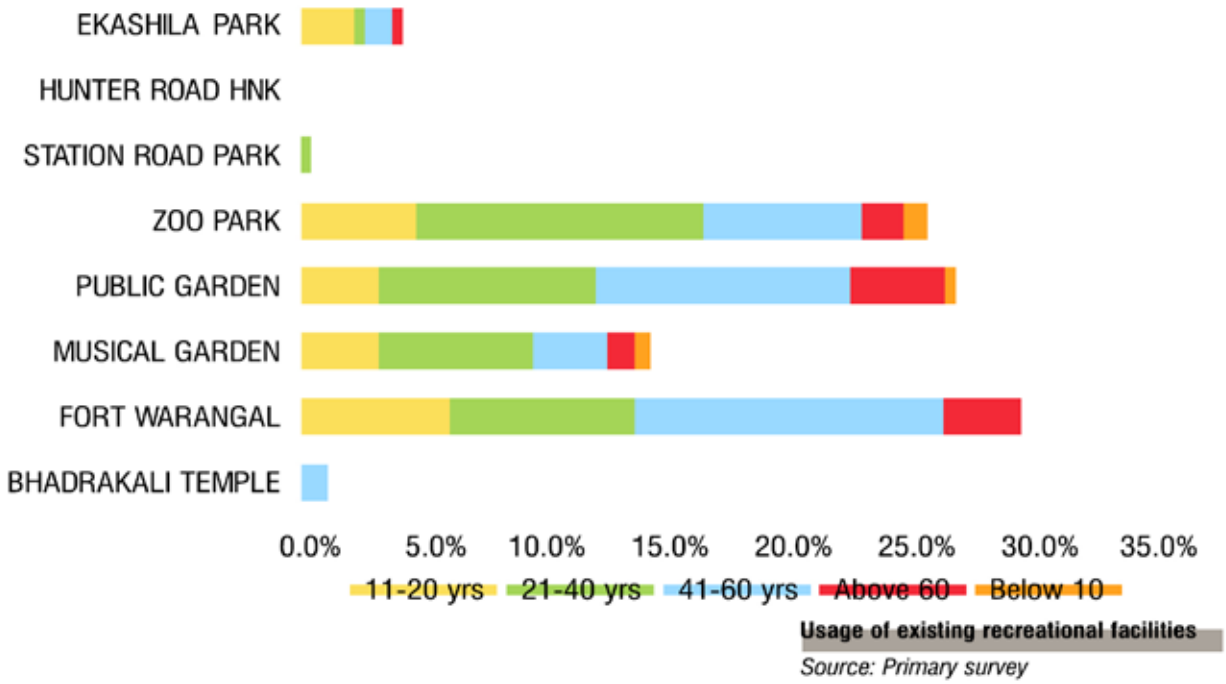
In terms of usage of parks based on the typology of parks, primary survey indicate the following preferences of the community with regard to available parks and recreational spaces at city level. The following were the observations:

- In all the age groups, Fort Warangal is a common option due to its proximity to the study area, where the primary survey was conducted.

- The station road park is located within the study area (Shivay nagar: survey area) but it is not used. The reasons expressed by the community as part of FGDs are

- As the park is abandoned due to its location at near railway station, encouraging unwanted visitors leading to illegal or anti-social activities.
- The park is not well maintained, the existing park equipment have corroded and are not in a condition to be used. As of now, the park is being used to dump garbage from the nearby areas and a small part of the land within the park is also being used as a compost site by the Municipal Corporation.

Age	First priorty	Second priorty	Remarks
Respondents below 10 years	66% of the respondents like to visit musical garden followed by 34% visit parks in the zoo	17% of respondents visit each Fort Warangal and public garden.	Both the recreational spaces have facilities catering to children needs like water shows, play areas, play equipment.
Respondents between 11-40 years	44% like to visit Fort Warangal	24% like to visit park in the zoo	This is due to the availability of infrastructure at park like benches, library, walking tracks, sports areas, food courts, and site seeing etc which cater the needs of this age group.
Respondents of 41 years of age and above	42% respondents prefer visiting Fort Warangal	30% who prefer visiting public garden	The public garden has walking track and library catering old age groups.

