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Comparative Study of Goods and Services Tax (GST) in India and Canada

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Abstract

The Goods and Services Tax (GST) is considered as an enormous, even ‘giant’ form of indirect taxation, irrespective of the application in which the country aims to gear the country towards economic development. The present paper aims to analyse and deliberate upon the GST model which has been implemented in both of these nations- India and Canada, claiming the major reasons for applying GST to secure a stable taxation structure and improve the efficiency of revenue collection. GST’s implementation in India in 2017, marked a crucial reform in indirect taxation mechanisms, encouraging a smooth cooperative fiscal climate with a unified national market. Canada implemented GST as early as in 1991, with an exceptional mechanism for resolving disputes and means of fiscal equalisation within a parliamentary-federal structure, much like India’s. The paper provides a comparative framework of both countries, to examine their respective fiscal arrangements, dispute resolution mechanisms and inter-governmental dynamics that influence the tax regulations.

Keywords

GST, Canada, India, Taxation, Federalism.

Introduction

History of Taxation in India and Canada

The essential requirement of reviewing the history of Indian taxation implies not only a descriptive assessment of the evolution of the taxation system but also opens up avenues of how future reforms can be directed (Banerjea, 1930). Ancient Indian Taxation across 320 BCE, with the existence of the Mauryan Empire, led by Chandragupta Maurya, provided for revenue collection practices that were largely geared towards expanding

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trade and transforming governance. Under the influence of Kautilya, the Mauryan Empire inculcated Buddhist values into revenue collection mechanisms that attempted to create and maintain trade route networks from Karnataka to the northwest. The Brahmanic Kingdoms in the South, including the *Satavahana*, *Pallava*, and *Chola* dynasties, catered for the taxation system to stabilise the existent land tax collection mechanisms and to facilitate temple patronage (Shome, 2021). The Mughal Empire, however, centralised and systematised the means of revenue collection, where one-third of the produce was expected to be collected as tax (Shome, 2021).

During the reign of the East India Company, the Permanent Settlement of Bengal, an agreement between the landlords of Bengal and the East India Company fixed the revenue that was to be raised from Bengal. The *Ryotwari* System was a comprehensive means of directly collecting land revenue from the cultivators, while the *Mahalwari* System created a means of responsible taxation collaborating the roles of the landlords and the village communities. The Indian Constitution, which is largely influenced by the Government of India Act of 1935, called for an equitable distribution of resources between the Union and the States. The present day Finance Commission plays a crucial role in tax sharing and distribution arrangements (Shome, 2021).

The Canadian Federation experienced a major turning point after the World War I. The primary means of collecting taxes were via customs duties and excise duties from postal services. The use of federal income taxes was introduced in Canada in 1917 to balance out the costs that were incurred post-World War I. However, since the post-war period, the Canadian taxation system has transformed from simply revenue collection to being able to cater to the rising social, economic and political needs of the fiscal environment. Since the 1966 Carter Commission, numerous efforts have been made to simplify the tax system and achieve equitable income treatment, but these initiatives have consistently encountered challenges. To meet OECD's Pillar One and Pillar Two frameworks, Canada implemented the GST in 1991 to simplify its revenue collection and bring forth an effective means of consumption-based tax (Carter, 2007).

Constitutional Provision & Institutional Mechanisms in India and Canada

A) Constitutional Provisions regarding GST in India

The Indian Constitution calls for a Union of states and exhibits compelling features of a unitary form of government. Nonetheless, India is also a federation by its very core and is often called 'quasi-federal', showcasing the division of powers between the Centre and the states, as mentioned in the *S.R. Bommai* case (Singh, 2016). Article 245 of the Indian Constitution allows the Indian Parliament and the State legislatures to legislate and enforce laws about their respective territories (Singh, 2016). The Seventh Schedule of the Indian Constitution distributes legislative powers into three major lists, namely the Union List (List I) which exhibits the exclusive jurisdiction of the Centre

to legislate on matters mentioned in the list. The State List (List II) falls under the jurisdiction of the States. However, it is only the Concurrent List (List III) which calls for equivocal jurisdiction of both the Union and the States (Singh, 2016). The residual powers are endowed to the Union, allowing the Centre to legislate on matters not covered in the initial lists.

Before the implementation of the GST, tax deliberations between the Union and the States catered to managing direct and indirect taxation. The need for GST also arose because of the need to streamline and simplify the tax collection arrangements into a national framework. The need for a transition from Sales Tax (ST) to Value Added Tax (VAT) only paved the way for the introduction and implementation of GST in India. Although the Finance Minister in 2006-07 announced the introduction of GST in his budget speech, it was only until the formation of an Empowered Committee, headed by Asim Das Gupta that a national framework was worked on. Hence by the end of 2009, a Discussion Chapter on GST was released, outlining a dual-GST model, consisting of both Central GST (CGST) and State GST (SGST), and detailing several operational and administrative frameworks for implementation. For this, several states raised respective oppositions out of which major reasons were the loss of autonomy, degradation of federal fiscal relations and most importantly the loss of revenue. The 115th Amendment Bill that was introduced in the Parliament was held with severe criticisms from several states like Gujarat, West Bengal and Tamil Nadu. Gujarat, a manufacturing hub expressed concerns over the implementation of GST and the possible loss of benefits that the state had acquired via its industry investments. Tamil Nadu and West Bengal raised concerns regarding the impact of GST on the informal sector and the state revenue. States like Madhya Pradesh although later agreed to the implementation of GST, did raise challenges that would consequently cause loss of revenue and issues in achieving the Revenue Neutral Rate (RNR). The Bill was enacted in 2016, and the GST Council was formed as per Article 279-A. The Council is instrumental in determining the structure of the GST Acts, including the CGST, Integrated Goods and Service Tax (IGST), and UTGST Acts, as well as the GST Compensation Law, which provides compensation to states for revenue losses during the initial transition years.

B) Constitutional Provisions regarding GST in Canada

The need for GST and discussions around it arose in Canada in the late 1980s as a reaction to the growing nature of discontent with the federal sales taxes, especially the Manufacturers' Sales Tax (MST). The GST was implemented in Canada way back in 1991. However, it was not a smooth-sailing reform and was caught with extensive public opposition (Bird and Smart 2014; Bird, 1994). The GST in Canada was geared towards resolving the issue of cascading of taxes. This was a usual consequence of MST. Therefore, the GST sought to bring forth a model of taxation that would cater to a consumption-based model of taxation instead of taxing production units.

