

Impact of Smart City Mission on Promotion of Sustainable Development in Srinagar City of Jammu & Kashmir

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Abstract

Sustainable development has emerged as the vital component of urban planning and public policy frameworks due to global challenges of rising urbanization, environment pollution, global warming and unprecedented climate changes like heat waves, snow storms and flashfloods. The United Nations' Sustainable Development Goals paradigms aim to promote smart, resilient and sustainable urban socio-economic infrastructure, use of retro-fitting techniques, shift towards solar and other renewable energy resources and exploration of innovative and sustainable mechanisms for delivery of public services. The Government of India's 'Smart City Mission', a flagship urban development initiative aims to develop few selected cities through rebuilding eco friendly basic infrastructure, development of housing facilities, waste management facilities, roads and lanes, and increasing green and open spaces in the urban landscape. This paper analyzes the impact of Srinagar Smart City Mission on promotion of sustainable development, resilient infrastructure and use of smart and sustainable technologies for public services in the Srinagar city of Jammu & Kashmir. The paper is based on comprehensive analysis of the data collected from fifty respondents including common citizens, academicians and administrative practitioners, by using open-ended questionnaire technique. The findings revealed poor public satisfaction about the impact of the Srinagar Smart City Mission on development of eco friendly and resilient infrastructure in the city. It also highlights the sluggish use of innovative and smart technological interventions for public service delivery and need to mitigate challenges of rising water pollution and air pollution in the region.

Keywords: *Smart city Mission, Sustainable development, Srinagar, Pollution, Kashmir*

1. Introduction

The intricate relationship between man and nature has evolved over the centuries due to increased human interventions, scientific progress, development of unprecedented technologies to explore hidden realities of nature, and unabated utilization of natural resources for human development. However, the ever-rising global population, paced urbanization, overutilization of natural resources, degradation of environment, global warming and climate changes have shifted focus of policy makers and development planners towards revision and transformation of socio-economic development policies to build eco-friendly, resilient and sustainable rural and urban landscape. The global institutions including the United Nations, the World Bank etc. are playing pivotal role in facilitating good governance and sustainable development paradigms around the world, in an effort to provide citizen-centric administration and resilient ecofriendly socio-economic development across the countries. These global organizations are emphasizing upon the nations to mitigate the emerging concerns of widespread poverty, poor health care facilities, lack of

affordable housing, illiteracy, rising economic inequalities, sluggish and unscientific waste management, water and air pollution, deforestation, global warming and unprecedented climate changes, through national action plans and multinational collaboration approaches, as enunciated under the United Nations' Sustainable Development Goals (SDGs) framework.

1.1 Sustainable Development & Sustainable Development Goals (SDGs)

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Report, 1987). Its two key concepts are 'Concept of needs' i.e. emphasis on essential needs of the world's poor and 'Idea of limitations' i.e. limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. The United Nations adopted 17 Sustainable Development Goals (SDGs) in 2015 which emphasize concern for emerging global issues of poverty, illiteracy, inadequate healthcare facilities, alarming environment pollution levels, global warming and rapid urbanization. These comprehensive goals aim to direct focus of policy makers towards creation of eco-friendly social infrastructure and conservation of natural resources in view of alarming urbanisation trends as 70% of the global population is predicted to be living in cities by 2050.

Sustainable development focuses on judicious use of natural resources, increased adaption of renewable energy & recycling mechanisms, limiting green-house gas emissions and strategic planning of rural and urban areas using ecological planning perspectives for building socio-economic physical infrastructure, increasing green spaces, afforestation & reforestation, using smart Information & Communication Technology (ICT) tools and sustainable policy solutions.

1.2 Need for Sustainable Development in Urban Planning

Sustainable development has attracted priority focus in development policies particularly in urban development and city/town planning, due to emerging global concern for mitigation of adverse effects of climate change viz global warming, forest fires, flash floods, thunder storms, devastating cyclones, alarmingly melting of glaciers, rise in sea/ocean levels, draughts etc. In the year 2021, the frequency and intensity of such climate events across several countries, has been unprecedented.

The United Nations Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report- Climate Change 2021: The Physical Science Basis¹, has analysed climate change, implications, future risks, adaptation mechanisms and mitigation options. Its key highlights viz a viz need for sustainable development in urban planning are,

1. Average global surface temperature is expected to rise by 2 degrees Celsius by the middle of 21st century.
2. CO₂ concentrations have peaked up after two million years being majorly human induced.
3. Sea/Ocean levels have tripled in last four decades which will lead to frequent and severe erosions as well as floods in coastal areas in coming years.
4. Every 0.5-degree Celsius rise in global temperature will enhance hot extremes, severe precipitation and droughts along with reduction in carbon footprint.
5. Change in ecology of mountains leading to disruptions in water cycle, rain patterns, floods etc.
6. With respect to India, the report has highlighted the need for early mitigation interventions as the country is predicted to be witnessing severe impact of climate adversities such as above global average rise in temperature, melting of Himalayan glaciers, frequent flash floods in urban areas, thunderstorms, increased & varied precipitation, submerging of cities & towns particularly in coastal areas.