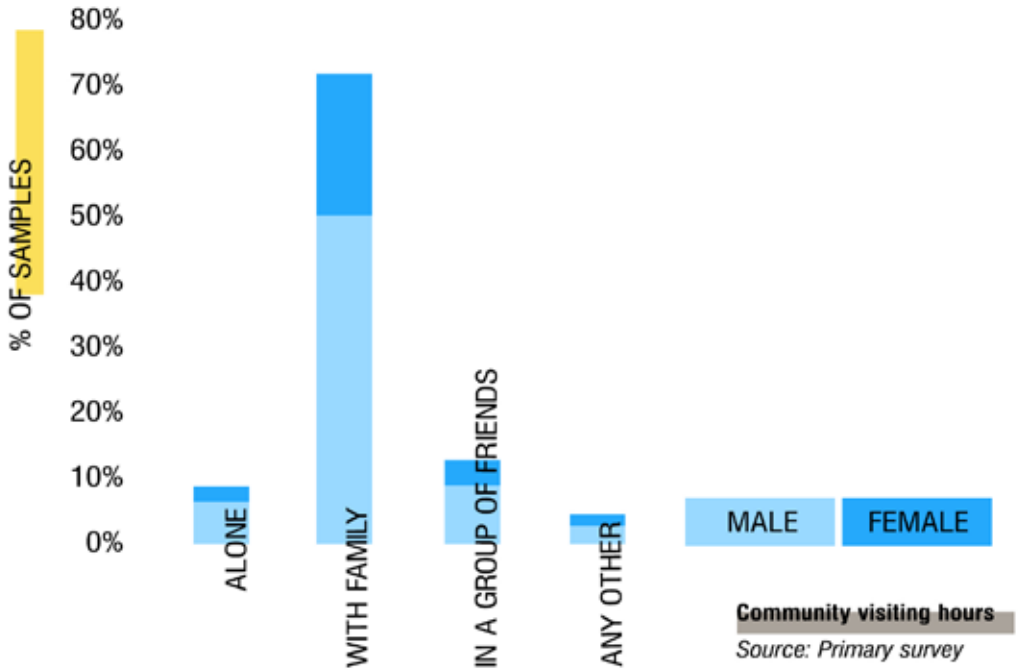


Usage of existing recreational facilities

Source: Primary survey

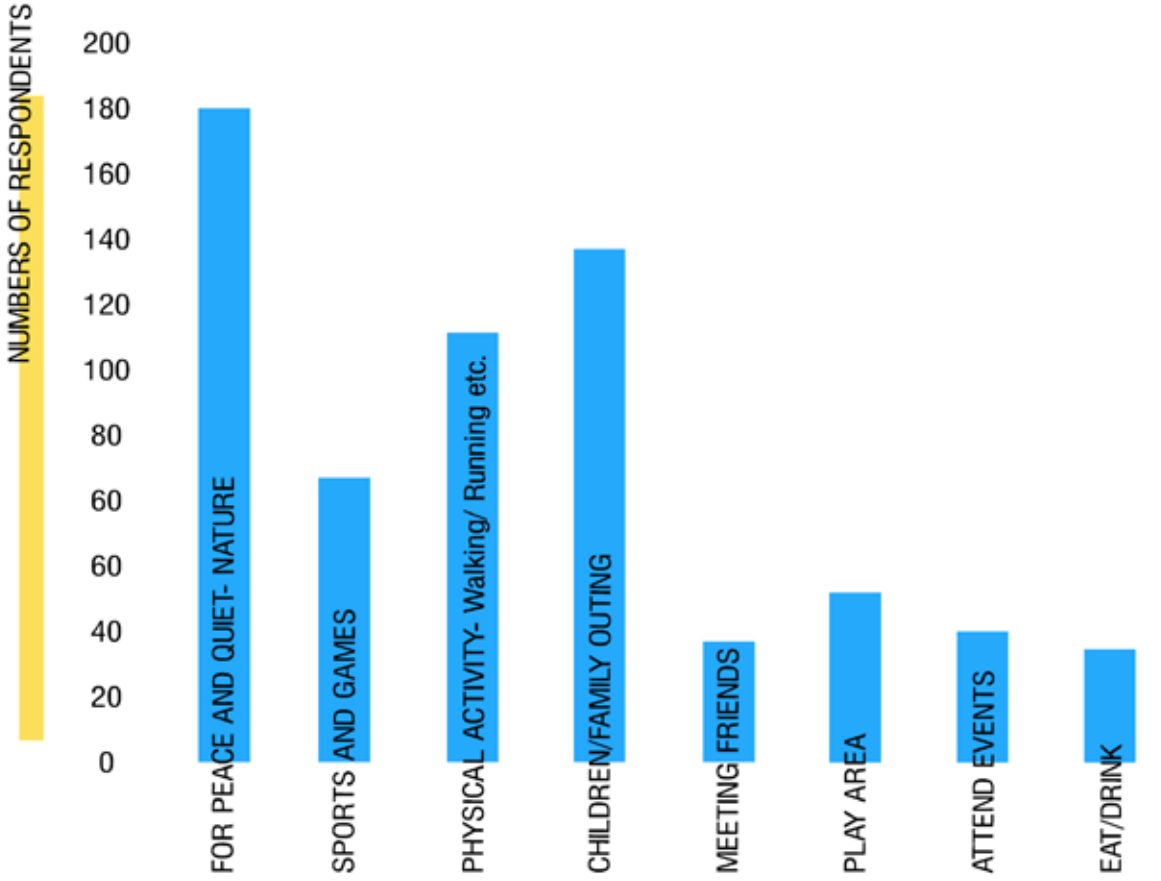
The usage pattern in terms of purpose of the visit to existing parks is captured as part of the primary survey. The following graph provides the purpose and visiting scenario of the community followed by observations

