CHAPTER 5

PLANNING STRATEGIES FOR PARKS, OPEN SPACES AND GREEN AREAS
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This chapter elaborates on various planning strategies to improve the existing condition of Parks, Open spaces and Green areas. Strategies to revive the past glory of the ‘Garden City’ image of Bangalore through various programs have been discussed. To increase the effective utilization of parks, development plans for new parks and revival of existing parks have been dealt in detail. Concepts of adoption of parks and Private Public Participation are discussed in view of making parks and green areas sustainable. Rejuvenation of Heritage parks, their concepts, methodology, planning process and implementation have been elaborated in the light of heritage conservation. Other planning strategies for improvement of road junctions, development of playgrounds and beautification plans for parks and lakes have been discussed.

5.1 LAUNCH OF HASIRU MAASA (GREENING MONTH) JULY 2001

In an effort to rebuild, strengthen and enhance the 'Garden City' image of Bangalore and revive its landscape heritage, the BMP is taking several initiatives. This program of greening Bangalore called 'Hasiru Bangalore' has been initiated with the main objective of reviving the past 'green' glory of the city. The Hasiru Bangalore Program encompasses a number of initiatives from developing 33.6 hectares of marshy land to fresh planting of saplings along medians. The program is conceived to be a comprehensive one, to include all the open spaces in Bangalore, i.e. existing parks, institutions like school and hospital compounds, waste lands, strip lands etc and create lung spaces for the city, in addition to the existing Lalbagh and Cubbon Park. Therefore, the approach has been holistic and quite dispersed geographically in the city and the projects have been classified as:

- Development of new parks
- Rejuvenation/revitalizing existing/old parks
• Greening through adoption of parks, medians, islands, and rotaries, footpaths, including the margins and other environs of tanks whether existing or to be revived etc.

For example, the month of July 2001 was declared the Hasiru Maasa (greening month) for the city. This Hasiru Maasa programme was spread across all the hundred wards of the city, wherein planting of nearly 60,000 saplings were taken up primarily along central medians, rotaries, islands and roadsides (http://www.batf.org). Looking at this program as it developed, after these five years, the success is limited and very far from the goal intended.

5.1.1 Development of New Parks

Detailed designs have been drawn up defining the function of each park, giving each park its own identity. Details on financial sustainability and maintenance have also been worked out. It is an attempt to get citizens, especially children more involved and committed to greening and create awareness by enabling study opportunities on nature, and environment.

As part of the development of new parks, work has commenced on 2 parks - Tavarakere Park at Bannerghatta Road and JP Park at Mathikere. The main objective is to revive the original park, by recreating those spaces/special features that existed once upon a time and revitalizing the water body by restoring the natural drainage system and augmenting it. For example, in Tavarakere Park the thrust is on revival of 'Lotus Kere' where many species of lotus are being secured to be planted along with a focus on the vegetation of Bangalore district that would be showcased. New techniques of wetland management and rainwater harvesting are to be applied to ensure water conservation and also sustainable maintenance of quality of water bodies. The JP Park is to be an important landmark in Bangalore after Lalbagh and Cubbon Park. It is planned as a biodiversity reservoir comprising of the indigenous species of Karnataka in addition to selective exotic and aquatic species.
BMP’s Plan for 2005-06 & 2006-07 include:

i. **Development of Parks in each Ward**: Out of 275 undeveloped parks, emphasis will be on developing one park each, per ward. Under Janodyanavana and other schemes at least one park in each ward will be developed.

ii. **Development of Tree Parks (Mini Forest) and Theme Parks.**
   a. **Tree parks**: To increase the green coverage and also reduce the maintenance costs.
   b. **Theme parks**: Theme parks will seek to blend aesthetics with awareness generation through the development of open spaces around species of plants or flowers. These Theme parks will be spread across the city in 22 locations.

iii. **Development of Traffic Islands, Circles Boulevards**: There are about 94 Traffic Islands and junctions which have been given for adoption to hospitals, corporate bodies and NGOs for development and maintenance.