The above findings have reignited discussion and concern about imminent ecological threats and need for implementation of sustainable and innovative urban planning mechanisms particularly in developing countries like India who have most vulnerable population and scarce resources for mitigation and response.

Jammu & Kashmir due to distinct topography, unique climate, scarce economic resources, hilly terrain and volatile political environment; is faced with unique administrative challenges in ensuring sustainable urban development. The region has also witnessed abnormal weather patterns and adverse climate changes in recent years including alarming rise in average temperatures, melting of glaciers, flash floods, uneven precipitation and devastating 2014 floods which submerged almost 1/3rd of the towns of Anantnag district and entire Srinagar capital city leading to huge human and financial losses.

1.3 Srinagar Smart City Mission

Srinagar city is the summer capital of Union Territory of Jammu & Kashmir. The city is epicenter of growing trade and commerce, hub of tourism, abode of ever-increasing urban population, flourishing nucleus of employment and education opportunities; and most essentially the primary seat of regional governance. The city has flourishing market places, industrial units, shopping complexes of all sorts, enormous world class tourist destinations like Dal lake,

Nishat garden, Shalimar garden, Cheshma Shahi garden, Harwan garden, Tulip Garden, Botanical garden, Badamwari garden, several religious tourism places like Shankar Acharya Temple, Central Jamia Masjid, Dargah Hazratbal Shrine, Makhdoom Sahib Shrine, Pather Masjid, significant historical monuments like Hari Parbat Fort, Khanqai Moulla, Tomb of Mir Syed Ali Hamdani and heritage markets of Mahraj bazar, Khanyar, Nowhatta and adjoining areas.

Being capital city of Jammu & Kashmir, the city has headquarters of almost all government departments apart from central secretariat of Jammu & Kashmir government, main campuses of educational and medical institutions like Kashmir University, Cluster University, National Institute of Technology (NIT) Srinagar, Government Medical College Srinagar, Sheri- Kashmir University of Agricultural Sciences & Technology (SKUAST) etc. Apart from more than 1.2 million native residents, the city is witnessing ever increasing immigration of rural population from adjoining districts in search of better educational facilities, health care facilities at tertiary hospitals in the city and employment opportunities in both public and private establishments.

All this necessitates better urban planning, citizen centric governance, responsive administration and efficient delivery of public services. Regional government and city administration are aiming at urban development of the city through implementation of Srinagar Smart City Mission and AMRUT Mission apart from improving governance mechanisms for effective and timely public service delivery. The city got selected under India's Smart city Mission in 2017 (3rd phase). The mission enunciates key infrastructural projects like road re-development, development of footpaths, creation of heritage markets, heritage tourism circuits, creation of green spaces, steel furniture, beautification of city areas through urban art, citizen grievance redressal cells as well as host of other smart projects offering smart solutions aimed at improving service deliveries. For the purpose, a Special Purpose Vehicle 'Srinagar Smart City Limited' has been set up administered by Commissioner Srinagar Municipal Corporation as Chief Executive Officer of the said authority.

1.3.1 Objectives of Srinagar Smart City Mission

- I.** The Mission aims to renew urban physical, social and economic infrastructure in the Srinagar city of Jammu & Kashmir using resilient materials and retrofitting technologies.
- II.** The urban development initiative also aims to promote sustainable economic growth and livelihood opportunities, especially for the vulnerable population including street vendors, daily wagers, artisans etc.
- III.** Adoption of innovative and smart technologies to facilitate better basic public service delivery mechanisms.
- IV.** Development of community parks, open spaces, green areas and recreational facilities, particularly for children and elderly.

1.3.2 Fundamental Principles of Srinagar Smart City Mission

- I.** Public participation in development process, city planning and projects' implementation.
- II.** Enhance efficiency of available institutional and financial resources to create better outcomes out of lesser resource utilization.
- III.** Using integrative, holistic, innovative and sustainable approaches and solutions.
- IV.** Harnessing emerging technologies as means for development process in relevance to the regional contexts and needs, not as the end goal of development.
- V.** Facilitation of institutional collaboration, sectoral convergence and merging of financial resources.
- VI.** Facilitating sufficient water supply, electricity supply, waste management, sanitation, efficient public transport and urban mobility solutions, affordable housing particularly for urban poor, robust digital connectivity and good governance.
- VII.** Developing proactive urban plans by adoption of city improvement (Retrofitting), city renewal (City Re-development), city extension (Green Field Development) and pan city initiatives (Smart Solutions).
However, proactive policy approach is still needed for achieving faster, inclusive and sustainable development. J&K has been ranked at the bottom among all the states and Union Territories (UTs) in NITI Aayog's Innovation Index 2020, at 36th rank in Export Preparedness Index 2020 and 2019 Good Governance Index published by Union Ministry of Personnel, Public Grievances and Pensions- Government of India placing J&K at bottom 7th position with GGI score of 4.04, reflects the grim picture of development in J&K. The primary impediments to development have been volatile political scenario, adverse topography, red-tapism, corruption and lack of participatory governance.