These attempts were influenced by the European VAT models and Canada's ambition towards a free trade model (Kuo, McGirr, and Poddar, 1988; Bird and Smart, 2014). The constitutional arrangement in Canada is distinctive because it allows a unique arrangement with its provinces, most notably Quebec. Quebec had its own VAT, known as QST. Provinces like New Brunswick and Nova Scotia have their own harmonised taxes and administer a uniform VAT rate that is much lower than the ST. These aimed to resolve the longtime coordination issues between the federal government and the provinces (Bird and Smart, 2014). Historically, the use of federal taxes in Canada has been traced back to World War I, the Federal Sales Tax (FST) in 1920, to address the war debts, followed by MST in 1924. Although various policy revisions were suggested by the Carter Commission and the Department of Finance (Bird and Smart, 2014). MST faced severe opposition because of compound costs that were impacting capital investments and competitiveness (Bird, Mintz, and Wilson, 2006). With the need for economic reforms and the issue of rising federal deficits in the 1980s, the government was only inclined to move towards institutionalising VAT ultimately replacing MST with GST in 1991. Although there was initial resistance, rate reductions brought in via reforms in 2006 and 2008, allocated some provinces to either adopt or abandon Harmonised Sales Tax or HST structures as per their local political climates (Bird and Smart, 2014).

C) Institutional Mechanism regarding GST in India

The 101st Constitutional Amendment called for the implementation of the GST Council. Institutionally, the GST Council aims to offer a federal foundation that embodies the idea of shared sovereignty between the Union and the States. The Council functions as an effective agency for inter-governmental fiscal collaboration, dispute resolution, and collective bargaining (Sharma, 2021). As per Article 279A, as given by the 2016 Amendment, the GST Council must not only be a cooperative body but also see to the management of the federal tax structure. Although the First Discussion Chapter and the Task Force did not adequately mention the need for a separate institution for dispute resolution, it was only in the 2011 Amendment that significant deliberations on the mechanism for dispute resolution were formulated (Jain, 2020). The 2011 Amendment Bill called for a specialised constitutional body namely the GST Dispute Settlement Authority, for resolving disputes as according to Article 279B (Government of India, 2011). The role of a GST Dispute Settlement Authority was popularised by the Parliamentary Standing Committee on Finance (2012–2013) however, its power to override legislative autonomy was of grave concern. Nevertheless, the 2014, Amendment Bill omitted the provisions for a Dispute Settlement Authority, and endowed the GST Council to take up the role of dispute resolution and ensure parliamentary sovereignty.

Disputes between taxpayers and tax authorities are largely exercised as per Chapter XVIII and Sections 107–118 of the Central Goods and Services Tax (CGST) Act,

2017. Taxpayers are expected to be compliant with tax obligations such as registration, return filing, and tax payment, which are in due course verified by audits and anti-tax evasion measures as stipulated by the government. However, during instances of disputes, taxpayers are expected to make appeals that go through a hierarchical process. Grievances against adjudicating authority are initially handled by the First Appellate Authority (usually the Commissioner of GST). If they remain unresolved, the appeal hence reaches to Appellate Tribunal, followed by the High Court, and finally, the Supreme Court.

D) Institutional Mechanism regarding GST in Canada

Revenue Canada (Customs and Excise) has been the most important and foundational department in charge of the implementation of GST in the Canadian Federation (Smith, 1992). The Excise Branch of the Department of Customs and Excise implements GST to bring forth several advantages as expected of its long-standing record of organisational efficiency. The branch exhibits extensive expertise in commodity taxation and in the last decade has significantly contributed to the implementation of the GST tax regime (Smith, 1992). In the quest for the most optimal means of GST implementation, several planning documents have attempted to facilitate this. The Blue Book, titled “*Multi-Stage Sales Tax: An Implementation Plan*” aimed to achieve a foundational framework for the implementation of GST and strengthened the Excise Branch’s credibility for managing GST (Smith, 1992). The Red Book, derived from the Blue Book, majorly focused on achieving a field-level taxation procedure. The Master Plan delegated GST implementation into over 2,000 operations, and chalked out an elaborate system for business registration, tax collection, refunds, enforcement, and fraud prevention, covering 1.7 million businesses (Smith, 1992).

The Canada Revenue Agency (CRA) plays a significant role in educating taxpayers, ensuring compliance, conducting audits, enforcing and investigating the effective implementation of tax laws, supervising the filling and processing of GST/HST returns, issuing refunds, and also conducting GST credit programmes for federal-provincial governments and resolving disputes if they arise (Dungan & Wilson, 2020). The mention of Comprehensive Integrated Tax Coordination Agreements (CITCAs) is essential in this discussion regarding the institutional framework of GST in Canada. These agreements play a crucial role in establishing collaborative and cooperative means of mediation between the federal government and the provinces. For instance, the CITCA between the Government of Canada and the Government of Ontario, calls for high-level ministerial involvement and consensus building in resolving disputes; the CITCA between the Government of Canada and the Government of New Brunswick focuses on the role of a neutral third party in maintaining federal fiscal stability.

E) Comparison of both India and Canada

The Indian federation is most often called to be quasi-federal and is largely modelled after the British parliamentary structures. The Canadian “parliamentary federal” framework in recent years has called for extensive decentralisation and federal autonomy. Although following a dual GST model is a norm in both countries, the Canadian provinces showcase broader budgetary autonomy than the states in India since they have the right to combine GST with Provincial Sales Tax (PST). The Indian counterpart follows a unified structure of the GST framework, governed and managed by the GST Council.

As far as the evolution of federalism in Canada is concerned, the need for GST also arose because Canada moved on from being quasi-federalism to cooperative federalism, and the need to decentralise via legal safeguards and political bargaining allows a broad space for provinces to determine and navigate their fiscal independence (Lazar, 2002). India’s GST journey is muddled with constitutional amendments and the need for legislative reforms as the country moved from Modified Value Added Tax (MODVAT) to a GST framework, as most of the states continued to face the issues of what it takes to be highly dependent on the Centre for resources and finances (Jaitley, 2022).

While both Canada and India use dual GST models and allow effective sharing of resources among the federal and provincial governments; India’s GST Council expedited ways for cooperation and collaboration without binding recommendations, while the Canadian approach mainly works around resolving disputes through federal-provincial agreements and the involvement of a neutral third party. Although the introduction of GST in both federations was not smooth sailing, India saw the broader acceptance of GST when the states were assured compensation until 2022 for the loss of revenue that would come about post-implementation of GST. In Canada, legal and public opposition was also a matter of concern. Canada faced legal challenges in provinces like British Columbia which repealed HST through a referendum.

