

# DRAFT ACTION PLAN

On

**“AUGMENTATION OF GREEN SPACES”**

IN

**SRINAGAR CITY**



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**for  
Financial Commissioner to Govt., Housing & Urban Development Deptt.**

According to a study by the United Nations, about 54% of the global population lived in urban areas in 2014 which by conservative estimates has been projected to 66% by 2050. In other words, roughly around 2.5 billion people will be added to urban population by 2050, with close to 90% of the increase concentrated in Asia and Africa alone. Regarding India, the surveys projected that over 40 crore people would be added to its urban population. Increasing urbanisation in India is evident from latest census figures. For the first time since India's Independence, the absolute increase in population was more in urban areas than in rural areas, as per the 2011 census. The urban population increased from 27.81% in 2001 to 31.16% in 2011, with an absolute increase of 9.1 crores during the decade.

Urbanisation is efficient in a way that concentrated distribution of resources can serve a large number of population, but this concentration generates many problems. For serving a large urban population, more land is required for housing, infrastructure and office spaces. Construction on those lands, however, often result at the cost of existing greenery. More population also means more vehicles for transport, thus more pollution. Reduced greenery means reduced capacity to absorb harmful gases. Thus, adverse effects of pollution are not mitigated properly. Increased asphalt ratio also leads to heat island effects which make living uncomfortable and increases costs of cooling, which have further harmful effects on the environment because of increased consumption of energy. Greenery has the capacity to absorb the heat generated, thus making the microclimate more liveable. The Food and Agriculture Organisation (FAO), as per its message on its official website, "*Strategically placed trees in urban areas can cool the air by 2 to 8 degrees Celsius.*"

### **Importance of Urban Green Spaces:**

- Improved air and water quality
- Buffering of noise pollution
- Mitigation of impacts from natural calamities like floods
- Facilitate health and well-being by enabling stress alleviation and relaxation, physical activity, improved social interaction and community cohesiveness.
- From planning perspective, a hierarchy and network of green spaces improve the accessibility and attractiveness of local facilities and employment centres.

Due to unprecedented urbanization, the gap between city inhabitants and nature is increasing. The concretization of cities and towns has adversely impacted the natural environment. The space to be utilized for open green has become limited as the cities and towns experience growth. Urban greenery is one of the ways to bridge this gap between people and nature. High population density is also another reason for poor development of urban greenery. An attempt has been made to analyse the area under recreation/open space for different cities based on the data given in their respective Master/Development Plans. It has been found that the quantum of per capita green space required for cities varies across different countries of the world. Green space coverage in world cities varies marked ranging from 1.9% (Reggio di Calabria, Italy) to 46% (Ferrol, Spain). Aarhus, with a population of 0.3 million is the second largest city in Denmark. Its Green Structure Plan was prepared as part of the planning reforms of the 1970s with a mission as "*no dwelling should be more than 500 metres from a green area of at least*

6,000 SQM<sup>2</sup>. In Curitiba (Brazil) with a population of over 1.7 million, witnessed reduced per capita urban green space of 1.0 SQM in 1970 which through consistent efforts by local authorities has been successfully increased to 51.5 SQM over next 40 years.

Currently developed countries have tended to adopt a general standard of green space of 20 SQM per capita. The World Health Organization (WHO) recommends that cities should provide 9 SQM of undeveloped (unpaved) open space for every inhabitant. The WHO also suggests designing green area networks so that all residents live within a 15 minute walk to an open space. There is yet another yardstick, which refers to London but has relevance to any other city. Sir Patrick Abercrombie formulated the Greater London Plan in 1946 proposing that 1.62 Ha of open space per 1000 population was a reasonable figure to adopt for London. The plan also explained that all forms of open spaces need to be considered as a whole, and to be co-ordinated into closely-linked park system, with parkways along existing and new roads forming the links between the larger parks. Canberra planned by Sir Walter Griffin has an extensive integrated network of open spaces that harbour more than 40% of the nationally listed threatened ecological vegetation. Despite development pressures, Wellington in New Zealand has 200 SQM per capita of green space.