COMMUNITY VISITING SCENARIO



Community visiting hours

Source: Primary survey



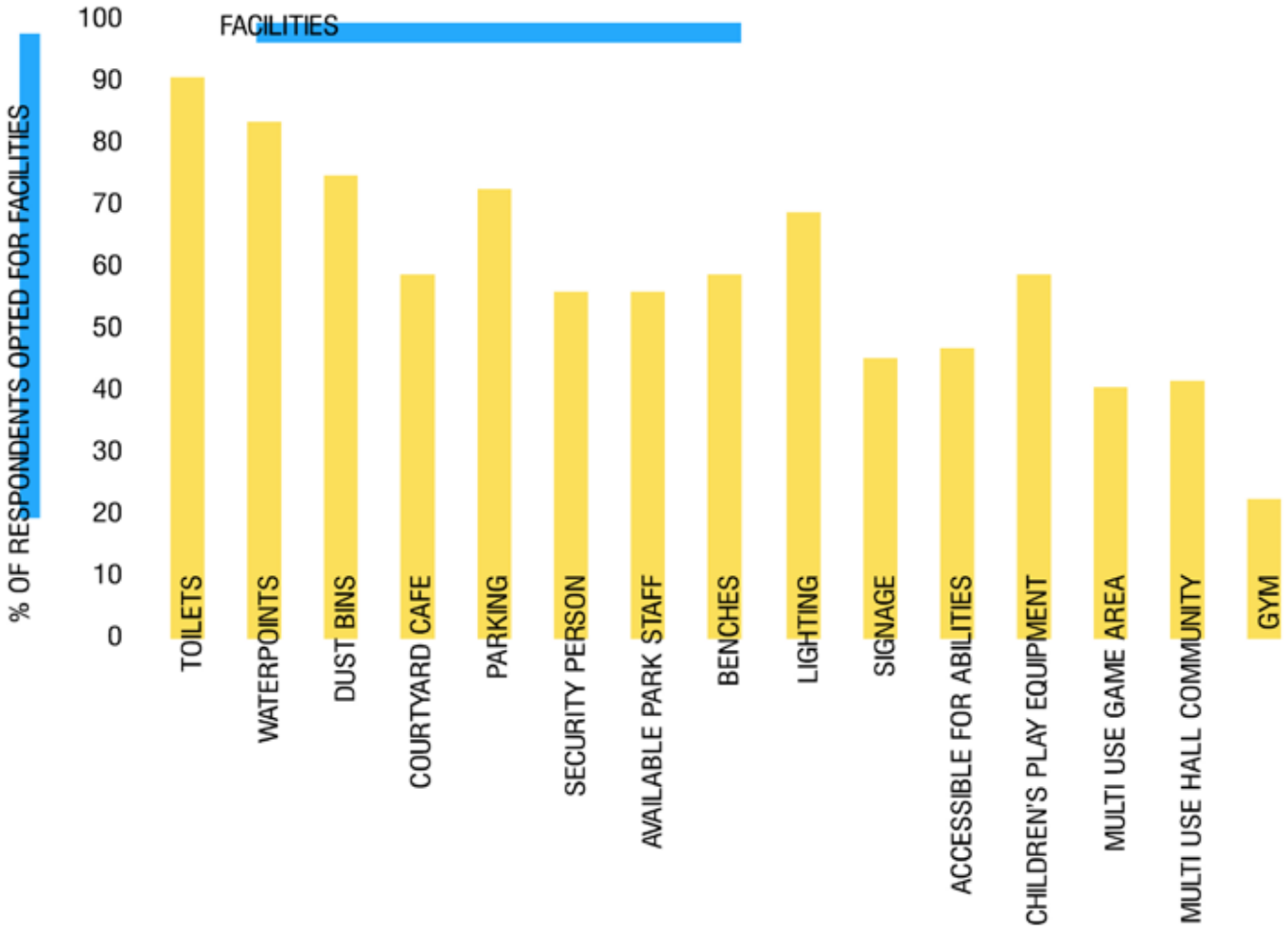
Community visiting hours

Source: Primary survey

5 Facilities & Services

An attempt was made to capture the demands and needs of the community with regard to park facilities and services. As part of primary survey it is analyzed that top six priority facilities needed in the parks as felt by the community are toilets, water points, dust bins, parking area, lighting facility and children play area.

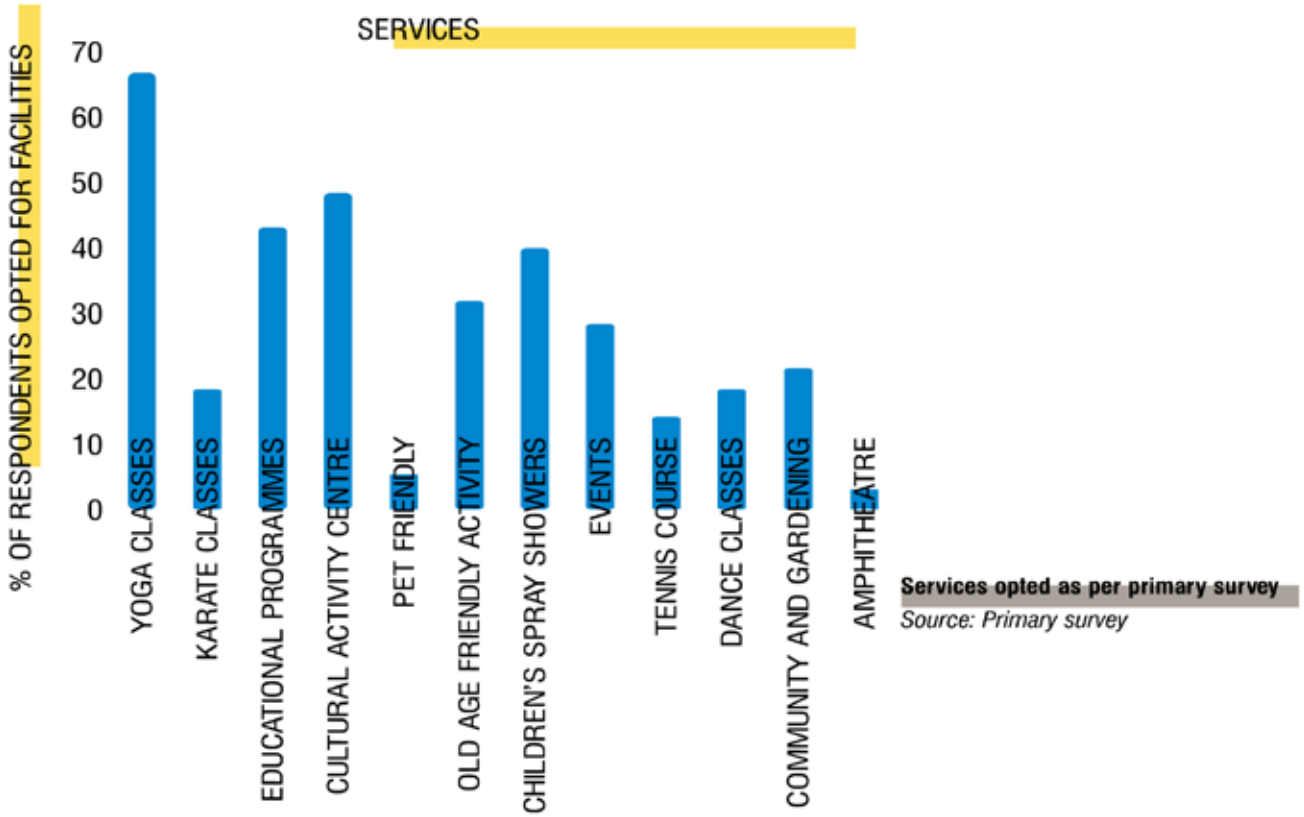
The following graph provides an over view of the observations on the facilities as per inputs received in the primary survey.



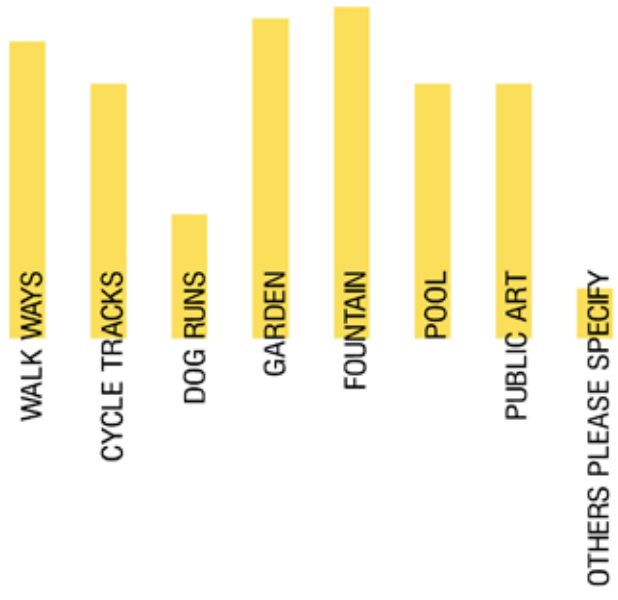
The top three priority services needed within the parks, as felt by the community are;

1. Yoga class
2. Cultural activity centre
3. Educational centres

The following graph gives an over view of the observations with regard to services.