Over the years Srinagar city witnessed skewed planning policies with sluggish implementation and absence of futuristic planning approach. The development of basic infrastructure like roads, open spaces and other

public utilities, public health institutions, waste management and sanitation, and social forestry for environment protection have witnessed least focus in urban planning process. The city is ranked at 49th position among 111 cities in Union Government's 'Ease of Living Index' for year 2020, at bottom last 49th position under Smart City Mission rankings- 2021 and received 16th slot under AMRUT mission rankings- 2021. Poor air quality, insufficient water availability, waste management and energy demands are the burning demands of urban environment in Srinagar city. The city is also facing ecological and environmental challenges that need to be managed in a systematic and scientific manner as integral part of urban planning process ensuring synergy and operational collaboration between the execution agencies.

2. Objectives of the Study

- I. To analyze impact of Srinagar Smart City Mission on development of Srinagar city of Jammu & Kashmir.
- II. To explore the performance of Srinagar Smart City Mission for sustainable urban planning of Srinagar city of Jammu & Kashmir.
- III. To evaluate challenges of sustainable development in Srinagar city of Jammu & Kashmir.
- IV. To provide suggestions for promotion of sustainable development in Srinagar city of Jammu & Kashmir.

3. Review of Literature

Post-world war-II, the prime focus of newly emerged states, global financial institutions as well as neo-liberal theorists and practitioners, has been re-orientation of administrative machinery and reforms in public policy. The inevitable changes were necessitated due to widespread poverty, illiteracy and sluggish economic growth across the nations. For the last several decades, academicians, researchers and public policy planners have been tracing these developments enunciating meaning, nature and significance of Governance models and practices. According to J. Graham et al (2003)², the term 'Governance' denotes a process of social or organizational decision making with participants of decision-making process determined by the respective societies and organisations. Governance is about more strategic aspects of steering-the larger decisions about direction and roles. Governance is *who should be involved in deciding*. The basic principles of Good Governance practices are legitimacy and voice; direction; performance; accountability and fairness.

Varying definitions of governance and good governance provides for inconsistency and ambiguities in usage of the terms in development and policy studies. Despite emphasizing promotion of good governance as important part of development process, all global developmental institutions define governance and good governance in their own context. As such, the concepts need to be studied and applied through their various disaggregated components like democracy, the rule of law, efficient public management etc. (Rachel M. Gisselquist, 2012)³. Smart cities globally aim to transform urban areas including development of a human-centric smart city agenda, which in effect means the application of social and ecological principles, in conjunction with appropriate technology, in context of complexity of social and ecological problems of contemporary cities before digital technology interventions in solving urban problems (Herman van den Bosch, 2020)⁴.

Development of 'Green spaces' is also vital in urban planning process to provide important cultural ecosystem services in our towns and cities, more so in context of COVID-19 pandemic restrictions which gave us realization of urgency of 'Green spaces' for open air recreation and exercise in crowded urban areas. There is need for designation and protection of green spaces in our urban environment and rebalancing of urban development policy to ensure that the drive for new housing does not take place at the expense of ensuring adequate green space for existing and future communities. (Christopher Rodgers, 2020)⁵.

The urban development policies must prioritize achievement of targets set under the sustainable development goals as enunciated under the United Nations' sustainable development goals-2030 Agenda, with emphasis on poverty, housing, cleanliness, waste management and environment conservation (Rupak Das & Debabrata Das, 2019)⁶. Jammu and Kashmir witnessed paced evolution of urbanisation during the period 1901-2011 which led to allied concerns in the urban landscape such as issues of housing congestion, scarcity of basic resources and services like drinking water, electricity, transportation facilities and most importantly the burden on urban environment (Gagan Deep & Rakesh Menia, 2018)⁷.

4. Research Methodology

The study used data from both primary and secondary sources which includes comprehensive analysis of data received by a public survey in the Srinagar city of Jammu & Kashmir, using simple random sampling technique & structured questionnaire method. The study sample comprised of thirty research respondents including common citizens, academicians and officers from the city administration in the Srinagar city of Jammu & Kashmir.

Also, significant secondary data sources, including research publications, articles, government reports, books and websites, were consulted to analyze progress and impact of Srinagar Smart City Mission on socio-economic development of Srinagar city, promotion of sustainable development solutions in the region and identification of challenges for implementation of sustainable development interventions in the Srinagar city of Jammu & Kashmir.