In India, the existing availability of per capita open space varies from 0.81 SQM in Chennai to 278 SQM in Greater NOIDA signifying the wide variation. Cities like Varanasi, Chandigarh, Jaipur, Bhopal, Allahabad and NOIDA have more than the WHO prescribed norm of 9 SQM whereas cities like Bengaluru, Ludhiana and Amritsar have less than the norm ranging from 1% to 5%. It is interesting to note that in Greenfield Townships like Greater NOIDA, the per capita availability of open space works out to 278 SQM which is very high. This is illustrated by the fact that Greater NOIDA Master Plan has provided ample space for urban greens with most of the residential sectors earmarking large chunks of land under green.

### **Srinagar City—A Baseline Assessment of Urban Green Spaces:**

Srinagar lies in an ecologically fragile city. Rapid population growth and unplanned urbanization are fast resulting in depletion, deterioration and over-extraction of its ecological resources. Protecting our rich biodiversity is directly tied with the city's sustainability and attractiveness as a place to live, work and visit. It is also clear that addressing environmental issues at the city level will not be possible without appropriate urban planning interventions. Known for historical Mughal Gardens, Srinagar city is ironically lacking sufficient organised green spaces. Even more precarious situation is seen in the Core City which is comprehensively without any natural vegetation presenting a desolate outlook. The once lush green forest areas, the *Zabarwan* hills, *Kohi Sulauiman* and *Kohi Maran* or *Hari Parbat* have turned into barren hillocks with a huge footfall of habitations in their foothills. Being a tourist city, Srinagar needs careful **Landscape Planning** in terms of plantation of indigenous trees along hills, open lands, roads, buffers, parks and gardens. Except for few gardens, it has lost many historic gardens due to indifference and apathetic attitude. Gardens like *Dewan Bagh*, *Baghi Ali Mardan*, *Baghi Dilawar Khan* have already been lost.

## Urban Green Space Standards:

The open spaces can include the following three categories, namely:

- a) Recreational space
- b) Organised green
- c) Other common open spaces (such as vacant lands/ open spaces including flood plains, forest cover etc. in plain areas.

As per the URDPFI Guidelines, the suggested standards for open spaces in large and metropolitan cities are **1.2 to 1.4 ha per 1000 persons**, depending upon the land availability. The older parts of the large cities have normally been found highly deficient with respect to the availability of open spaces, thus additional provisions in the new development may also take care of the existing deficiencies. For large and metro cities, provisions shall also be made for city level special parks such as botanical and zoological parks, picnic huts, children parks, amusement parks, etc.

**Considering open spaces including all the above-mentioned categories, provision of 10-12 SQM per person may be desirable.** However; in hilly areas, the protected zones and ecological conservation areas shall be considered to be over and above this open space requirement. In the built up areas (excluding recreational space, vacant land, flood plain, forest) the National Building Code suggests per capita green space @ 3 SQM as minimum norm. The hierarchy for organised green such as parks, play fields and other open spaces like specified park, amusement park, maidan, a multipurpose open space, botanical garden and zoological parks, traffic parks etc. are as under:

Sl. No.	Planning Unit	Population Served	Area Requirement per unit	No. of units
1	Housing Cluster	5000	0.50	3-4 local parks and playgrounds
2	Neighbourhood	15000	1.00	3-4 local parks and playgrounds
3	Community	100,000	5.00	2-3 community parks and playgrounds
4	District/ Zone	500,000	25.00	1 district level park and sports centre, maidan
5	Sub city centre	10,00,000	100.00	1 city level park, sports complex, botanical / zoological garden, maidan

## Concerned Line Departments

The departments which are directly responsible for the development and maintenance of public parks in J&K are as follows—