iv. **Development of side walks**: Improvement of side walks has been taken up to increase the green spaces and create aesthetic beauty.

v. **Tree Planting**: Due to rapid urbanization, tree population is decreasing. Hence thrust has been given to plant 50,000 tree saplings viz. Bahuhinia sp, Cassias, Desi Badam, Muthuga, Pongamia, Sisso, Bottlebrush, Parijatha, Plumaria, Mahagony, Neem, Ashoka, Amla, Jambulina Singapur Cherry, Palms. Lagerstromea, Umbrella tree, Milletia ovitifolia, Jacaranda, Tabebuia etc.

vi. **Udyana (Hasiru) Bangalore**: To increase the green cover through different efforts and organization.

vii. **Udyana Mithra**: The neighborhood parks will be maintained through Public Participation of Residential Welfare Associations and BMP.

viii. **Rainwater Harvesting**: To collect the rainwater for better use, rainwater harvesting devices will be developed in parks. This will include recharge of bore
wells, surface ponds and contour bunding. In larger parks and other open spaces, many bundings may be raised suitably to make rain water harvesting effective.

5.1.2 Greening through adoption of Parks, Medians, Islands, Pavements

i) Concept: In order to devise new methods for the participation of private sector, the BATF and the BMP may note the following:

This program involves corporate sectors, business establishments or even a philanthropist to ‘adopt’ a park and nurture it, looking after the park for a specified period of time. The adopter would need to invest in bringing the existing park up to a certain minimum standard in order to make the park beautiful, clean and safe for citizens to use and spend their free time. The costs would vary with the size and location of the park. The costs can be methodically partitioned through bunds and pathways.

ii) Approach: • Standardization.
   • Defining new methodology and processes.
   • Best Practices.

Bangalore is leading a nation wide experiment on a new methodology for urban governance where the private sector is involved through a PPP. The experiment has included the concept of Build, Operate and Transfer, Private funding of demonstration projects, intellectual input and best practices. The advantages that an adopter would have by ‘adopting’ a park are:

- The opportunity of participating in a PPP for taking Bangalore forward;
- To demonstrate private sector’s best practices in upgrading civic amenities, beautification and maintenance of parks
- To build faith and trust among citizens and employees
- Building brand image through defined advertising spaces.
iii) **Category of Parks:** The parks have been divided into A, B and C categories based on the area of the park.

- **Category A** - Up to 4000 sq. m.
- **Category B** - 4000 to 8000 sq. m.
- **Category C** - 8000 sq. m and above.

The area of the park will be a factor in determining the costs required for developing, upgrading and maintenance.

iv) **Intended Use:** Based on the location of the park, there is an intended use for the park. These are broadly classified into two main activities as:

- **Active Recreation** - jogging/walking/cycling, sports, children's playgrounds, picnics;
- **Passive Recreation** - leisure time, flower shows, themes (sculpture park, amphitheatres etc.), water bodies/fountains.

This is a broad classification and more specific themes for individual parks may be developed based on the intended use, and in consultation with the BMP.

v) **Approximate costs:** An approximate cost is being proposed for the parks and is just a guideline figure. The cost depends upon the area of the park and the extent of basic improvements required and intended.

For this purpose, the parks have been categorized into:

- **Undeveloped parks:** These are parks where there are no existing facilities and a basic minimum infrastructure is to be provided such as chain link fencing, lighting, water connections etc.

- **Parks that need upgrading:** These parks have a basic minimum infrastructure already and require certain additions in order to improve the park.
5.1.3 Rejuvenation/Revitalizing Existing/Old/ Heritage parks

A) CASE STUDY: M. N. Krishna Rao Park

Under the rejuvenation programme, the Sir M N Krishna Rao Park has been taken up along with a few others in South Bangalore. An attempt is being made to retain the traditional character of the 8.9 hectare park and to dedicate it to the local people with an area for children and women as per the wishes of the donor family (BATF, 2003, p.9).