Services opted as per primary survey
Source: Primary survey



Facilities opted as per primary survey
Source: Primary survey

5.1 Focus group discussions (FGDs)

Focus group discussions involving people from similar backgrounds or experiences together to discuss open spaces in the study area were conducted in the study area in Warangal. The discussions revolved around the stakeholder's perceptions, attitudes, beliefs, opinions and needs about open spaces.

The groups consulted from the study area during the FGDs included Shiva Nagar Welfare association which works on community development, retired teachers welfare association which contributes to the welfare and development of community, Vanitha women's group involved in social work, self-help groups of women and school children. The discussions with various groups helped the project team to understand that the amount of time being spent by the young children in parks and open spaces has reduced considerably due to reasons such as absence of parks and open spaces offering healthy physical and playful activities along with the coming up of malls and supermarkets.

During the discussions, it was revealed that the housewives and old aged women visit the parks in their vicinity, indicating the requirement of adequate parks with facilities and convenient access to the parks for females. In addition to the above, the residents emphasized on incorporating the rich heritage, culture and natural existing features into the design of parks and open spaces in the city.

Glimpses of Focussed Group Discussions

Glimpses of Focussed Group Discussions

As per the FGDs, it is understood that the major barriers for usage of parks relate to bad visual conditions, substandard services offered, safety issues and low environmental quality etc. The following suggestions were shared by the community during FGDs:

• Residents use parks/ open spaces only if they feel safe in it. Thus,
- Parks must be designed to reduce the opportunities for criminals and/or anti-social behaviour and to create public spaces that people feel comfortable in without fear for their wellbeing.
- Parks should be located where they are easily visible from the street or surrounding activity areas creating passive surveillance.

• Parks should be located adjacent to activity generators which can create synergy, that will increase the use of the park and the adjacent activity generator. For example if parks are located adjacent to public libraries, this create opportunities for exploring ideas such as outside reading, outside learning etc.

• The discussions focused on exploring local history and stories of the area to incorporate into the planning and design of the park. This will foster community interest and ownership much more than 'generic designs'.

• During the focus group discussions, it was learnt that the majority of the community uses motorized forms of travel and only 8% prefer walking. This is due to the non- availability of community level parks that can serve all age groups and gender with easy access.

• It is also learnt that there is lack of proper and safe access to parks due to the absence of walk ways and cycle tracks. The discussions focused on safe and convenient access to parks/ open spaces being a key aspect towards usage of the facility, along with easy and safe access to the neighborhood park. A neighbourhood park can be enjoyed only if everyone can easily and safely get there, whether by walking, rolling, biking, taking public transit, or driving a car. Parks are as much a part of neighbourhoods as local schools, housing, and businesses, and creating safe routes to parks. The community shared their perception that people living within walking distance of a park are more likely to use parks and have higher physical activity levels than residents who live farther away.

6 Conclusion

Based upon the assessment of existing parks and open spaces along with the feedback received from the respondents during primary surveys and focussed group discussions, following principles have been identified.

ACCESSIBLE- Accessible and equitable for the entire community

This principal aims to increase land under the parks and recreational spaces in areas that have far lesser parks than other parts of the city. It also aims to create an equitable infrastructure for all, which includes vulnerable groups like old age, people with special needs, people belonging to low income groups. It also aims at ensuring safe and convenient access to parks.

SAFE- Provide a safe and user friendly environment

This principal aims to promote safety because it is as much a public issue as a matter for police and the justice system, since violence and fear of violence increases the risk of poor outcomes. The level of comfort that a person feels when using a public space or park is directly related to the level of safety that they feel and perceive.

ENGAGE AND ACTIVATE- Relevant to community needs and expectations

This principal aims to engage and activate the users of the parks. The facilities such as park/ open space should respond positively to the natural environment and to local community values and needs. It is important that the design of public parks is innovative in its design with regard to form and function to existing environment and surrounds.

VISUALLY APPEALING-Operation and Maintenance

This principal aims to make the parks/ open spaces self-sustainable by promoting workable feasible financial models. Maintenance is the key to operate parks that are visually attractive and encourage users. Thus, comprehensive operation and maintenance model in terms of design and maintenance is required for sustainable park services.

7 Additional Assistance

7.1 Guidelines for parks development

About 294.5 acres of land is available in Greater Warangal Municipal Corporation (GWMC) for development of organized green spaces. This can improve per capita availability from 0.4 sq.m to 2 sq.m, which is still less than 3 sq.m (as prescribed in URDPFI). Thus, there is a need for judicious and strategic planning and development in order to cater the recreational needs of the city. The city has access to national level guidelines listed below for developing desired park system. The available guidelines provide basic inputs for planning and management, leaving window for the planners, managers and decision makers to develop city specific norms at local level.

URDPFI guidelines- These guidelines direct towards balanced development of urban settlements by providing basic norms and standards for all land uses, infrastructure and services in which open spaces is one of the component.

Urban green guidelines 2014- The objective of these guidelines is to provide practical strategies to integrate urban greenery with built environment which include conservation of environmental sensitive zones, control over encroachments of available open and green spaces etc.

Swachh parks guidelines- These are developed by Ministry of Housing and Urban Affairs, providing norms and standards for managing operations and maintenance aspect for existing and upcoming parks.

There is need for detailed and city specific guidelines and principles, supporting the city government i.e. Greater Warangal Municipal Corporation for developing strategies and plans accordingly. Thus, this manual is developed to provide the required support to Warangal city to overcome the limitation for developing spaces like parks, play grounds etc.

The guidelines developed as part of European Union supported project "Promotion of Inclusive, Sustainable growth and diversity to strengthen Local governments (PROMISE to strengthen local governments)" is one of the key outputs of the project.

8 Recommendations

Open spaces or parks in the city have potential role in addressing community issues, as they create an opportunity for the residents to spend time together, breaking the barriers amongst each other. It is clear that primarily, improving open spaces is related to accessibility, quality of environment, design, overcoming the existing barriers faced by wide range of community. This could be achieved by planning and designing the open spaces considering the technical, community level and local factors. Some of the interventions identified for Warangal and study area with respect to parks and open spaces are listed below.