The introduction of GST in both India and Canada reflects the interactions between dynamics, political will, and public perception. The Progressive Conservative government under Brian Mulroney faced extensive backlash and popular contention when GST was introduced by his party. The GST was seen as a ‘regressive tax’ and was being introduced at a time of economic uncertainty. The party was largely defeated in the next elections, showcasing large political risks with such fiscal policies. In India, the BJP’s persistence in pursuing GST despite rising opposition and criticism is also significant in discussion. The party secured support for the formulation of a GST Council because the states would have a substantial share in the process of decision-making and would continue to exercise their fiscal autonomy (Rao, 2016). The assurance of the Central government and the guarantee of compensation for five years played a crucial role in attaining their consensus (Jaitley, 2022).

Comparison of GST Implementation: Rural vs. Urban Collection in Canada and India

Among federations, the discussion largely revolves around the collection of GST among the federal government and the provinces. The need for discussion on GST collection between rural and urban areas is also essential to discuss. In Canada, GST collection patterns largely differ between the rural and the urban areas. Urban areas tend to contribute a sizeable share to the GST collection as urban areas reflect much higher consumption trends, industrial patterns and larger involvement of the service sector. Since rural areas tend to rely more on agricultural and small-scale businesses, the contribution is much smaller compared to the urban counterpart (Canada Revenue Agency, 2022). Canada's significantly urbanised cities like Toronto, Vancouver, and Montreal tend to generate a much larger economic output than rural localities. This depicts the disparity between rural and urban areas about GST collection (Speer & Jivani, 2017).

In India, urban areas dominate the collection of GST. Similar to Canada, Indian urban areas reflect higher industrial production and higher consumption patterns. States like Maharashtra and Karnataka contribute approximately 27 per cent of the total GST revenue (Comptroller and Auditor General of India, 2023). The issue when making a comparison of GST collection in rural India reveals a major setback since over 85 per cent of rural employment is bound by the informal economy. This may induce lower compliance.

Table 1: State/Union Territory-Wise GST Collections (FY 2024 until September) and Urban Populations in India

S. No.	State/Union Territories	GST Collected for Financial Year 2024 up until September 2024 (Rs in crores) [^]	Urbanisation rate (per cent) as per 2011 Census*	Estimated Population as of 2024	Per Capita GST (Total GST Collected ÷ Population)
1	Delhi	839	97.5 per cent	33,000,000	₹254.24
2	Chandigarh	43	97.3 per cent	1,240,000	₹346.77
3	Puducherry	487	68.3 per cent	919,000	₹529.92
4	Goa	994	62.2 per cent	15,80,000	₹629.11
5	Mizoram	9	51.5 per cent	1,252,000	₹7.19

Source: Goods and Services Tax Network (GSTN). (n.d.). GST statistics. Retrieved November 21, 2024, from <https://www.gst.gov.in/download/gststatistics>

*Ministry of Statistics and Programme Implementation (MOSPI) & IHS, 2011 Census.

Table 2: State/Union Territory-Wise GST Collections (FY 2024 Until September) and Rural Populations in India

S. No.	State/Union Territories	GST Collected for Financial Year 2024 up until September 2024 (Rs in Crores)^	Ruralisation rate (per cent) as per 2011 Census*	Estimated Population as of 2024	Per Capita GST (Total GST Collected ÷ Population)
1	Himachal Pradesh	562	90 per cent	7,756,000	₹72.47
2	Bihar	54	88 per cent	12,82,85,861	₹4.21
3	Assam	249	85 per cent	35,713,000	₹69.73
4	Meghalaya	40	79 per cent	3,394,000	₹117.86
5	Rajasthan	1,645	75 per cent	81,900,000	₹200.73
6	Tamil Nadu	6113	51 per cent	77,100,000	₹792.81

Source: Goods and Services Tax Network (GSTN). (n.d.). GST statistics. Retrieved November 21, 2024, from <https://www.gst.gov.in/download/gststatistics>.

*Ministry of Statistics and Programme Implementation (MOSPI) & IHS, 2011 Census.

Considering Tables 1 and 2, it must be noted that the urbanisation and ruralisation rates are in no way, the only substantial element to determine the per capita GST collected from the state. Although there might be a pattern where states with a larger urban population tend to achieve higher GST collections; however, there are other criteria for consideration. The economic development, infrastructure and dominant industries existing regionally play a major role in determining overall GST collections. For instance, Tamil Nadu has an estimated 51 per cent rural population and yet generates a high per capita GST of ₹792.81. This is because Tamil Nadu is a highly industrialised state, with a firm industrial base stabilised by highly revenue-generating sectors like automobiles, textiles, and electronics. The combined benefits achieved by the state's large service sector and exports, all contribute to higher GST collections. The state of Rajasthan can also be compared on similar grounds. The state has approximately 75 per cent rural population, yet generates a relatively high per capita GST of ₹200.73. The state's well-developed mining industry, soaring tourism, and highly developed handicraft sector despite a majoritarian rural population, generates high GST revenue for the state. On the other hand, states like Bihar and Assam also exhibit high rural populations (88 per cent and 85 per cent, respectively) but generate comparatively low per capita GST (₹4.21 and ₹69.73, respectively). The mentioned states struggle with issues of economic underdevelopment, and deficient industrialisation coupled with relatively low formalisation of their economies.

Rural-Urban GST Revenue Dynamics

In both India and Canada, urban areas tend to contribute significantly more to GST collections than rural areas. This trend is largely due to the higher levels of consumption, industrialisation, and service-sector activities in urban regions. In India, urban areas in states such as Maharashtra and Karnataka generate around 27 per cent of total GST revenue, benefiting from strong industrial bases, organised retail, and services (Comptroller and Auditor General of India, 2023). Rural areas, on the other hand, are often marked by lower compliance rates, primarily due to the dominance of the informal economy, where over 85 per cent of rural employment is informal. In contrast, urban hubs like Delhi and Mumbai contribute substantially to GST collections, largely driven by higher consumption rates in the formalised sectors (Comptroller and Auditor General of India, 2023). Similarly, in Canada, urban regions such as Toronto, Vancouver, and Calgary account for approximately 70 per cent of GST revenues, benefiting from a robust service sector and consumption-driven economy (Canada Revenue Agency, 2022). The rural regions, primarily reliant on resource-based economies, face challenges in terms of digital infrastructure and revenue volatility, leading to reduced GST collection efficiency. Table 3 highlights the correlation between urbanisation and higher GST collection, with urban regions like Ontario contributing significantly more than rural-dominated areas like Manitoba and Saskatchewan. Additionally, only 62 per cent of rural taxpayers file GST electronically, compared to the 90 per cent compliance rate in urban areas (Canada Revenue Agency, 2022).