5. Results & Findings

The collection and analysis of data primarily focused on receiving insights about the impact of Srinagar Smart City Mission on socio-economic development of the Srinagar city and promotion of sustainable development paradigms, challenges of sustainable development in the city and receiving possible suggestions for facilitation of sustainable development in the capital city of Jammu & Kashmir. A brief overview of results from the data analysis is presented as follows-

5.1 Impact of Srinagar Smart City Mission on Socio-economic Development in Srinagar City of Jammu & Kashmir

The impact of the urban development initiative was analyzed by receiving valuable insights from the research respondents about effectiveness of the mission in facilitation of accessible, affordable and quality public services in the Srinagar city. Accordingly, the issues of basic civic amenities like housing, drinking water, electricity, roads, open spaces, waste management, drainage, communication networks, internet facilities etc. were highlighted during interaction with the research respondents through questionnaires to evaluate public satisfaction about these services using 1-5 Likert scale.

The results as presented below, reveal that majority of the citizens are least satisfied about accessibility, affordability and quality of public services delivery in the Srinagar City of Jammu & Kashmir.

Table 1.0 *Impact of Srinagar Smart City Mission in facilitation of accessible, affordable & quality public services in Srinagar City of Jammu & Kashmir (Scores as per 1-5 Likert Scale)*

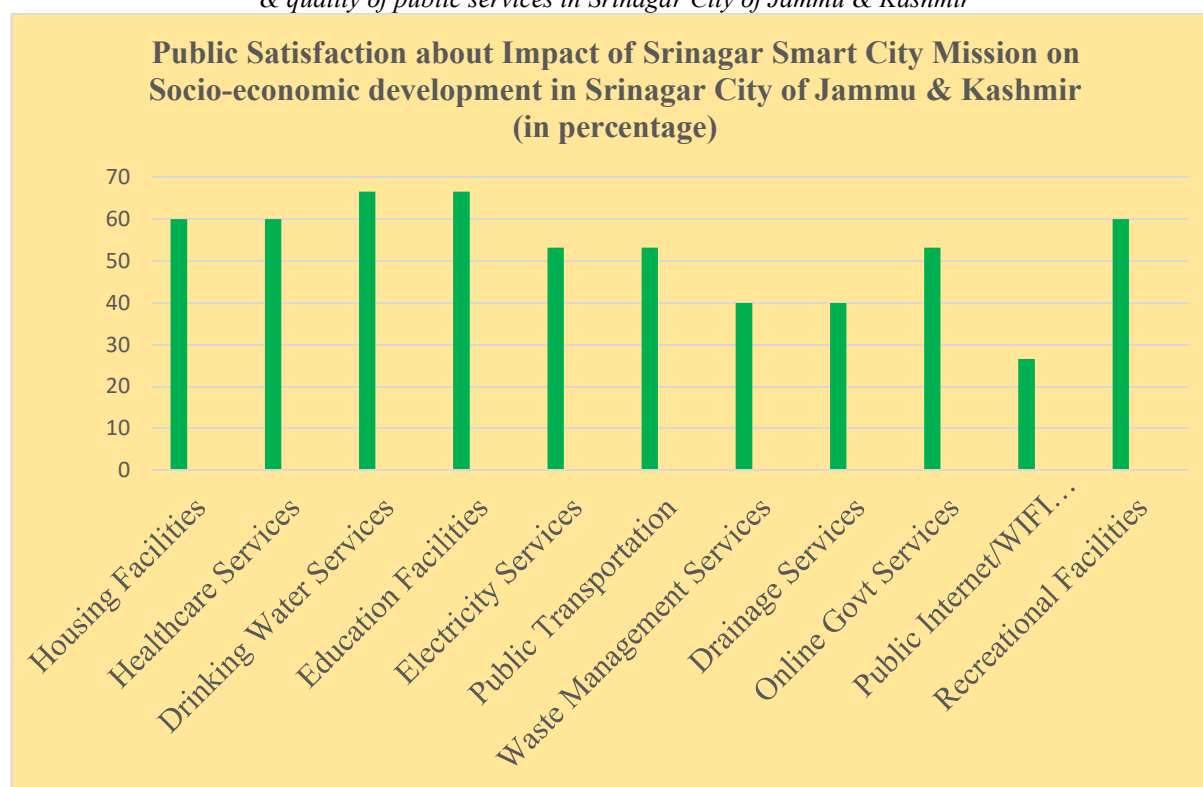
Description of Respondents (→)	Common Citizens	University Level Academicians	Officers from the City Administration	Overall Satisfaction (Mean Value-μ)
Various Services (↓)				
Housing Facilities	2	3	4	3.00
Healthcare Services	3	3	3	3.00
Drinking water Services	3	3	4	3.33
Education Facilities	3	3	4	3.33
Electricity Services	2	3	3	2.66
Public Transportation	2	3	3	2.66
Waste Management Services	1	2	3	2.00
Drainage Services	1	2	3	2.00
Online Government Services	2	3	3	2.66
Public Internet Facilities (Free WIFI Zones)	1	1	2	1.33
Recreational Facilities	3	3	3	3.00
Mean Value (μ)	2.09	2.63	3.18	2.63