8.1 Institutional frame work

This includes aspects like governance, community participation, prioritization, decision making and management. As discussed in the rapid assessment section, urban open spaces in Warangal are managed by horticulture department, which has the perspective and expertise of plant cultivation and management. Therefore, the perception and expertise in terms of connecting the open spaces to leisure, environmental and education is absent. In addition to this, there is fragmented responsibility in terms of ownership, management, maintenance and decision making for open spaces, leading to barriers in community participation. There is need for holistic approach and structure for managing and developing open spaces in the city. Thus, the city has to develop a committee with an agenda for holistic development of open spaces in the city. The team should incorporate expertise from urban planners, engineers, architects, Roads and Bridges department, local police, local representatives, lawyers, local experts, community representatives, accountants and others. This integration will create precondition for innovative approach towards holistic development. The team formation is the first stage of approach for parks development in the city. eg City Core group formed for PROMISE Project

In addition to the Core Committee, there is need for involvement of other experts for development and improvement of new and existing open spaces in the city.

The institutional structure and process should involve a wide range of stakeholders, considering the following parameters

The following are the identified roles of the stakeholders who play a key role in improving/ developing organized green spaces in the city:

Town Planning Officer, GWMC

- Should control over encroachment of available vacant land in the city, based on the building by –laws available as per town planning act.
- Ensure controlled development around the existing parks and recreational spaces as per the norms and standards described.

Horticulture officer, GWMC

- Should identify suitable plantation in the parks and other organized green spaces according to the plantation norms in the area.
- Should monitor the operation and maintenance of the organized green spaces as per Swachh Bharat guidelines in co-ordination with sanitation department.

Engineer and Architect

- Should be involved in the design and plan for the approved programmes and projects as per the norms and standards. The officer should be responsible for monitoring and guiding the technical norms at local level for site specific developments.
- Should participate and be involved in stake holder consultations to understand location wise inputs and suggestions and incorporate the same in the plan and design of any organized green space development.
- Should consult with the Landscape Architect for detailed land scape zoning and analysis for designing organized green spaces.

Chief City planner, Kakatiya Urban Development Authority

- Should incorporate organized green spaces as a part of master plan considering future growth and demands.
- Ensure judicious use of the vacant land as per the land use suitability

Circle officers and Mission for elimination of poverty in municipal areas (MEPMA) city level team

- Should facilitate community level stake holder consultations in different forms and levels.
- Should facilitate on ground activities in terms of existing situational assessment, construction, monitoring etc.

Community representatives and groups

- Should facilitate community level stake holder consultations in different forms and levels.
- Should present the community views to the decision makers and designers formally.

8.2 Enhancement of usage of existing parks in the city

The usage of the existing parks in the city should be improved by involving community and organizing a series of city level and community level drives, involving local resources like local yoga teachers, dance teachers, sports teachers etc. Some of the examples of the drives are world yoga day, events like 10 km run, 10 km cycling etc.

The recreational initiatives should be incorporated in the city level Information Education Communication (IEC) initiatives planned as a part of programmes like AMRUT, Smart City and HRIDAY etc. In addition to this the city has funds like MLA funds and Corporator funds, a portion of which is haphazardly used in developing parks and community halls. These funds can be directed toward activities encouraging usage of parks and inculcate recreational and healthy activities among citizens.

8.3 Identification of potential space for parks

As discussed earlier the per capita availability of parks in the city is 0.4sq.m. The additional open spaces have potential to increase per capita availability from 0.4sq.m to 0.5sq.m. Thus, there is a need for identifying more potential spaces in the city. Some of the recommended potential spaces in the city are

1. Amenity spaces- Spaces landscaped for amenities and government owned open spaces available with services are considered as Amenity spaces. Landscape spaces act as buffer and add to the green spaces in the city, contributing to the overall city environment. Considering the dearth of availability of land in the city, some of the amenity land scape can be used as shared services.

• Typology: Government schools, institutional grounds and open spaces like Kaktiya University, NIT University, and Forest area buffer etc. In addition to the institutional spaces, areas like electric transfer stations, and overhead water reservoir buffer area should be developed as green spaces.

2. Natural heritage and culture- Being a heritage and a tourism city, in terms of recreational spaces/ parks, the city has land available along with the water body, at heritage sites and other cultural facilities like temples. These lands should be developed and used as a park/open space.

• Typology: Water front areas, famous cultural places like temples, heritage sites etc. These can be used at district/ city/local level, based on the size of land available and type of service in terms nature, culture or heritage offered.

8.4 Periodic assessment of park demand

Considering rapid urbanization and lack of land availability, it is suggested to have a detailed assessment of open spaces periodically. The assessment cycle should be about 5 to 10 years, similar to master plan development.

Some of the key performing indicators for assessing the existing service delivery of organized green spaces are
1. Per capita availability of space for organized green spaces-city level and ward level
2. Percent of households having access to play grounds/parks/ tot-lots in 0.4 km.
3. Existing number of neighbourhood community level parks, ward level recreational facilities as against the desired number as per the standards prescribed.
4. Utilization factor of existing spaces- Existing number of users as against total user capacity.

This enables to assess the city level demands and gaps, directionally guiding the decision makers and planners towards planned development of organized green spaces in the city, delivering optimum services for existing and growing population. The available vacant land in the city should also be assessed and categorized into different typology as prescribed in the guidelines for organized green spaces, developed as part of PROMISE project.

In addition to the city level assessment, a detailed existing vacant land or land available for developing organized green spaces is required. The municipal officials including horticulture department, municipal engineer and city planner, should be involved in site assessment based on following aspects.

• **Site history-** land use, existing usage, historic drain conditions and flood history etc.
• **Site context-** social factors, legal factors, surrounding land use and environment etc.
• **Site condition-** topography, capacity, location, existing services nearby and future planner services etc.

Based on the city level demand, on ground land availability and site conditions, existing and new open spaces/ parks are categorized in to the different typology of parks as discussed in the guidelines for organized green spaces, developed as part of PROMISE project.