Table 3: Comparison of GST Collection and Population Distribution by State/Region in FY 2024

S. No.	State/Region	GST Collected (FY 2024)	Rural/Urban Population (per cent)	Per Capita GST
1	Ontario (Urban)	Major Contributor (est.)	80 per cent Urban	High (Est.)
2	Manitoba (Rural)	Lower Contributor (est.)	60 per cent Rural	low (Est.)
3	Saskatchewan (Rural)	Lower Contributor (est.)	70.2 per cent Rural	low (Est.)

Source: Canada Revenue Agency (CRA), GST/HST Statistics.

Hence, it is essential to note that the rate of urbanisation or ruralisation does help us gauge the demographic patterns in the state, but other factors like industrialisation, infrastructure, and sectoral composition are extremely significant in determining the per capita GST. The rural or urban population in the state does not directly correlate with higher or lower GST collections; rather the degree of economic development and industrialisation in the state eventually determine GST collections.

Remote rural areas in Canada often face issues of limited accessibility and nascent digital infrastructure coupled with revenue volatility in resource-dependent rural economies (Bird & Gendron, 2007). Digital accessibility might pose an issue in compliance with the GST paradigm since only 62 per cent of rural taxpayers fill out their GST electronically compared to a whopping 90 per cent of filling done electronically in urban areas (Canada Revenue Agency, 2022).

Nevertheless, urban sections of Canada contribute over 80 per cent of retail and service sector revenues, largely benefiting from the streamlined GST system. Very similar to Canada, Indian urban hubs like Delhi and Mumbai contribute significantly to GST collection. In Canada, the conception of federal revenue-sharing opens up avenues for provinces that are largely rural to acquire better and additional funding, equaling 15 per cent of urban GST contributions annually. This caters to this disparity to a certain extent (Bird & Gendron, 2007). In India, compensation cess transfers to specific programmes focused on meeting rural needs and also attempting to balance fiscal disparities (Comptroller and Auditor General of India, 2023).

In India, in urban areas, the contributions to GST come highly from services and manufacturing sectors and, for example, from retail sectors which account for a significant share in big cities like Delhi and Mumbai (Comptroller and Auditor General of India, 2023). This is partly what accounts for the rural-urban gap in taxation in Canada.

In a similar comparison, in Canada, for example, GST collected is highly dominated by service-related industries, manufacturing and retail, in the big provinces like Ontario and British Columbia, according to the Canadian Revenue Agency (2022). For its part, rural communities mainly use agriculture and extractive sector industries, the source for most of Saskatchewan and Manitoba's GST revenues. It is not until such discrepancies are addressed on both sides that reforms specifically targeted towards improving rural taxation compliance as well as basic infrastructure become feasible, balancing out an otherwise uneven distribution of regional economic activity across Canada. See Tables 4 and 5.

Table 4: India — Contributions by Different Sectors in Urban and Rural Areas

Sector	Urban Contribution (%)	Rural Contribution (%)
Services	40	5
Manufacturing	25	10
Retail	20	3
Agriculture	5	25
Informal Sector	10	50

Source: Comptroller and Auditor General of India. (2023). GST Annual Revenue Report 2022-23. Government of India.

Table 5: Canada — Contribution by Different Sectors in Urban and Rural Areas

Sector	Urban Contribution (%)	Rural Contribution (%)
Services	50%	10%
Manufacturing	25%	5%
Retail	15%	5%
Agriculture	5%	50%
Forestry & Resources	5%	30%

Source: Canada Revenue Agency, (2023). GST/HST Statistics by Province and Territory.

Evaluation of GST Experiences in India and Canada: An Analysis of GST Collections

In India, urban areas exhibit a notably higher per capita GST collection. For example, Delhi, with its 97.5 per cent urban population, collects ₹254.24 per capita in GST (Comptroller and Auditor General of India, 2023). Similarly, Goa, with a more moderate urbanisation rate of 62.2 per cent, generates ₹629.11 per capita in GST, reflecting a balanced industrial and agricultural contribution (Comptroller and Auditor General of India, 2023). On the other hand, rural states like Bihar, with 88 per cent of the population living in rural areas, collect only ₹4.21 per capita in GST, indicating the challenges faced by these regions in terms of industrial growth and tax compliance (Comptroller and Auditor General of India, 2023).

In Canada, urban areas, particularly Toronto, Vancouver, and Calgary, contribute over 80 per cent of GST revenue. This can be attributed to the consumption-driven urban economy, which is more efficient in GST compliance and collection. However, rural regions like Manitoba and Saskatchewan, which are largely resource-dependent, face limitations in both revenue generation and compliance due to infrastructure challenges (Canada Revenue Agency, 2022).

Similarly, Canada faces a similar split. Urban areas such as Ontario and British Columbia contribute to a large percentage of GST collection, mainly through services, manufacturing, and retail sectors (Canada Revenue Agency, 2022). Ontario alone contributes to a large percentage of the country's total GST collection due to its highly industrialised economy. These mainly natural resource-based economies — agriculture and forestry — of Saskatchewan and Manitoba provide less input to the federal GST pool (Canada Revenue Agency, 2022). A challenge similar to India prevails in many rural parts of Canada — agricultural and resource-dependent economy contributes next to nothing toward GST revenue.

Tax Compliance is an important factor driving some disparities. Generally, urban regions in both countries have better infrastructure, better organised businesses, and higher compliance rates with tax regulations. In contrast, rural areas often face digital infrastructure problems, low formalisation of the economy, and less access to resources

that could make GST compliance easier. For instance, in Canada, only 62 per cent of rural taxpayers file their GST returns electronically, while 90 per cent of taxpayers in urban regions do so (Canada Revenue Agency, 2022).

Conclusion and Recommendations

The analysis of GST collection in India and Canada clearly shows that there is a disparity between urban and rural areas, with the former contributing much more to national tax revenue. In both countries, the urban areas have benefited from industrialisation, high consumption, and better infrastructure, which has led to higher GST collection. Cities like Delhi and Mumbai of India and Ontario and British Columbia of Canada are on the forefront, dominating contributions to GSTs with their fully developed industrial and service sectors. Rural regions of states and provinces, with largely agricultural informal economies, do not add much to the GST — Bihar and Uttar Pradesh in India, Saskatchewan and Manitoba in Canada. This rural-urban divide is one of the major challenges to economic formalisation and tax compliance, which are still significant barriers to equitable GST distribution. In India, the low GST per capita in rural states, such as Bihar (₹4.21), is largely due to a predominance of the informal sector and agriculture, which are less likely to be captured in the formal tax net (Comptroller and Auditor General of India, 2023). This way, rural provinces of Canada like Saskatchewan face difficulties in the collection of GST since the source of income for their province remains agriculture and natural resources where such activities are usually done through informal or under-reported methods (Canada Revenue Agency, 2022). Sufficient infrastructure, access to digital tools, and the awareness of tax practices all contribute to the failure to gather sufficient GST. In turn, both countries must consider methods of filling this gap.