The overall mean value of (μ -2.63) reveals that the research respondents, in general, are partially satisfied with the impact of Srinagar Smart City Mission on development of accessibility, affordability and quality of public services in the Srinagar city. The highest mean value of (μ -3.33) for drinking water services reflectshigher public satisfaction about the accessibility, affordability and quality of drinking water services in the city. This is because of the fact that drinking water services are provided to the public with only minimal yearly service charges, considering round the year availability of water sources from natural glaciers surrounding the city's large lakes and rivers. Also, efforts are being made to develop water filtration plants at multiple sites in the city to provide safe and clean drinking water to the city residents. To check any misuse of the precious drinking water, the government plans to install smart water meters in individual households and private offices for which tenders have been floated and work is in progress.

Also, the highest mean value of (μ -3.33) for educational facilities reveals increased public satisfaction about the availability, accessibility, affordability and quality of education facilities in the Srinagar city, which is due to the fact that universalization of education services has been facilitated by enactment of Right to Education Act, implementation of various national/regional programmes like Sarva Shiksha Abhiyan (SSA), Samagra Shiksha Scheme for School Education (SAMAGRA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and New Education Policy-2020.

In contrast, Waste management facilities (Mean Value, μ -2.00), drainage services (Mean Value, μ -2.00) and public internet facilities/ free WIFI zones (Mean value, μ -1.33) show the least satisfaction of the respondents about the availability, accessibility, affordability and quality of these services.

Figure 1.0 Public Satisfaction about Impact of Srinagar Smart City Mission in promotion of accessibility, affordability & quality of public services in Srinagar City of Jammu & Kashmir



5.2 Impact of Srinagar Smart City Mission on promotion of Sustainable Development in Srinagar City of Jammu & Kashmir

The impact of Srinagar Smart City Mission on development of resilient, ecofriendly and sustainable physical, social & economic infrastructure, and promotion sustainable development opportunities in the city, was analyzed by receiving comprehensive and valuable information from the research respondents about effectiveness of the urban development program viz a viz sustainable development interventions in the city. Accordingly, the prime targets under the United Nations' Sustainable Development Goals (SDGs) framework such as poverty alleviation, food

security, better health care facilities, education, clean water services, sanitation, clean and renewable energy, waste management, adoption of energy efficient urban mobility and public transportation solutions like e-vehicles, drainage services, mitigation of environment pollution, development of public parks, green spaces and recreational facilities, were highlighted during interaction with the research respondents through questionnaires to evaluate public satisfaction about development of these facilities in the city, using 1-5 Likert scale.

The results as presented below, reveal that majority of the citizens are least satisfied about sustainable development interventions in the city and development of sustainable infrastructure in the Srinagar City of Jammu & Kashmir. Majority of the respondents argue that the Srinagar Smart City Mission is yet to realize any significant impact towards promotion of sustainable development opportunities in the city.

However, they were very optimistic regarding recent government interventions under the mission like launch of 'Sunday for Srinagar' campaign which aims to inspire youth towards volunteering for cleaning of the rivers, canals and wetlands in the city, 'Dal Festival'- a public awareness program regarding conservation of world-famous Dal-lake, shifting of bus stands & transport yards towards the city peripheries to curb the rising air pollution, noise pollution and traffic congestion, and introduction of innovative technological interventions like GIS mapping of the city and 'My city App' mobile portal with various online service availability.