- Department of Floriculture
- Srinagar Municipal Corporation;
- Srinagar Development Authority
- J&K Housing Board;
- Landscape Division, PW(R&B) Department

As per the statistics provided by various departments who are responsible for the development and maintenance of parks in their respective jurisdictions, there are as many as 169 parks existing in Srinagar city with a total area of about 287 ha against the minimum standard of 570 ha as provided in the Urban and Regional Development Plans Formulation and Implementation (*URDPFI, Vol. I*) Guidelines, 2015. This implies that the total area available under organised parks and gardens is deficient by close to 50% of the total requirement. There is no denying the fact that Srinagar city is grossly deficient in organised green spaces (*parks and gardens*). **As such, the city needs to have a long term Action Plan across departments/sectors to meet out the deficiency of green spaces in incremental manner over a period of time.**

### **Guiding Principles for Urban Green Spaces:**

Urban green space is a significant part of sustainable development. Development of urban green spaces needs to consider interdisciplinary and integrative approaches such as economic, political, social, cultural, management and planning aspects to improve existing urban green spaces' facilities and services, and to optimize urban green space policies. The definition of urban green spaces which is agreed on by ecologists, economists, social scientists and planners is public and private open spaces in urban areas, primarily covered by vegetation, which are directly (e.g. active or passive recreation) or indirectly (e.g. positive influence on the urban environment) available for the users. Based on the studies of different cities, different researchers provide some guiding principles to evaluate the nature of green spaces.

- Firstly, one of the main principal factors in determining the nature of green spaces is their *quantity* in the city.
- Secondly, existing *qualities* like activities and experiences, and perceived benefits to the users determine the utilization of green spaces.
- Thirdly, the functionality of those green spaces is equally influenced by the location and distribution (*accessibility*) in the whole city.

### **Urban Green Space Interventions (UGSIs):**

Open spaces serve a very important purpose in the relationship of man and the nature. If planned properly, they help in maintaining ecological balance. Highlighting this, it is recommended that a system of open spaces be provided as part and parcel of the Master Plan of the city. These open spaces, depending upon their function can be within the city and/or on its outskirts. They should include, apart from organized open spaces for recreational purposes, areas preserved as conservation reserves, forests, natural landscape areas, wetlands, biodiversity zones etc. The essence of urban planning is to provide adequate and equitable services to all groups. They have influence and impact on regional patterns of development, environmental impacts, and on maintaining socially acceptable levels of quality of life. The access to these basic amenities are critical determinants of urban quality of living. Though these facilities form an important and integral part of life of any community, but they are unequally distributed with the city. Inequalities in access to these facilities may be as a result of inefficiency in their distribution and allocation among various wards/zones. **Therefore, the first key step in this direction will be to understand the nature and pattern of their distribution across city before one makes an attempt to project and plan their future**

**development to bridge the existing gap.** As a policy measure, it is stated that a comprehensive study needs to be done to:—

- Analyse the spatial distributional pattern and disparity of green spaces in Srinagar city;
- Identify the over served and underserved wards/zones for future planning of these amenities in the city.

It is strongly recommended that depending upon the requirement of the city, these open spaces should be adequately and uniformly distributed, and should be well defined in area and land use. This will help in checking encroachments and changes in their functional use. It is emphasized that a *whole-to-part approach* of spatial planning be practiced. This calls for delineation and preparation of spatial development plans of each zone after approval of the master plan.

Urban Green Space Interventions can be defined as actions that significantly modify the quality, quantity and accessibility of urban green space. This can be done by establishing new urban green spaces or by changing the characteristics and functions of existing ones. A broad spectrum of intervention types can be implemented at different scales in open spaces. These include:

### **1 Pan City Interventions:**

- **Implementation of Master Plan proposals:**

The Revised Master Plan upholding the vision of Srinagar Municipal Corporation of ‘Clean Srinagar Green Srinagar’ proposes that a series of interconnected open spaces and public parks need to be developed. With just less than 1.5% of its developed area under open green spaces, Srinagar is unusually far behind other metro cities in India in terms of its organised green cover. Studies reveal that most of the green cities in the world have more than 15% of their surface area under green spaces. The Srinagar Master Plan-2035 rightly highlighted the need for a long term Action Plan for holistic development of organised public open spaces in each ward and village. The Master Plan proposes a minimum of 3.5% of organised green space under parks and gardens.