To bridge these gaps, some fundamental suggestions can be derived from the experiences of both countries. First, both India and Canada should make huge investments in building digital infrastructure in rural settings. In India, under the Digital India Programme, there is an endeavour to connect internet and digital services to rural regions, and this plan can be extended to enable rural businesses to register under GST and file returns through the online portal. This would increase compliance and assist in bringing the informal economy into the formal one. Canada has already concentrated efforts in improving internet access in the rural regions. This can be noted through Alberta's Rural Connectivity Strategy, where improved broadband infrastructure for remote areas is being pursued. Such expansion could work to increase GST compliance in the rural areas as it offers businesses, the tools to make online reports and pay for taxes (Canada Revenue Agency, 2022). Another, crucial recommendation is formalisation of rural businesses as both countries' informal sectors offer minimal revenue from GST. Several rural businesses in India have remained outside the formal taxation system, which has crippled GST collection. The government can introduce simplified registration processes for small rural businesses under GST, similar to

the Composition Scheme of GST, which would induce more businesses to join the formal economy. A case study in Tamil Nadu is available, where the government has successfully incorporated SMEs into the formal tax system (Comptroller and Auditor General of India, 2023). Similarly, in Canada, the small resource-dependent rural area businesses should be assisted with the formalisation and it should be done by considering various incentives like tax relief such as lowering the GST in that rural region, similarly, like the approaches adapted for the province of Quebec which itself manages its own taxation structure (Canada Revenue Agency, 2022).

Lastly, public awareness campaigns on the benefits of GST compliance for rural businesses can significantly increase participation. By educating rural entrepreneurs on the advantages of formalisation, including access to government support and subsidies, more registration can be expected under GST, and reliance on the informal sector can be reduced. Both India and Canada could follow international best practices. For instance, in Brazil, the rural VAT scheme, has reduced the rate and simplified procedures for smaller business enterprises to get into the formal tax system. Leveraging such models will enable both countries to develop an all-inclusive tax system that ensures equitable contributions from both urban and rural areas, fostering overall economic growth across the nation.

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Indian Logistics Policy towards Cost Effectiveness and Global Competitiveness: Strategic Issues and Challenges

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Abstract

Logistics cost refers to the expenses incurred during the supply chain process to ensure goods are transported and made available to consumers. These costs typically include transportation, warehousing, inventory carrying, inter-city transfer tolls, and administrative services. National Logistics Policy (NLP), is a comprehensive and inter-disciplinary framework that covers urban and rural development challenges in India. Its objective is to minimise the logistics cost so as to be competitive. The logistics cost in India is reported as 13-14 per cent while in other countries, it is about 7-8 per cent. India notified its National Logistics Policy (NLP) in September 2022 with the objective to minimise the logistics costs. The paper discusses the meaning, targets, significance, and deliverables of NLP. Other aspects discussed include NLP in conjunction with other infrastructure programmes like, Gati Shakti, Sagar Mala, Bharat Mala, Ease of Doing Business (EoDB), Supply-chain management, Just in Time (JIT) towards logistics cost estimation, estimation of logistics cost for India, and challenges for implementation of NLP.

Keywords

Logistics Policy, Logistics Performance Index, Gati Shakti, Sagar Mala, Bharat Mala.

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Introduction

India, the world's most populous country, is one of the least urban, as approximately 31 per cent of its population lives in urban areas¹. As per 2011 census, its gender composition and literacy were as under:

Region	Gender Composition	Literacy
	Male to Female	Male to Female
Rural	51.4: 48.6	78.57: 58.75
Urban	51.9: 48.1	89.17: 79.92

Source: Census of India, 2011, Gol.

According to the above data, more than half of the world's population lives in urban areas, and estimates are that by 2050, more than two-third of the world's population (projected as seven billion) will live in urban areas. There is a strong relationship between urbanisation and income, as countries get richer, they tend to become urban. Urbanisation has many benefits like high density of economic activity, utilisation of human capital, shared infrastructure and higher standard of living. As share of urban population increases, there is structural transformation process, and employment tends to shift from agriculture towards industry/manufacturing or services. (Ritchie, Samporska, and Roser, 2024).

In this regard, India with a population of 140 crore, has an estimated GDP of Rs. 200 lakh crores; three sectors having respective share in percentages in GDP, and in population are as: agriculture (about 20% of GDP, and 42% population), industry (about 26% GDP and 29% population) and services (about 54% GDP and 29% population). (Statistical times com sector-wise). Location of industries is influenced by various factors including availability of raw material, utility services like, water, energy, transportation labour and market. As such, primary industries, i.e. agriculture and mining, are located on the basis of land fertility and mineral availability; manufacturing industries are located near raw material availability. iron and steel industries are mainly in the Northeast, i.e. Jamshedpur; similarly, location of jute and textile industries have been influenced by the availability of raw jute in West Bengal and raw cotton in Western India, i.e. Gujarat. This has changed over the years with urbanisation and availability of power, human resources, or transport facilities. As such, most of the largest refineries are located along the coast, whether they are in producing or consuming countries.

India being a vast country, industrial units are located in its different parts and it necessitates minimisation of the total cost – from the origin to its final products. This entails the logistics costs and that is the subject matter of this study-- to minimise the total logistics costs so as to be competitive.

The study is presented under five sections. The present section discusses urban areas and distribution of population, and location of industries, meaning of logistics,

the National Logistics Policy (NLP), its key targets and main deliverables. Significance of NLP is discussed in section II. The viewpoint of the industry and industry experts is contained in the next part. NLP and the other earlier approaches towards infrastructure — generic or specific are discussed in section IV; benefits and employment generation possibilities are also discussed. The estimation of logistics costs is discussed in the next section, providing a brief overview of the approach used. The major challenges associated with logistics costs and related policies are addressed in the final section.

Logistics encompass the management of inputs and materials up to the final product for consumption or distribution or for further processing. It covers aspects, like, supply-chain process, transportation, storage and warehousing, inventory-carrying, administration and management of physical products, and inter-city transport toll are covered. As such, logistics covers services, both urban as well as rural areas, relating thereto as:

- (i) transportation and movement of goods—whether by water-ways, air, or roads;
- (ii) warehousing storage of goods including food, fruits, and vegetables—the perishable goods; and
- (iii) urban and local bodies operational facilitating trade, licencing, customs, tariffs and inter-city toll system;

In this respect, Government of India approved the National Logistics Policy (NLP) in September 2022 (GoI Notification, 2022). The NLP is comprehensive, interdisciplinary, as well as cross-sectoral, covering urban and rural development of India. The policy encompasses various modes of transportation, Artificial Intelligence (AI), technological developments, and human resource development practices so as to make India as US \$ 5 trillion economy by 2025 (Sinha, 2022).