The M N Krishna Rao Park, which is a part of the landscape heritage of the city, has been taken up for rejuvenation under the Park Rejuvenation Programme by BMP. An attempt is being made to retain the traditional character. It acts as a model and case study for all forthcoming park projects in the city. Hence the approach has been one of partnership, with BMP (Horticulture) leading the direction in terms of budget and priorities.

- **Salient features of the park:** This 8.9 hectare park is situated in the heart of Basavanagudi, South Bangalore. It is surrounded by residential areas, schools and a couple of hospitals. The park has a wonderful spread of flowering and fruit trees. Other than Cubbon Park, this park has the maximum number of species of trees - 46 in number, with a total of over 500 trees. Some of the dominant trees in the park are Gulmohar, Rain tree, Mahogany, Silver Oak, Ashoka, Royal Palms, Jacaranda, Spathodia etc.

- **Central Pavilion:** Situated in the centre of the park, this octagonal building was intended to be used exclusively by women, to conduct educative classes on hygiene, sanitation etc for film shows related to health and sanitation and also to encourage performing arts like music and theatre.

- **Band Stand:** A structure that was added later to the park is situated along the same axis as that of the pavilion.

i) Existing Scenario

There has been gradual and considerable reduction in ground cover and vegetation over the years. Apart from the trees that were planted at the time of the making of the
park in 1940s, not many plants have been added to increase the foliage. Therefore, the park has become more of a ‘playground’ for children and youth. The park is situated in a residential area, therefore is being used extensively by residents in and around the park for morning walks, exercises and jogging, but the park is not properly maintained and looked after. The park was initially under the Department of Horticulture. It was handed over to the BMP in the year 1996. Till then there had been no efforts made towards maintenance, improvement or upgradation of the park. It was only after it was handed over to the BMP that, some thought was given towards taking up this park for rejuvenation.

a) Project Aim and objectives: The aim of the project was to rejuvenate one of Bangalore’s oldest parks, which is part of the landscape heritage of the city. To revive its traditional character and its original intended use as a neighborhood park with the following objectives in view:

- To work in partnership with the BMP horticulture department with a view to inculcate best practices and capacity building. Best practices in terms of planning, landscaping, processing and techniques
- This park to act as a model and case study for all forthcoming park projects in the city.

b) Methodology: The first step taken was to get a topography survey done of the park, including details of all physical features present like benches, trees, play equipment etc, all services such as light poles, bore wells, etc. This survey work was assigned to external survey consultants. The survey revealed that the park was totally 8.9 hectares, but part of it is occupied by the Bangalore WSSB Office, a Government School and Police Quarters; therefore the effective area of the park is 7.7 hectares. Simultaneously, the BMP Horticulture Department, gave details of the species and number of trees in the park, and carried out a vegetation survey.

Without an actual study and analysis of the existing situation in the park and its surroundings, no planning or design can be carried out. Therefore, BATF took up the study of the existing scenario. A study of the activity pattern was carried out. In order to assess the usage of park by category, age and type of activity, a survey was conducted at different times of the day, and different days of the week.
c) **Defining Roles and Responsibilities and Scope of Work:** The role of each of the 3 partners involved, i.e. the BMP, BATF and the Landscape Consultant was clearly defined. In short, BMP would be the implementing body, using funds from the budget allocated for the particular year. BATF would be an advisory body, and OIKOS would provide landscape details in terms of design related details and guidelines for tender documents. BMP would prepare all service layout plans, estimates, tenders and shortlist contractors/vendors and execute the job. OIKOS would monitor and supervise quality control and other such issues.

- **Citizen Participation:** M.N. Krishna Rao Park is situated in an area where the users are mainly residents from surrounding regions. Therefore, it was found necessary to involve the residents of that locality and elicit their views so that they can be incorporated during planning and design.

- **Capacity Building:** One of the objectives of the project was to enhance or build capacity within the BMP Horticulture Department, through training of engineers, improve processes and introduce the concept of planning and design before execution of any project. In the field of services etc, to adopt guidelines based on best practices for preparation of tender documents or other specifications.