**As provided in the master plan, it is recommended that a minimum of 15% surface area of any development project shall be earmarked for the development of organised green spaces.** Areas earmarked for Ecological Reserves, riparian buffers, City and District Parks, biodiversity parks, children recreation, etc need to be developed by the concerned line departments for achieving master plan targets. Srinagar city has a large chunk of land under graveyards and other burial and cremation grounds. *Malkhah* in the old city abutting *Kalai* can be developed into a vital lung space in this area. It is recommended that the State Government should ensure proper landscaping of historic graveyards and *Eidgahs* for enriching the biodiversity and ecology in these areas. The CBD especially the area from Dalgate to Lal Chowk has plethora of green spaces disparate in nature and not properly connected. All these spaces including the Polo Ground, Emporium Garden, TRC Park/TRC Ground, Golf Course, Chinar Bagh, and Sher-i-Kashmir Park will have to be integrated into a Central City Park providing multi-faceted experiences to the people. Also under the centrally funded scheme (CAMPA), intensive plantation drive should be kick-started to grow trees along the

Zabarwan hills, Kohi Sulaiman, Hari Parbat etc to develop city forests, conservation reserves and urban woods.

Besides, the Master Plan Srinagar-2035 envisages a slew of other important proposals which can be taken up as important tasks under this Action Plan to increase the footfall of green spaces in Srinagar—

- Development of Greenways or Green Corridors along arterial roads and water streams, transmission line corridors (RoWs) in partnership with locals. It is envisaged that the open space along the NH Bypass shall be developed into a green belt with a provision for multiple recreational activities. It is emphasized that a provision for profuse plantation of Kashmiri Willow and Chinar's within a series of connected parks be developed along the road;
- Connecting 'Green with the Blue' by implementing shoreline/lake-fringe and riverfront development plans for Lakes, wetlands, rivers and other water bodies;
- Creation of a baseline inventory of all ecological resources including parks and gardens, and maintaining a Green Register for their preservation and protection from encroachments and landuse change;
- To desist the practice of converting the open spaces into community or marriage halls by various departments;
- All green spaces that have been encroached over a period of time due to negligence of authorities, inadequate funding etc shall be retrieved in the first phase to bridge the existing gap;
- Afforestation and biodiversity conservation along all hillslopes and open spaces;
- Restricted open spaces maintained by various agencies and institutions be made accessible to common people for leisure and recreation during morning and evening hours;
- Profuse plantation of native trees along roads, green trails, walkways, cycle tracks etc to increase green foliage and maintain green to asphalt ratio. A minimum of 15% geographical area in residential settlements, commercial establishments and public offices shall be brought under tree cover.

## **2 Zone/Neighbourhood Level Interventions:**

- Formulation and implementation of Zonal Plans within the ambit of an approved master plan to identify the areas or zones/neighbourhoods with adequate or deficient green spaces. This will provide basis for the preparation of Neighbourhood Action Plans;
- Prepare Neighbourhood Action Plans for the identification and development of community and neighbourhood parks with active participation of local community;
- The SMC and SDA in partnership with Urban Forestry Division shall start a "Neighbour Wood Program" for each neighbourhood in collaboration with Mohallah Committees to enhance and promote biodiversity of local cluster/community parks, green belts, buffer zones, incidental open spaces, individual lawns etc;

- Creating green spaces for community use by identifying and executing urban renewal, Urban Regeneration and Redeployment projects in the blighted and grey areas of old city;
- Development of green spaces as a buffer around all historic mosques and shrines as part of their conservation plans as mandated by various conservation laws;
- Formulation of Town Planning Schemes under the provisions of the J&K Town Planning Act, 1963 for planned development of residential neighbourhoods with an adequate provision for green space;
- Strict enforcement of Zoning Regulations and Development Promotion Rules & Regulation /Municipal Bylaws;
- Promoting and encouraging group housing schemes (*both colonies and flatted development*) as per the group housing policy envisaged in the Master Plan-2035 for maintaining the desired green space ratio in residential neighbourhoods.