One of NLP's objectives is to boost the \$200 billion logistics sector by increasing efficiency and reducing logistics costs, streamlining concerned ministries' operations, and implementing other related initiatives to place India among the top 25 logistics ecosystems of the world.

Implementation of NLP in conjunction with the PM Gati Shakti National Master Plan would bring technological upgradation, increased efficiency, reduced costs, improved Indian competitiveness in the domestic and export markets, and enhanced exports of Indian goods.

As projected by Ernst and Young (EY), India is set to become a strong economic performer, and expected to achieve a US \$26 trillion economy by Financial Year 48. The transportation and logistics sector is anticipated to grow at about 4.5% CAGR, reaching 15.6 trillion ton-kilometers by 2050 (EY Report, 2023).

For an efficient logistics ecosystem, the NLP has following three targets (Naina, 2022):

- (i) **Reduce cost of logistics in India from 13–14 per cent of GDP at present to an average 7.8-8.9 per cent comparable with global benchmark by 2030;** currently indirect costs are high due to highly fragmented, unorganised and unpredictable supply chain and poor connectivity;
- (ii) **Improve the Logistics Performance Index (LPI), a World Bank ranking measure:** India ranked 44th among 138 countries in 2018, it improved to be 38th in 2023, and is aimed to be among top 25 countries by 2030. Other countries with higher rankings include, Singapore which topped the list followed by Finland. The US ranked 17th, and China, the UK and South Africa each secured the 19th position.

The LPI ranking is based on six parameters including infrastructure, timeliness and competence; it helps countries to identify challenges and to improve their logistics performance.

- (iii) **Create data- driven decision support mechanism to improve technological adoption:** The regulatory environment in India is complex with multiple and overlapping regulations governed by diverse groups such as: government agencies (over 20); export promotion councils (37); shipping agencies (200); and inland container depots (129) and container freight stations (168) entailing over 500 certifications. Moreover, these agencies have low technology adoption.

NLP and its outcomes

- (i) NLP enables integration of data from several ministries and departments for smooth cargo movement. It covers 30 different systems belonging to seven departments, including road transport, railways, customs and aviation, and commerce department; and is helpful in facilitating a unified regulatory environment and policy across the country especially for capacity-building and making the logistics sector process-driven in India;
- (ii) Unified Logistics Interface Platform (ULIP): it is an integrated platform that seeks to bring together several ministries and departments directly or indirectly involved with the logistics sector through 102 Application Programmes Interface (APIs). It covers around 1600 fields and all transportation modes available to facilitate cargo movement;
- (iii) Ease of logistics (e-log): it is a digital system for registering, coordinating, and monitoring the resolution of user issues; it authorises user associations to register and update their issues/suggestions;

The information thus, get exchanged among stakeholders involved in the logistics ecosystem through the above deliverables.

- (i) System Improvement Group (SIG) along with the National Planning Group (NPG), improves coordination across government ministries and also between the Centre and State governments. Officers from different ministries regularly monitor all logistics projects to remove all bottlenecks in a time-bound manner;

- (ii) The expected master plan for logistics by the governments – both Union, States and Union territories: projects planned by different ministries would be covered to ensure multimodality, optimal modal mix and to address first and last mile connectivity;
- (iii) Employment generation through focus on skilling;
- (iv) E-Handbook with an aim to standardise warehouses of physical assets;

National Logistics Policy Significance

India's logistics sector is fragmented, it has relatively high cost as compared to that in other developed countries (Krishnan, 2022). It has following characteristics:

- (i) Multiple regulatory agencies and departments have complex regulatory environment. As per the Investment Information and Credit Rating Agency (ICRA) estimates, the Indian logistic market will develop at a CAGR of 10.5 per cent through 2025 after growing at a CAGR of 7.8 per cent over the past five years.
- (ii) The Indian logistics centre employs almost 22 million people, it is expected to grow by five per cent in the next five years through skill development. High indirect expenses, erratic supply chains, poor connectivity and low technological adoption across different stakeholders have been instrumental in increasing logistics cost over the years.

Moreover, India, having broadly recovered from the pandemic, is emerging as a manufacturing hub, is a relative 'bright spot' in the world economy, and is growing at a rate significantly above its peer average; emphasis should be to have a policy to improve trade competitiveness, to improve performance and global rankings and to become a logistics hub. The significance of the National Logistic Policy is to:

- (i) Reduce logistics cost to improve Indian trade competitiveness, domestic and abroad, which would result in value addition and economic growth to achieve its Environmental, Social and Governance (ESG) goals (Krishnan, 2022);
- (ii) develop automobile manufacturing, warehousing and infrastructure, transport and communication systems, construction and real estate development would be a step towards job creation;
- (iii) improve coordination between the Centre, States and key regulators to facilitate coordination in terms of inter-state transport, better storage and warehousing facilities;
- (iv) single window system, a one stop–shop for relevant knowledge and information exchange that would facilitate skill development, employment generation, and make MSMEs competitive, reduce indirect costs by about 10 per cent, and to achieve export growth up to five to eight per cent (Sinha, 2022);

- (v) Digitalisation to unify the regulatory environment and better technology have strengthened the logistics sector. As for example, paperless export-import trade operations have been made possible by the e-sanchit portal, and faceless evaluation in customs has been implemented. E-way bills and FASTag are also frequently used on roads to boost the effectiveness of the logistics industry. Also, a unified tax system like Goods and Services Tax (GST) enables ease in issues related to the logistics sector (Sinha, 2022).
- (vi) In this respect, changes in Indian ports are as:
- Indian ports capacity has increased;
 - average turnaround time for cargo ships has decreased upto 18 hours;
 - forty air cargo ports have been built to increase exports; and
 - thirty airports have been equipped with cold storage facilities.

35 multi-modal hubs planned and development of waterways in the country would facilitate environment-friendly and cost-effective transportation alternatives for freight movement.

Further, NLP is expected to augment warehousing capacity and enable faster communication to take products closer to their consumption points; it will also bring new energy to all other sectors. As logistics develop, manufacturing, production, automobile, and other industries like warehousing and infrastructure development will also develop. This will spur the growth of commercial real estate and industrial parks (Gupta and Dhar, 2022).