BMP is responsible for the implementation of the project, with the landscape consultants acting as the supervisory and monitoring body. BMP is to carry out the project in phases based on the finances/funds allotted for the particular year.

**B) Role of Bangalore Agenda Task Force (BATF)**

BATF was approached by BMP in May 2000, with a request to act as an advisory body in the ‘greening’ programme for the city. BATF took up the role of ‘advisor’ for this project and along with BMP, drew up a plan to take this project forward. The plan was the one where best practices would be followed or adopted.
a) Planning Process

Keeping in view the fact that the MNKR Park is part of the landscape heritage of the city, it was decided that the rejuvenation of the park would be planned such that it becomes a model for park developments. Best practices in planning, processes, landscaping and techniques were adopted. Therefore, a detailed topographical survey of the park, vegetation survey, activity pattern studies etc., were carried out as the first step in the planning process. The expertise of a leading landscape consultant firm was sought to incorporate best practice in landscaping and services. This firm was to also train the BMP engineers and provide guidelines thereby facilitating capacity building among the stakeholders.

b) Implementation

BATF played a key role in bringing together various experts in the field of landscape and also in laying down a planning process for park development, which hitherto had never been done in BMP. The park has now been fenced on all sides and the external footpath has been paved. It is now time for the actual landscaping to start from within. Once the internal issues within the BMP are sorted out, the project is expected to proceed smoothly.

Compared to its earlier condition, the park is now improving in –

- Aesthetic appearance.
- Extent of greenery.
- Extent of maintenance.
- Extent of cleanliness.
- Extent of use for walking/jogging.
- Facilities available for sitting, relaxing.
- Facilities for children to play.
- Space for children to play.
- Criterionised measurement of progress.
5.1.4 Redesigning and improvements of Road Junction with Landscaping and Beautification

Along with the colorful gardens and beautiful buildings, the circles, squares and ovals have also contributed their share to the beauty and elegance of Bangalore. There are many traffic junctions, which are located on the major arterial roads and due to frequent traffic jams and accident prone pockets pollution levels are increasing greatly. In the present context of increased traffic, efforts are being made for the modernization of these junctions. However, a revised thinking has to emerge in the light of the proposed corridor system of radial roads with already built up and to be built flyovers/underpasses/pedestrian paths and subways. These intersections are to be logistically redesigned for the smooth flow of traffic and requisite landscaping with a view to reduce pollution levels and enhancement of the beauty of these proposed junctions has to be taken up on top priority (see Plate 5.1, 5.2 & 5.3). The author would like to mention some of the circles i.e., the eastern zone Hudson Circle, Edwin Circle and Cash Pharmacy Circle, Rajainagar and Bhashyam Circle, Shri Ramapura Circle, while the Central zone had South End Circle, Sajjan Rao Circle, Tagore Circle, and Arnugam Circle. They can also be classified as circles with statues, lamps post, memorials, parks, etc. Another significant aspect of these circles is that they have not only diverted the traffic, but are also integral part of the culture and heritage of Bangalore.
5.1.5 Encouraging Rainwater Harvesting

The depletion of ground water levels in the last 10 years has been alarming. Under present circumstances it is inevitable to make provision for rainwater harvesting a byelaw. In the case of a new home, investments in time, design and money are minimal. Those who have already built houses too can harvest rainwater by reworking sections of the roof. A community approach is required to adopt rainwater harvesting for apartment blocks, according to Urban Development Department.

The initiative is already gaining momentum in Bangalore with several new houses and industries adopting rainwater harvesting technology. But a government regulation is much needed in this sphere. Rainwater harvesting also lessens local erosion and flooding caused by impervious cover such as pavement and roof. Thus, storm water run-off, the normal consequence of rainfall, which picks contaminants and degrades waterways and streams, becomes contained. (Times of India, 2006, p.3).