It is expected that with these steps at city and zone level, the deficiency of green spaces in Srinagar can be reduced by a significant proportion. Implementation of Town Planning and group housing schemes on PPP basis will respectively ensure 15% and 30% of the total area earmarked for the development of organised public parks in such residential neighbourhoods. Under such schemes, the Government's role is that of a 'facilitator and regulator' only, and there wouldn't be any financial implications accruing to the state exchequer. These models have yielded good results in other parts of the country as they do not involve any land acquisition.

### **3 Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Scheme:**

Providing basic services to households and build amenities in cities which will improve the quality of life for all, especially the poor and the disadvantaged is a national priority. Under the scheme, enhancing amenity value of cities by creating and upgrading green spaces, parks and recreation centres, especially for children is one of the key thrust areas. In this regard, the State Government has already its State Action Annual Plan in 2015 (annually reviewed) in which it has been communicated that the existing per capita green space cover in Srinagar city will be upgraded to 4.5 SQM by 2020. To achieve the said target, the Housing & Urban Development Department has identified a number of projects which will be completed up to 2020.

### **4. Srinagar Smart City Proposal:**

The Smart Cities Mission is new initiative by the Government of India to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.

Smart Cities Mission is an urban renewal and retrofitting program by the Government of India with a mission to develop 100 cities all over the country making them citizen friendly and sustainable. Smart Cities Mission envisions developing an area within 100 cities in the country as model areas based on an area development plan. It is a five-year program, wherein financial

aid will be given by the central and state government between 2017- 2022 to the cities and the mission will start showing results from 2022 onwards.

Srinagar was one of the 100 cities to be selected based on the Smart Cities challenge.

The Government has constituted 'Srinagar Smart City Limited' for implementation of Smart City Development Projects in Srinagar under Smart City Mission of Government of India. Smart Cities Mission Strategy include Greenfield development under which One of the smart city proposal for Srinagar is "Preserving and developing open spaces - parks, playgrounds, and recreational spaces— in order to enhance the quality of life of citizens, reduce the urban heat effects and generally promote eco-balance".

### **Monitor and Evaluate Urban Green Space Interventions:**

It is vital to monitor and evaluate urban green space interventions. Effective monitoring and evaluation starts at the beginning of a project by reflecting on the indicators that should be used to document the project outcomes, and by incorporating monitoring and evaluation activities in the project timeline and budget. Ensure that monitoring identifies whether the urban green space has activated new users or whether visitors simply used other green areas before. Mixed monitoring methods should be used involving civil societies, NGOs, CBOs, Mohalla Committees etc. There are a range of social, educational and economic benefits associated with community led green space renewal.

### **Conclusion:**

As a result it is concluded that green space action plans should be inextricably bound into processes of economic, environmental and social regeneration. Raising awareness of the value of urban green space and its potentially key role in urban renewal represents perhaps the best argument for a significant increase in resources, investment and political attention for urban parks and other green spaces. All parks & Gardens above three [03] *Kanal* should be maintained by Department of Floriculture which has proficiency and scientific expertise needed for new propagation techniques, management and value addition of flowers, trees, pests & diseases etc. It also has the latest equipment's & facilities (Poly-houses, Glass House), Labs etc. To manage these efficiently. The above recommendations as part of the Action Plan are aimed to ensure availability of more organised green space, and should serve as a guiding reference for all line departments to frame specific projects to bridge the existing gaps.