The NLP has been hailed by industry and industry experts as:

- (i) Kami Viswanathan, FedEx Express, welcomed the NLP as, 'Technology is the key to combine synergies of all involved stakeholders and manage complexities better, particularly as India is modernising its infrastructure and engineering capacity building across its supply chains.'
- (ii) The introduction of standardisation will lead to higher efficiency in operations, resulting in reduced costs.
- (iii) Harmonising packaging, labelling, container standards, process standardisation, and ICT logistics standardisation will be crucial steps towards addressing these challenges,'as opined by Vikas Choudaha (2023), the senior Vice-President and Business Head, Godrej Storage Solutions.
- (iv) According to Easwaran Subramanian (2023), Deloitte India, 'Formulation of packaging standards will have a multi-dimensional impact on the market, including on cost and efficiencies from improved load ability, effective utilization of logistics and warehousing assets, and standardisation of transportation models.'
- (v) Packaging standards have been hailed as 'a commendable move' towards efficiency, safety, and sustainability, and that will streamline operations and

minimize wastage and environmental impact, as observed by Zaiba Sarang (2023), co-founder of i-think Logistics.

- (vi) Arindam Guha (2022), Deloitte, observed that NLP would facilitate a shift in transport modes from roads to railways and waterways as per global practices; i.e. roads will reduce from 60 per cent and railways will increase from 30 per cent at present.
- (vii) NLP has been viewed by Vineet Agarwal (2022), Managing Director, Transport Corporation of India, as that, 'NLP will assist industries towards their ESG (environment, social, and governance) goals and enable focus on initiatives and better cost structure.'

National Logistics and Earlier Infrastructure Programmes

Various other infrastructure projects which transform and improve the capacities of NLP include the following:

Prime Minister Gati Shakti National Master Plan (PMGS-NMP)- launched on October 13, 2021, a multi-modal connectivity project worth \$1.2 trillion USD, is to steer the Indian economy to be competitive to become 20 trillion-dollar economy by 2040. The objectives of the project are as under:

- (i) to implement infrastructure connectivity, including roadways, railways, airways and waterways projects across the nation, in a coordinated manner for easy movement of goods.
- (ii) to have transparency in monitoring current projects; In this respect, India, to improve its LPI ranking, plans to invest \$ 143 trillion on infrastructure during 2023-24 and 2029-30; to integrate the existing and proposed infrastructure initiatives along with PMGS-NMP, to ensure seamless movement of people and goods; to improve the throughput of ports, airports and railways; and to improve the logistics efficiency of logistics service providers (Madhvan, 2023).
- (iii) Sagar Mala Programme (SMP): Ports play an important role towards growth of an economy, and approximately 95 per cent of merchandise trade passes through Indian sea ports; Indian ports, however, relatively lack in many respects (Ministry of Shipping, GoI).

Sagar Mala Programme (SMP)

To address the problems faced by Indian ports, SMP, an initiative by the Shipping Ministry was launched to utilise India's 7,500 km of coastline and advantageous location in the Indian Ocean Region with the objectives as:

- (i) to improve logistical competitiveness, industrialisation, job creation, and support the growth of the coastal economy;
- (ii) to improve connection with major economic centres and beyond by expanding rail, inland water, coastal, and road services;

SMP Covers:

- (i) port modernisation, creation of new ports and increase the capacity and efficiency of existing ports;
- (ii) improve port connectivity by use of inland waterways and development of new rail and road connections; and
- (iii) develop fishing ports and fish processing facilities.

SMP is expected to provide benefits as:

- (i) domestic freight will get reduced by combining several transport modalities;
- (ii) locating future industrial facilities close to the shore will facilitate moving of bulk goods and will reduce the cost of logistics;
- (iii) industrial enclaves being close to ports, will boost export and to support the “*Make in India*” effort; and
- (iv) reduce the time and expense of shipping EXIM containers;

SMP Execution

Collaboration between federal, state, and local body governments will facilitate the use of the coastline and waterways and Saga Mala Development Company Ltd (SDCL), has been set up as company under the administrative control of the Ministry of Shipping. SDCL will carry out activities which include:

- (i) identify port-led development projects and develop project on SPV basis;
- (ii) encouraging bidding allowing private participation;
- (iii) strategic projects will have risk management measures;
- (iv) approval and clearances of projects across multiple states/regions; and
- (v) provide equity support to project through PPP approach;

Bharatmala Pariyojana (BMP)

It is launched by the Government and is a highway sector project to optimise the efficiency of road traffic movement across the country. The project has a target of approximately 34,800 km of the roads, to improve efficiency of national road networks through the construction of elevated corridors, bypasses, ring roads, lane expansion, and logistics parks;

Construction of Border Roads of strategic importance along international boundaries and International connectivity roads are planned to promote trade with neighbouring countries including Myanmar, Bangladesh, Bhutan, and Nepal;

26,200 km of Economic Corridors or routes having heavy freight traffic have been identified to be developed;

Ease of Doing Business (EoDB)

The World Bank's Ease of Doing Business is a system of ranking to reflect that how the economy is conducive to the starting and operating the business operations. The EoDB ranking is based on ten parameters each consisting of several indicators. India ranked 63rd on the EoDB ranking in 2023; as against 142nd rank in 2014. As such, India's rank has improved during 2023 on four parameters namely, starting business, dealing with construction permits, trading across borders, and Resolving Insolvency. Other parameters requiring attention include getting electricity connection, registering properties, enforcing contracts, getting credit, protecting minority interest and paying taxes (Rajora Shiva 2023& World Bank 2024).

Supply Chain Management (SCM)

SCM is a process of managing the flow of goods and services in a business, turning raw materials and components into final products and getting them to the ultimate customer. Effective SCM helps streamline a company's activities to eliminate waste, maximise customer value, and gain a competitive advantage in the marketplace; and effective SCM would cut costs and the consumers would have the benefit of getting the delivery of products faster and at lower cost. Effective SCM would require improved infrastructure services in terms of transportation, warehousing and storage and would entail five most critical phases as planning, sourcing, production, distribution, and returns. In other words, supply chain manager would be tasked with controlling and reducing costs and avoiding supply shortages, a prerequisite of logistic management. (Fernando, 2024).

Just-in-Time (JIT)

JIT as the term indicates, JIT is a strategy to manage inventory and/or production schedule so that production is just- in- time to meet the order-in-hand. As a result, raw material as well as finished goods stocks are bare minimum; and production is not for storage to meet the expected orders in future, but only to meet the current demand. JIT thus enables the enterprise to cut down waste by making too many units for storage; it thus enables an enterprise to cut down costs on inventory financing, carrying cost and storage. This method is normally followed by enterprises involved in manufacturing capital intensive products such as aircrafts, ships or lathes or other heavy equipment. Toyota is an example which planned its production schedule to meet its current demand and the inventory level was cut to nil. JIT has become popular with other major manufacturing companies using JIT include Harley-Davidson Motorcycles and Dell Computers; JIT is also referred to as the Toyota Production System (TPS) (JIT, 2023).