8.5 Community halls in to indoor community physical activities

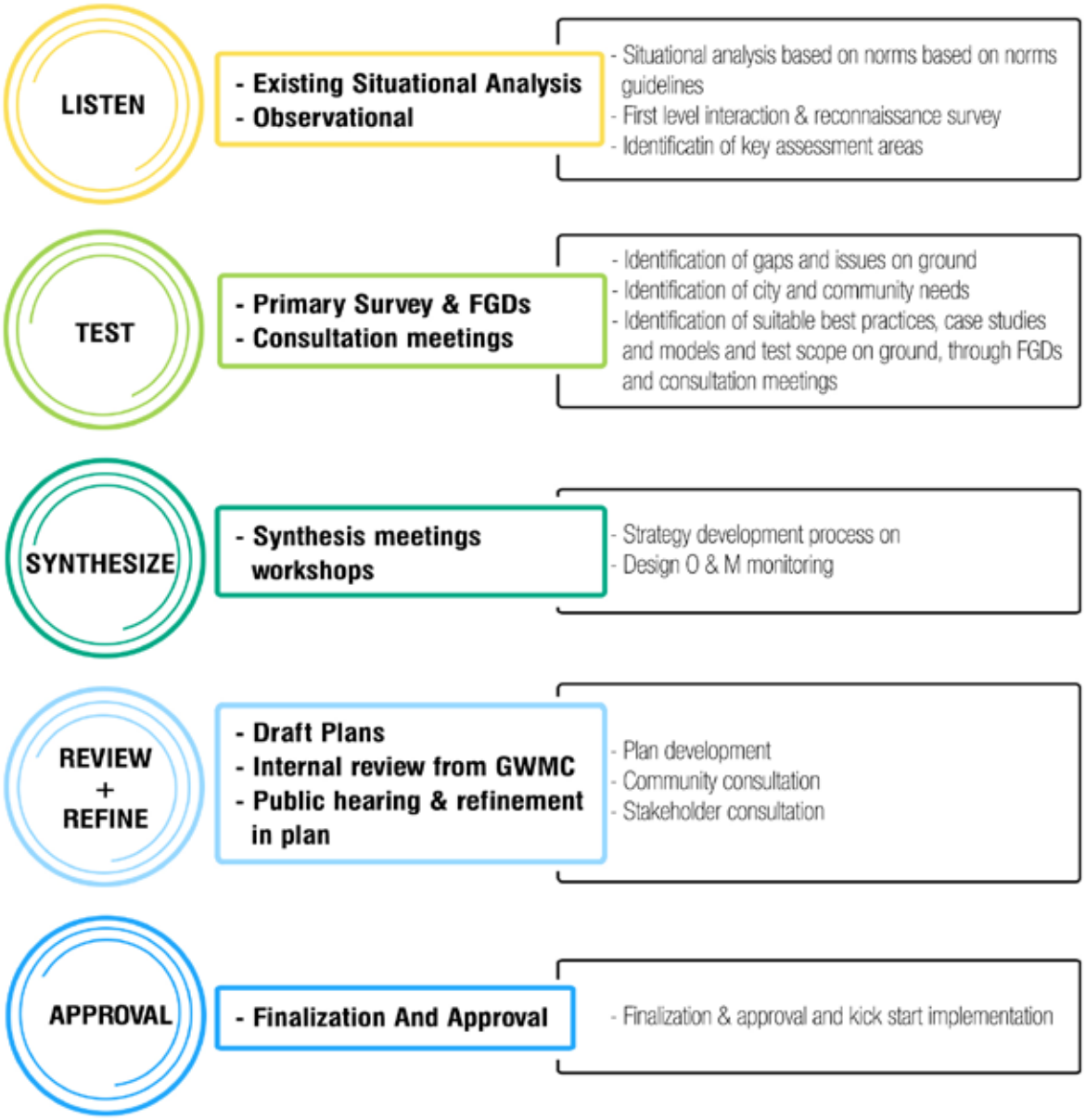
Rapid urbanization is the key process that is initiating various opportunities and threats at the same time. The major effect of this process has given rise to a major drawback, obstructing any economic growth .i.e., land unavailability. Public health and fitness are considered to be the primary objectives for improving recreational and organized green spaces in the city. Hence, the judicious utilization of community halls in the city can help in tackling the space issue for such activities that help in improving the health and fitness standards of the city.

Converting the existing community halls as indoor play areas/ spaces, will encourage the existing city groups to participate more actively in improving the fitness standards. The yoga groups, gym groups, fitness groups, sports groups in the city clubbed with indoor spaces available for the community halls have the potential to cater to the community needs in a large scale. As per the primary surveys, conducted by the project team, the basic community needs identified for include spaces for yoga, meditation, and other fitness programs.

It is also observed that large scale funds will not be required for this intervention except few detailed discussions and aggressive follows ups with the existing yoga and meditation centers, fitness programmes available in the city will help to strengthen the initiatives at community level in the city.

8.6 Conceptualization and design of open spaces through active citizen engagement

To develop city and site specific usable and acceptable design, it is also important to capture the indigenous characteristics with regard to open spaces at local level and eventually develop a concept for city level. This should be done in community participatory method to identify the local community needs. The identified avenues to reach out to the community in Warangal are provided below:



The stakeholders to be consulted at local level and city level before conceptualizing the park design should include the following:

Local level- Self-help groups, women, school children, community welfare associations, youth groups, active women groups, old age welfare associations, local clubs and municipal staff at local level comprising of sanitary workers, park cleaners etc.

City level- Ward councillors, local leaders, active NGOs, retired teachers associations, donor agencies and municipal officials.

The above mentioned stakeholders can be reached out through primary surveys and focus group discussions. The inferences from the surveys and group discussions would enable to identify the needs of community with regard to different age groups and gender. The surveys and group discussions should be conducted in areas where there is ample availability of users such as schools, parks, old age homes etc. Based on the inputs received from the community along with the available standards, principles and guidelines, conceptual design for park/ open space should be developed.

The design should then be shared with the core group members formed for park development and after finalization, the design should be shared with the community for suggestions. This will help in creating a sense of ownership with in the community towards the parks/ open spaces and also ensure judicious utilization of existing resources.

8.7 Operation and maintenance

In addition to the manpower improvements at municipal level, effective partnerships between a local authority and community groups, funding agencies and business can result in significant added value, both in terms of finances and quality of parks or recreational spaces. Therefore it is important to have a self- sustainable financial model for operating and maintaining open spaces. Some examples of such successful models include public garden maintenance through PPP in Ahmedabad, community based park in Deen dayal nagar colony, Hyderabad and Kankaria lake front development in Ahmedabad. These examples are briefly discussed below.