Rainwater harvesting is proposed to be made compulsory in the amendment to the building byelaws notified (BMP Building Bye-Laws 2003 approved by the Government in their order No. UDD/223/MNU/2001, dated 21-02-2004 – Published in pursuance of Section 428 of the Karnataka Municipal Corporation Act 1976).

(a) Every building with a plinth area exceeding 100 sq. mtrs and built on a site measuring not less than 200 sq. mtrs shall have one or more Rain Water Harvesting structures having a minimum total capacity as detailed in Schedule XII. The Authority may approve alternative Rain Water Harvesting structures with specifications different from those in Schedules – XII, subject to the minimum capacity of Rain Water Harvesting being ensured in each case.

(b) The owner of every building mentioned in the bye-law 32 (a) shall ensure that the Rain Water Harvesting structure is maintained in good repair for storage of water for non potable purposes or recharge of groundwater at all times.
(c) The Authority may impose a levy of not exceeding Rs. 1000/- per annum for every 100 sq. mtrs of built up area for the failure of the owner of any building mentioned in the bye-law 32(a) to provide or to maintain Rain Water Harvesting structures as required under these byelaws. BMP has provided Rs. 20 million for creating rainwater harvesting structures in parks, near BMP buildings and other suitable places for demonstration during 2004-05.

The drainage pattern of Bangalore consists of flows from the central ridge to all lower contours. They are numerous and also radial in their distribution and are interconnected with various tanks and ponds. If not for the depressions like tanks and ponds, the rainfall received by Bangalore would be drained off from it within four to five hours. Since there is no major river flowing into Bangalore, the existing drainage and lakes are to be conserved, preserved and maintained for sustenance.

In this context, Bangalore University will soon be smiling over its water bill as it will get this precious commodity at a cost of Rs. 3/- per cubic meter, thanks to rainwater harvesting project set-up on its campus by the Central Ground-Water Board, Ministry of Water Resources. It is covering the entire 1500 acre of University Campus budgeted at Rs. 100 million. The model project involves a small watershed covering one sq. km in the south central part of the campus. It harvests almost 22,000 cubic meters of the total 43,000 cubic meters used on the campus. It consists of three check dams, a sub-surface dykecum-check dam; four shallow observation bore wells and platforms which will harvest about 40 percent of the catchments yield on campus. The aim is to harness the natural surface water run-off to recharge the aquifer system instead of letting into the polluted drainage course. It will also help to maintain the productivity of the existing two bore wells. The cost per cubic meter of water harvesting works out to two rupees. Plus, the possible intrusion of polluted Vrishabhavati waters into the aquifer in the area will be prevented (Deccan Herald, 2001, p.4).
5.1.6 Development of Playgrounds

The population of Bangalore city includes about 1 million children. For the mental and physical development of these children and for the relaxation and recreation of citizens, BMP is committed to providing adequate playgrounds and sports facilities (see Plate 5.4 & 5.5). The fact that playgrounds and open spaces are day by day becoming scarce is causing anxiety to all residents of Bangalore. Therefore, it is planned to develop all available open and public spaces as playgrounds and stadium. In addition to this, BMP has to take steps to develop swimming pools in different parts of the city. In the coming years, in different parts of the city, it is programmed to develop at least 200 playgrounds and 20 new swimming pools at a cost of about Rs. 600 million. An amount of Rs. 50 million is proposed for this purpose during the year 2004-05. For the benefit of the youth of Bangalore city, distribution of sports equipments, establishment of multi-gyms and development of playgrounds will be continued. BMA has adopted a scheme to develop more than 150 playgrounds.

5.1.7 Institutional greens, Crematoria and other Open Spaces

Institutional open spaces, crematoria and other residual open spaces add to the greenery of the city. Defense areas with dense vegetation serve as urban forests encouraging biodiversity (See Appendix-2).
5.1.8 Beautification Plans

The beautification plans also includes formation of park ways, public toilets, drinking water facilities, cast iron benches, restoration of the band stand and proper illumination. The BMP has taken an initiative to develop 250 new parks with beautification programs. Field Marshal Cariappa Memorial Park is one of the unique attractions and the biggest manmade waterfall in Asia. The types of facilities which are adopted in these parks are landscaping, development, lighting, upgradation and water-bodies. (see Plate 5.6 & 5.7).