Table 2.0

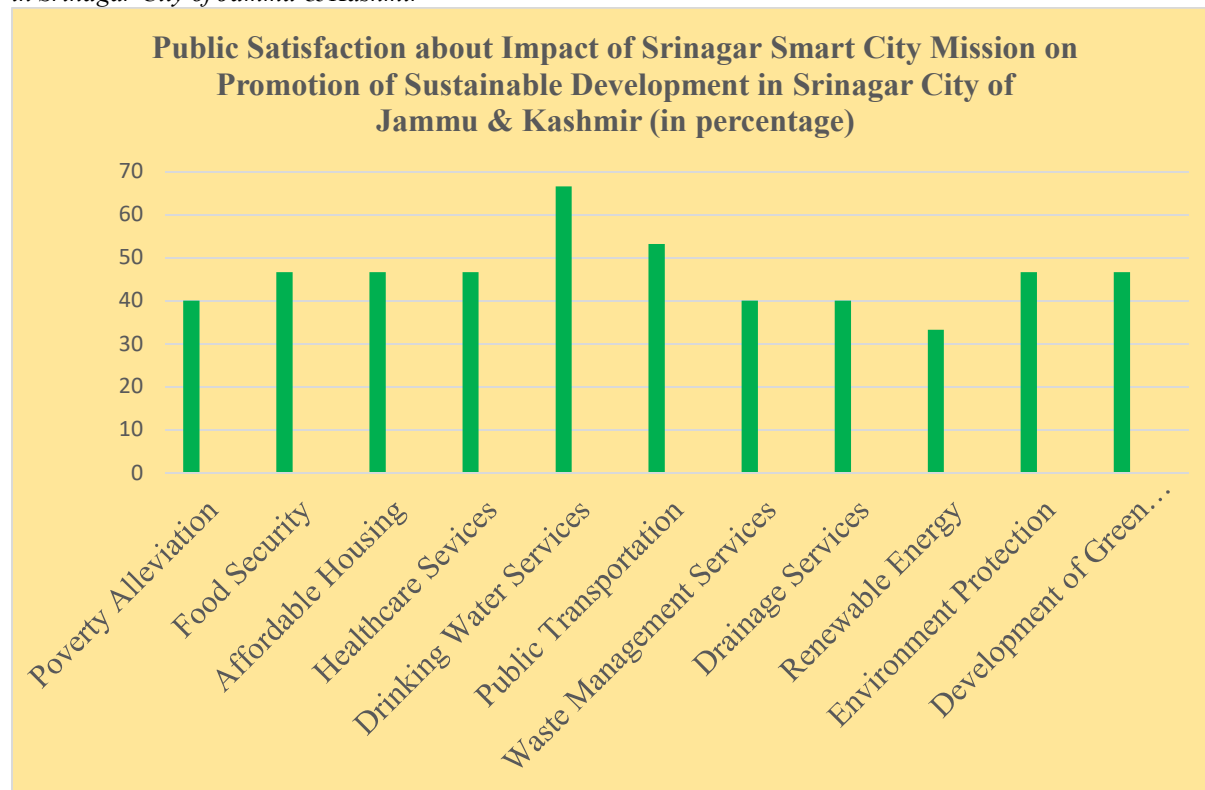
Impact of Srinagar Smart City Mission on promotion of Sustainable Development in Srinagar City of Jammu & Kashmir (Scores as per 1-5 Likert Scale)

Description of Respondents (→)	Common Citizens	University Level Academicians	Officers from the City Administration	Overall Satisfaction (Mean Value-μ)
Various Services (↓)				
Poverty Alleviation	1	2	3	2.00
Food Security	2	2	3	2.33
Housing Facilities	1	2	4	2.33
Healthcare Services	2	2	3	2.33
Drinking water Services	3	3	4	3.33
Urban Mobility & Public Transportation	2	3	3	2.66
Waste Management Services	1	2	3	2.00
Drainage Services	1	2	3	2.00
Renewable Energy	1	2	2	1.66
Environment Protection	2	2	3	2.33
Development of Green Spaces	2	2	3	2.33
Mean Value (μ)	1.63	2.18	3.09	2.33

The overall mean value of (μ -2.33) reveals that the research respondents in general, are partially satisfied with the impact of Srinagar Smart City Mission on promotion of sustainable development infrastructure and allied facilities in the Srinagar city. The highest mean value of (μ -3.33) for drinking water services reflects higher public satisfaction about impact of the mission on development of clean and affordable drinking water facilities in the city. In contrast, the lowest mean value of (μ -1.66) for the renewable energy interventions reflects least public satisfaction about

impact of the Srinagar Smart City Mission on development of alternate efficient and renewable energy resources and smart interventions such as e-vehicles, e-buses, e-rikshaws and roof top solar energy mechanism.

Figure 2.0 Public Satisfaction about Impact of Srinagar Smart City Mission on promotion of Sustainable Development in Srinagar City of Jammu & Kashmir