Case 1- "Public garden maintenance through PPP - a case of Ahmedabad, India"

Ahmedabad Urban Development Authority (AUDA) offered Anand Milk Federation Union Limited (AMUL) to maintain their gardens and in return AUDA would allow AMUL to put up a retail shop in the AUDA garden. The revenue from the shop would contribute to pay for garden maintenance. The size of the retail shop and its location within the garden was decided collaboratively by AMC and AMUL. AMUL was responsible for the complete cost of garden maintenance starting from- civil work maintenance, plants and fertilizers, maintaining children play equipments, electricity and electrical maintenance and cost of manpower (gardener, supervisor, watchman and sweeper).

For better service delivery and to get the expertise of environmental maintenance, AMUL approached Gujarat Environmental Service Society (GESS), a trust which was established by group organizations. It was established to promote and improve the environment of the society in general and to improve the surrounding environment of the organization premises in particular. AMUL entered into a contract for garden maintenance with GESS, where GESS was paid as per the actual cost incurred for the maintenance of the gardens and a fixed percentage of the expenditure as its profit. Having a single agency for the maintenance has helped AMUL decrease their effort and the continuity has helped in the improvement of the gardens.

Advantages

- AMC/AUDA: They save the major cost of Garden Maintenance which involves civil work maintenance, plants and fertilizer, maintaining children play equipment's, electricity and electrical maintenance, cost of manpower (gardener, supervisor, watchman and sweeper).

- AMUL gets a prime location in Ahmedabad for advertising its products; it strengthens its brand image and gets a platform to stay in direct contact with the customers.

- People of Ahmedabad get good maintained gardens, healthy environment plus milk and milk products at the nearest location.

- GESS: A good platform for fulfilment of the trust's objective, employment to hundreds of workers. (Due to the stability of the contract; the workers get Provident Fund, Workmen Compensation Policy, Group Insurance, Employment deposit link insurance which generally a garden worker would never get)

Case 2 – Community based park in Dendayal Nagar colony, Hyderabad

Dendayal Nagar Community Park is a community based park in Hyderabad. The land was made available by Greater Hyderabad Municipal Corporation (GHMC) for the development of park. The land was identified by the local community and was appealed to GHMC through local representatives for land allotment.

Dendayal Nagar colony association along with other active groups like old age welfare association, women welfare association came together and mobilized funds from the community along with other donations from local Corporator, MLA for development of the park. This has created a sense of ownership and responsibility among the community towards park. The park has components fulfilling the needs of the local community i.e. walking track, community based nursery, different rooms for welfare association offices along with room for gym and open space for community based activities like pooja, functions, gatherings etc.

The source of funds for maintenance are captured from nursery and part of donations collected by all local level welfare associations are used for park maintenance. This model demonstrates community based self-sustained service delivery.

Advantages

- Community: Fulfilment of their need for a recreational along with a community space for nurturing their daily activities in terms of health and harmony of the community.

- GHMC: Saved lot of money both in terms of capital and operation and maintenance.

Figure 6: Community hall with park

Figure 7: Community nursery activity with in Community Park

9 Annexures

Annexure 1- % of people having access to parks within 1-1.5 km

Ward Number	Population	Population density	Extent of area covered under 1.5 radius of existing parks	Population having access to parks within 1.5 Km distance	% of population with access in 1 to 1.5 Km
1	14838	706	0	0	0%
2	14780	2117	0	0	0%
3	13146	647	0	0	0%
4	12858	9126	0	0	0%
5	13638	771	0	0	0%
6	14371	848	0	0	0%
7	13950	497	0	0	0%
8	13151	477	27.55	13151	100%
9	14295	2212	6.46	14295	100%
10	13713	335	40.97	13713	100%
11	12754	1599	7.98	12754	100%
12	14970	18023	0	0	0%
13	14990	750	19.98	14990	100%
14	15133	495	30.55	15133	100%
15	15415	645	23.91	15415	100%
16	14430	1820	7.93	14430	100%
17	12896	522	24.7	12896	100%

Ward Number	Population	Population density	Extent of area covered under 1.5 radius of existing parks	Population having access to parks within 1.5 Km distance	% of population with access in 1 to 1.5 Km
18	13368	401	33.34	13368	100%
19	13228	10157	1.3	13228	100%
20	13160	5516	0	0	0%
21	13702	5879	0	0	0%
22	13578	8682	0	0	0%
23	13553	24473	0	0	0%
24	12823	19758	0	0	0%
25	12960	8463	0	0	0%
26	12800	34595	0.37	12800	100%
27	12910	31940	0.4	12910	100%
28	15492	21697	0.71	15492	100%
29	15429	17340	0	0	0%
30	12762	14827	0.86	12762	100%
31	14436	21201	0.68	14436	100%
32	14222	9729	1.46	14222	100%
33	14055	3163	0	0	0%
34	15208	14209	0.11	1521	10%
35	15458	45626	0.08	3865	25%
36	14069	26834	0.13	3517	25%
37	13017	12804	1.02	13017	100%
38	15091	7991	1.89	15091	100%
39	14112	11916	1.18	14112	100%
40	12775	8530	1.5	12775	100%
41	13770	2886	4.77	13770	100%
42	14214	1590	8.94	14214	100%
43	12914	2156	5.99	12914	100%
44	13188	7813	1.69	13188	100%
45	15475	8476	1.83	15475	100%
46	15170	9574	0	0	0%
47	13494	22389	0.6	13494	100%
48	14949	27067	0.55	14949	100%
49	14075	30832	0.46	14075	100%
50	15153	15215	0	0	0%
51	13267	10985	0.6	6634	50%
52	13878	5983	0.58	3470	25%
53	15329	15367	0.25	3832	25%
54	15491	12963	0	0	0%
55	15536	12242	0	0	0%
56	14199	9415	0	0	0%
57	15040	3372	4.46	15040	100%
58	15281	5027	0	0	0%

Annexure 2- Area wise requirement of Parks

Ward Number	Population	population not having access	NO. of housing area park required	Required area for housing area parks in acres	No. of Neighborhood area park required
1	14838	14838	3	4	1
2	14780	14780	3	4	1
3	13146	13146	3	3	1
4	12858	12858	3	3	1
5	13638	13638	3	3	1
6	14371	14371	3	4	1
7	13950	13950	3	3	1
8	13151	0	0	0	0
9	14295	0	0	0	0
10	13713	0	0	0	0
11	12754	0	0	0	0
12	14970	14970	3	4	1
13	14990	0	0	0	0
14	15133	0	0	0	0
15	15415	0	0	0	0
16	14430	0	0	0	0
17	12896	0	0	0	0
18	13368	0	0	0	0
19	13228	0	0	0	0
20	13160	13160	3	3	1
21	13702	13702	3	3	1
22	13578	13578	3	3	1
23	13553	13553	3	3	1
24	12823	12823	3	3	1
25	12960	12960	3	3	1
26	12800	0	0	0	0
27	12910	0	0	0	0
28	15492	0	0	0	0
29	15429	15429	3	4	1
30	12762	0	0	0	0
31	14436	0	0	0	0
32	14222	0	0	0	0
33	14055	14055	3	3	1
34	15208	13687.2	3	3	1
35	15458	11593.5	2	3	1
36	14069	10551.75	2	3	1
37	13017	0	0	0	0
38	15091	0	0	0	0
39	14112	0	0	0	0
40	12775	0	0	0	0
41	13770	0	0	0	0