Recently, IT city- Bangalore’s prime weekend outing- Bannerghatta Biological Park (BBP) – has recently opened a Butterfly Park, spending Rs.381 million. It has a Butterfly conservatory, audio visual facility and an exhibition hall. Rare varieties of butterflies can be seen at the park. The park will serve as a central hub for coordinating research, training, education and rural livelihood using the resources (butterflies) of peninsular India.
i) **Bigger Zoo:** Meanwhile, Bannerghatta Park as a whole is getting a facelift under a Rs.100 million project. Visiting the park, set up in 1971, will soon be a different experience. Anticipating heavy surge of visitors in the years ahead, in the wake of the city’s meteoric rise in population, the park is all set to be upgraded with many more ‘visitor friendly’ facilities. Animal safaris (lion and tiger), Butterfly Park, zoological garden, and animal rescue centre are part of the biological park. BBP park covers 355.85 hectares of reserve forest, 62.48 hectares of acquired private land and 118.17 hectares of government waste land handed over to the forest department. The total area is 545.50 hectares.

ii) **In Phases:** Though BBP is well known in the International wildlife circuit, its infrastructure falls short of being anywhere close to global standards. When compared to Mysore Zoo which is much smaller in area, the visitors to the park are less in number as the zoo at Mysore attracts over 0.14 million visitors a year.

iii) **Heavy footfall:** Over six to seven hundred thousand people visit BBP on an annual basis. “The park could attract many more visitors if suitable infrastructure is provided in accordance with modern concepts of zoo management. Therefore a Rs. 100 million project is being taken up in 3 phases to raise the park to international standards. A high-level committee comprising Zoo Authority of Karnataka (ZAK, Mysore Headquarters), BBP and Forest officials has been constituted at Bangalore to finalize plans to make it “more rewarding” for visitors to the park. The park upgradation plan will be based on Central Zoo Authority of India (CZA) guidelines. Despite having a collection of 1,100 animals, the zoo at BBP is located in a small area. The zoo will be expanded in another 10.1 hectares of land, building state-of-the-art animal enclosures (Bennur, Shankar. 2006, p 4).

5.1.9 **Beautification of Lakes**

The naturally undulating terrain of Bangalore City with its hills and valleys lends itself perfectly to the formation of a chain of lakes, numbering over 262. The number of ‘live lakes however shrunk to a mere 81 since the middle of the last century, thanks to population pressures and fast growing urbanization (Poonacha, Paawana. 2003).
The beautification of Ulsoor, Sankey and Yediyur lakes was successfully taken up during the year 2003-04 (see Plate 5.8 & 5.9). The BMP is working to complete and dedicate the rejuvenated Kempambudi lake to the citizens. In the year 2004-05, the development of Byrasandra tank of Jayanagar, Karithimmanahalli tank of Srinagar, Balayyanakere of Govindarajanagar and other remaining minor tanks had been taken up for completion. In order to provide space for recreation facilities on the banks of Ulsoor Lake, a special programme to cover the storm water drain was taken up at a cost of Rs. 500 million during 2004-05 which would help convert Ulsoor Lake into an attractive tourist centre.

For implementing the various components of lake conservation as outlined, expert inputs from the concerned government departments as well as local residents, NGOs and experts will be taken right from the stage of project formulation. The Forest Department, the nodal agency, will be the fund holding agency from the allocations made by the state center bilateral, multilateral agencies individuals and industrial houses based on the assigned activities to the various department groups. Finances will be made available through quarterly monitoring of the progress of the projects. The nodal agency, i.e. the Forest Department, will co-ordinate the activities of other agencies involved in the lake management plan and report to the government.