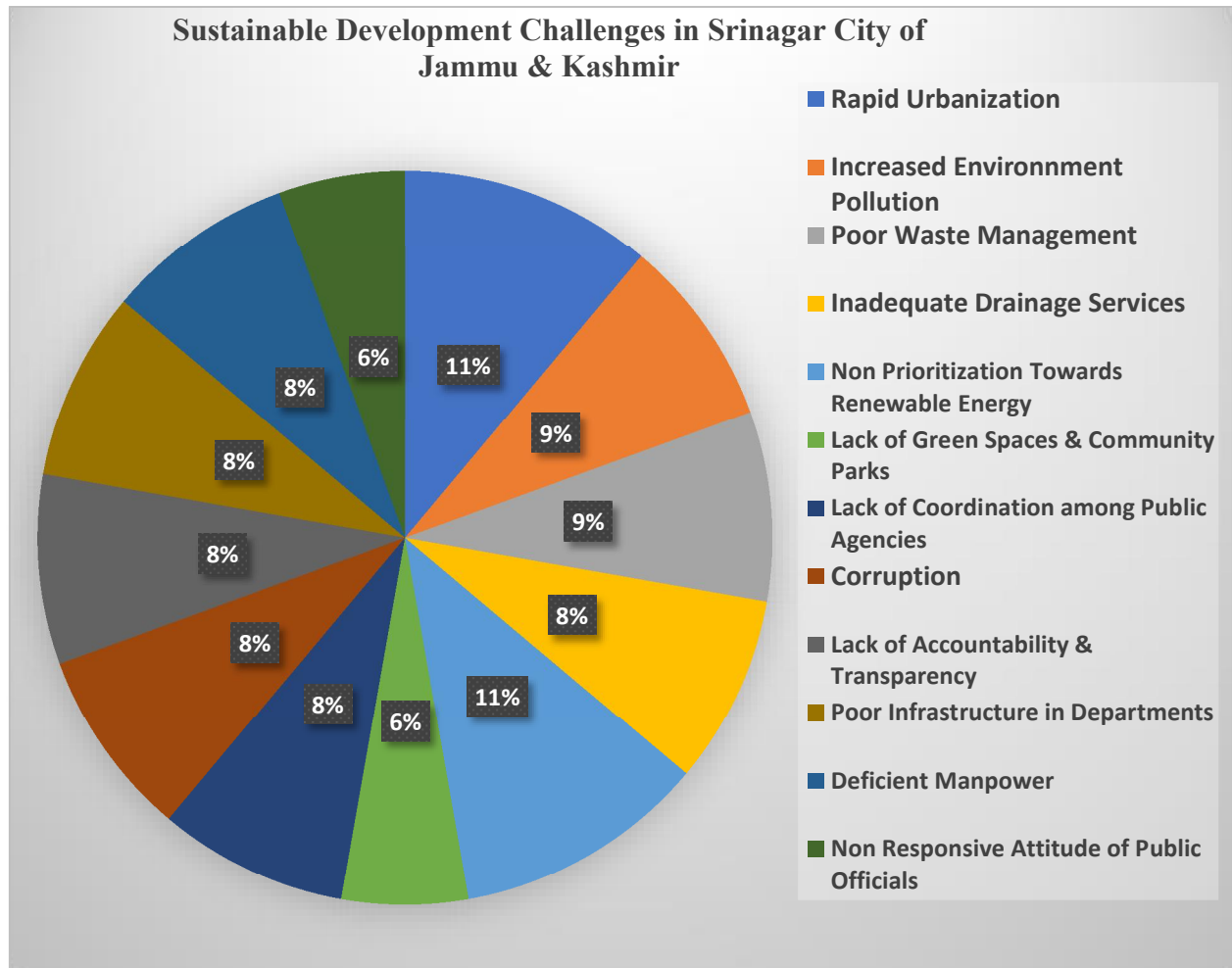
6. Challenges of Sustainable Development in Srinagar City of Jammu & Kashmir

Detailed and comprehensive insights were received from the research respondents about sustainable development challenges in the Srinagar city of Jammu & Kashmir. Some prime challenges of sustainable development in the city are highlighted below-

- a) **Rapid Urbanization:** The city is witnessing ever increasing urbanization trends due to population growth and swift rural to urban migration in search of better life style, education facilities and livelihood opportunities, which is leading to housing congestion and inadequacy of urban services.
- b) **Increased Environment Pollution:** Over the years, the city's water bodies have been alarmingly encroached upon and polluted. Similarly, the increased industrial activities and unprecedented increase in vehicular movement led to rising air pollution. Frequent traffic congestions across the city are major source of noise pollution affecting especially sick, elderly and children.
- c) **Poor Waste Management & Sanitation:** Due to lack of proper waste management facilities and waste recycling technologies, the solid and liquid waste can be seen littered across the roads, lanes and public offices. Although, the Srinagar Municipal Corporation has started 'door to door' waste collection program and development of facilities at Aschan-the only waste landfill site for the whole city. But such efforts are yet to have any significant impact due to insufficient manpower, inadequate waste transportation vehicles and deficient dust bins at public places.
- d) **Inadequate Drainage Facilities:** The poor drainage service is one of the prime sustainable development challenges in the Srinagar city which leads to frequent water logging and inundation of roads and lanes even during the slightest rainfall. Multiple studies have suggested the poor drainage facilities being responsible for the 2014 devastating flood which submerged most parts of the city with unprecedented water levels for days together.
- e) **Non-prioritization in shift towards Renewable Energy:** The city is still waiting for any proactive administrative intervention to facilitate shift towards use of renewable energy sources, particularly in urban mobility sector and

electricity services. E-vehicles and e-rikshaws are yet to run on the city roads except few government-owned battery-operated buses on some interior routes of the city. Similarly, solar energy is used for electricity generation at very minimal scale.