Ward Number	Population	population not having access	NO. of housing area park required	Required area for housing area parks in acres	No. of Neighborhood area park required
42	14214	0	0	0	0
43	12914	0	0	0	0
44	13188	0	0	0	0
45	15475	0	0	0	0
46	15170	15170	3	4	1
47	13494	0	0	0	0
48	14949	0	0	0	0
49	14075	0	0	0	0
50	15153	15153	3	4	1
51	13267	6633.5	1	2	0
52	13878	10408.5	2	3	1
53	15329	11496.75	2	3	1
54	15491	15491	3	4	1
55	15536	15536	3	4	1
56	14199	14199	3	4	1
57	15040	0	0	0	0
58	15281	15281	3	4	1
Total	817959	377012.2	75	93	25

Annexure 3- Output of Critical Analysis

Land GIS codes	SL.NO.	Name of the park	Total score	Color code	Existing condition	Typology of park
139001	1	Ekashila Park At Balasamudram, Hanamkonda	0	BAD	Under Construction	City level
130002	2	Government Parking Place Hanmakonda	20		Open to use	Community/ Neighborhood park
142001	3	Park Opp Yadav Nagar Kuc Road	20		Open to use	Community/ Neighborhood park
146005	4	Park At Vidyanagar, Vidyaranyapuri, Hanamkonda	20		Open land	Community/ Neighborhood park
149002	5	Park At Excise Colony Road No 4e Near Market	20		Open land	Community/ Neighborhood park
151006	6	Park At Prasanth Nagar Phase-1 Near Waddepelli Cheruvu	20		Open land	Community/ Neighborhood park
152003	7	Somidi Park, Kazipet	20		Open land	Community/ Neighborhood park
153001	8	Park At Surya Kuteer Dharmasagar Road Madikonda	20		Open land	Community/ Neighborhood park
153002	9	Park At Surya Kuteer Dharmasagar Road Madikonda	20		Open land	Community/ Neighborhood park
137005	10	Kaloji Park At Pragathi Nagar Phase-2 Rd No 2	26		Under Construction	Community/ Neighborhood park
138003	11	Park At Ramarao Colony, Vidyuth Nagar, Near Vishnupriya Garden	26		Under Construction	Community/ Neighborhood park
139032	12	Park Near Public Garden	26		Traffic island	Community/ Neighborhood park
149006	13	Park At Bhavani Layout, Kanaka Durga Colony	26		Under Construction	Community/ Neighborhood park
130001	14	Park Opposite 1000 Pillar Temple Hanmakonda	40		Open to use/Neighborhood park	Community/ Neighborhood park
139009	15	Park At Balasamudram Hanamkonda	40		Open land	Community/ Neighborhood park
139005	16	Children's Park At Balasamudram Hanamkonda	40		Open to use	City level
144010	17	Park, Pochammakunta	40		Open land	Community/ Neighborhood park
149004	18	Pranaya Park At Pranaya Circle, Subedari	46		Traffic island	Community/ Neighborhood park
156009	19	Vijay Nagar Gandhi Park, Hasanparthy	46		Traffic island	Community/ Neighborhood park
156013	20	Gandhi Park Beside Market, Hasanparthy	46		Traffic island	Community/ Neighborhood park

Land GIS codes	SL.NO.	Name of the park	Total score	Color code	Existing condition	Typology of park
137002	21	Park Near Pranaya Circle, Revenue Colony	77	AVERAGE	Open to use	Community/ Neighborhood park
137007	22	Children's Park At Pragathi Nagar Phase-2, Rd No 2	97		Open to use	Community/ Neighborhood park
139022	23	Park Near Jai Prakash Nagar	97		Open to use	Community/ Neighborhood park
150006	24	Waddepalli Park Near Pingli College	97		Open to use	Community/ Neighborhood park
151012	25	Eco Tarang Park On Bund, Waddepally	117	BETTER	Under renovation	City level
111020	26	O City Park 2 At Narsampet Road, Kasibugga	127		Open to use	Community/ Neighborhood park
121001	27	Park At Totlawada,Karimabad Gudu Bavula Park	127		Open to use	Community/ Neighborhood park
137004	28	Park Beside Sri Seetha Rama Anjaneya Temple At Revenue Colony	127		Open to use	Community/ Neighborhood park
139016	29	Public Garden, Near Petrol Pump, Hanamkonda	127		Open to use	City level
149010	30	Rajeev Park At Excise Colony Rd No 4e	127		Open to use	Community/ Neighborhood park
151003	31	Children's Park At Siddhartha Nagar Rd No 1 Opposite Waddepelli Cheruvu	127		Open to use	Community/ Neighborhood park
111019	32	O City Park 1 At Narsampet Road, Kasibugga	135		Open to use	Community/ Neighborhood park
123027	33	Existing Municipal Park, Beerannakunta, Urusu	135		Open to use	Community/ Neighborhood park
129008	34	WMC Park, Bank Colony, Desaipet Road, Warangal	135		Open to use	Community/ Neighborhood park
109013	35	Nehru Park Opp Warangal Railway Station	151	GOOD	Open to use	Community/ Neighborhood park
111046	36	Park, Opp Siddaiah Hotel Sy No 106, Kashibugga, Laxmipuram	151		Open to use	Community/ Neighborhood park
113001	37	Ekalavya Park In Kasibugga Beside Water Tank	151		Open to use	Community/ Neighborhood park
115014	38	Ekashila Nagar Park At Ekashila Nagar Colony Naaz Brundavan Park	151		Open to use	Community/ Neighborhood park
127007	39	Kakatiya Musical Garden	159		Open to use	City level

Local Governments For Sustainability, South Asia

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