- f) **Lack of Green Spaces & Community Parks:** The green belt is speedily vanishing in the Srinagar city due to cutting of decades old trees including world famous 'Kashmiri Chinars' for development projects on side and lack of any proactive policy intervention for afforestation, reforestation and social forestry in the city. Also, there is deficiency of community parks, open spaces and recreational facilities.
- g) **Lack of Coordination among Public agencies:** Inadequate intra-institutional & inter-institutional coordination among implementation departments creates conflict of interest, delay in execution of projects and wastage of financial resources.
- h) **Corruption:** Corruption in public institutions and in delivery of basic urban services, affects the city's development process and social outreach of development benefits.
- i) **Lack of Accountability & Transparency in Public Offices:** Red-tapism and undesired delay in delivery of public services is another big challenge for sustainable development of the Srinagar city.
- j) **Poor infrastructure in concerned departments/agencies** that adversely affects implementation of urban development policies.
- k) **Deficient Manpower:** The deficient manpower in public offices is over-burdening the existing staff which not only affects their mental/physical abilities and morale, but also results in inordinate delay in completion of projects and delivery of public services.
- l) **Non-Responsive Attitude of Administrative Staff:** During the study, concerns were highlighted about non-



responsiveness and non-cooperation from the administrative staff in public offices as well as field staff.

Figure 3.0: *Challenges of Sustainable Development in Srinagar City of Jammu & Kashmir.*

7. Suggestions for promotion of Sustainable Development in Srinagar City of Jammu & Kashmir

To promote sustainable development and facilitate effective, responsive, accountable and transparent public service delivery mechanisms in the Srinagar city of Jammu & Kashmir, the followings suggestions are made-

- a. To stop the increasing urbanization trends in the Srinagar city, proactive focus needs to be shifted towards development of rural areas to ensure optimum basic public services, education facilities and employment opportunities for the people so that they will not be forced to migrate towards the city.
- b. A sustained and participatory environment protection policy needs to be adopted to decrease air pollution, water pollution and noise pollution. Citizens need to be involved in the decision making to garner support for effective implementation of the policy. Also, environment protection legislations need to be effectively implemented in context of land and water bodies encroachment.
- c. Waste management services can be improved by facilitating universal coverage of households, public & private establishments with dedicated dust bins, increasing frequency of waste collection by procuring more vehicles, adoption of modern smart technologies of waste segregation at source and waste recycling mechanisms.
- d. The administration has already started re-development of drainage networks in some parts of the city. However, an integrated approach needs to be adopted to revive historical water ways in the city, flood channels and drainage networks. Also, building permissions be issued only after mandatory assessment of plan for drainage services.
- e. Adoption of renewable energy resources for transportation, electricity and other development activities can be facilitated by providing optimum subsidies & soft loans for purchase of e-vehicles and solar energy based equipments and household gadgets. Also, large scale shift towards renewable energy may be ensured through public-private partnership (PPP) mechanism.
- f. Mass afforestation drives are needed to ensure green spaces in the city. Also, the development projects need to focus on alternative approaches with least impact on environment by stopping cutting down of trees for the development works. The community parks can be developed in public private partnership mode.
- g. All the urban planning & sustainable development programs mandate centralized 'Command & Control Centers' to be created hierarchically from district level upto grass-root level, to ensure effective communication and coordination among involved public agencies.
- h. The creation of effective 'Command and Control Centers' at various levels having members from multiple departments, will promote transparency and accountability also. As all the service matters of the employees including daily assignments, perks, periodic performance appraisals, promotion, transfer and dismissal will be monitored and evaluated by these 'Command and Control Centres'.
- i. Creation of manpower for public offices in the Srinagar city and ensuring fast track recruitment, will not only provide sufficient staff for public offices but will also address alarmingly rising unemployment rate in the region.
- j. Adoption of Management Information System (MIS) technologies in each public office for real-time file tracking, performance monitoring and to avoid red-tapism.
- k. Capacity building programs and trainings on public ethics be introduced as mandatory part of civil service rules to ensure development of responsive and citizen friendly attitude in public servants.
- l. All urban Panchayat Raj Institutions be actively involved in creating public awareness regarding ill effects of environment degradation and need for sustainable development in the city through consistent awareness campaigns in educational institutions, community meetings, roadshows, IT platforms etc.

Conclusion

Urban development reforms are witnessing transformation across the countries due to unprecedented technological revolution and global focus on mitigation of emerging development challenges such as poverty, illiteracy, hunger, malnutrition, lack of housing, issues of environment pollution and climate change. The United Nations emphasized good governance, inclusive development & sustainable development as vital elements for achieving Sustainable Development Goals and highlighted the need for paced urban development reforms in view of rapid urbanization trends, particularly in developing countries including India. Keeping in view the large population size, swift urbanization trends in recent years and rising concerns for basic urban facilities, Indian government started flagship urban development program viz Smart City Mission in the selected cities and towns across the country including Srinagar city of Jammu & Kashmir. The urban planning reform aim at developing resilient, smart and sustainable infrastructure as well as adopt innovative and smart technologies for effective public service delivery. However, due

to skewed policy implementation and inadequate coordination among public agencies, the initiative is yet to realize any significant impact on promotion of urban planning and sustainable development objectives. A strong institutional setup, integrated policy approach and effective implementation framework are vital for bridging the gaps and transformation of the urban landscape.

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