It may be noted that while EoDB, SCM and JIT are generic approaches, while Gati Shakti, Sagar Mala and Bharat Mala are approaches initiated by the government.

Infrastructure Projects Embarked

With the objective to bolster economic growth, to enhance connectivity and to improve the standard of living of citizens, the government has given greater focus on development of infrastructure. Emphasis has been on modernisation of transportation network, upgrade urban amenities, digital infrastructure, development of highways, railways, airports, promotion of waterways and ropeways systems and significant milestones have been achieved. Infrastructure investment of Rs.102 lakh crore has been planned during FY 2020-2025. The projects have been launched under PM Gati Shakti programme, Bharatmala and Sagar mala programmes. Some of the infrastructure projects included are as under:

- (i) World's longest highway tunnel, the Atal Tunnel;
- (ii) Construction of the world's highest railway bridge, the Chenab Bridge;
- (iii) Statue of Unity – the world's tallest statue;
- (iv) Zojila Tunnel, Asia's longest tunnel, for all-weather connectivity in Ladakh;
- (v) Atal Setu in Mumbai;
- (vi) Bogibeel Bridge over Brahmaputra;
- (vii) Jaiswal Bridge and
- (viii) Dhola- Sadiya Bridge in the northeast;
- (ix) 100 + Vande Matram Train Services;
- (x) Redevelopment of hundreds of railway stations;
- (xi) To enhance travel facilities 158 new airports are being developed;
- (xii) 241 projects worth Rs. 1.22 have been embarked under SMP covering modernisation of existing ports and terminals, enhancement of port connectivity, fishing harbours, skill development and technology centres.
- (xiii) 32 ropeways projects are planned as a convenient and safe mode of transportation, providing crucial first and last-mile connectivity in difficult terrains and helping alleviate urban congestion (Infrastructure Development, GoI March 13, 2024)

Logistics Cost Estimation

To reiterate, according to NLP 2022, 'logistics' covers aspects like origin of inputs and materials, its transportation, warehousing and handling of goods between points of production, storage and consumption and tolls.

Logistics cost, is important as it brings in cost competitiveness. Cost estimation is complex as it involves different and complex processes and assessment of cost at each process — from transportation to storage and depreciation estimation — is a gigantic task. In the absence of standard meaning of supply chain management that companies follow; and also at macro level, lack of data of adequate reliability, are the issues of

concern for estimations of logistics costs. Further, it becomes more complex for a vast country like India. (Munjal and Pohit, 2023)

Logistics costs could be direct costs and indirect costs; direct logistics costs are easily traceable or identifiable costs and normally include costs of storage, transportation, and toll; while indirect costs are costs of functions or services that are not traceable and are not directly linked to logistics function but rather meant for services, like administrative services, or other services costs.

The three most commonly adopted approaches for logistics cost estimation are Survey-based, Statistical Studies, and Case Studies. Models such as Artificial Neural Networks are also used in developed countries.

Munjal and Pohit (NCAER December 2023) have carried out the interim assessment of logistics costs for India by adopting secondary data, i.e. National Accounts Statistics (NAS)²; and the logistics costs for India is estimated in the range of 7.8 per cent to 8.9 per cent of GDP for 2021-22. The interim assessment provides the logistics cost for production sectors, modes of transport, and geographies of the country but lacks costs estimation separately for various parameters; and that would entail a comprehensive study based on a primary survey.

Mega Challenges

Success of NLP is based on efficient logistics system across the country, it requires active coordination and implementation among all levels of government i.e. Centre, States and Union Territories. In this respect, only 14 states are reported to have formulated logistics policies relating to NLP, warehousing and cold storage, while other states are at the infancy stage of drafting policies relating to infrastructure requirements, finances earmarking and laying down the common vision in line with the NLP. (Sinha, 2022).

Mode of transport for the movement of cargo through the road network followed is approximated at 65 per cent of the total cargo movement, it is fuel inefficient, is time consuming, costly and is beset with number of regulatory bottle necks, and is another major bottleneck.

Human development and behavioural aspects relating to skilling of existing manpower, and that of unorganised sector is another challenge. As only a small fragment, i.e. less than five percent of employees in the logistics sector are formally trained; identifying areas of training, institutions/universities to be associated with training is another area of concern.

About 100 institutions identified by the Government of India for employees' training would be required to finalise the relevant courses related to logistics and also to integrate the courses with the regular curriculum of the university/institution. As the Logistics Sector Skilling Council is developing industry and cross-departmental partnerships across certain sub-sectors to enhance skilling, greater challenge lies in

terms of streamlining and integrating such logistics training for skill developments by the universities and the institutions identified.

There is a need to develop common vision among various stakeholders, to have bigger warehouses with modern facilities, and to plan for fleet modernisation, and port congestion is another challenge. Different ministries and departments, like shipping, roads, airways, and waterways, involved in logistics have to develop a common vision in line of NLP.

Approximately 95 per cent of India's trade volume and 76 per cent by value is accounted by the Ministry of Shipping; in that respect, Indian ports fare poorly, and would require modernisation; simple regulatory mechanism, and efficient tolling system would be needed. It may be mentioned that the average turnaround time for ships at Indian port was 22 days in 2021 as against just five days in China; Singapore has the second largest liner shipper connectivity after China; there is a need to improve and modernise the ports system in India (Agarwal, 2022).

In addition, coordination among, Centre and states, in terms of regulatory requirements, licensing is crucial due to different political governance of states.

Lastly, to quote Padmanabhan, 'success of NLP will be a function of effective execution, and sustained efforts over an extending period of time' (Padmanabhan Jaganarayan, 2022).

Endnotes

1. The term urban is defined differently in various countries and has different parameters. In India the term is defined in Census 2011 as,
 - (i) All places with a municipality, corporation, cantonment board or notified town area committee, etc.
 - (ii) All other places which satisfy the following criteria:
 - (a) Minimum population of 5,000;
 - (b) At least 75 per cent of the male working population is engaged in non-agricultural pursuits, and
 - (c) Density of population is at least 400 per sq. km, (Dhameja and Dhameja 2016).
2. It may be mentioned that NAS provides details of sectoral values of output for all major economic sectors, including those required to estimate the logistics cost—that is, transport, storage, warehousing and material handling both for public and private components.

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Localisation of SDGs: A Review of Literature towards Urban Heritage Management of Delhi

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Abstract

Localisation of SDGs became imperative since the UN gave thrust on fulfilling 17 SDGs in its Agenda 2030. The introduction of SDG 11.4 in the agenda, committed to safeguarding and protecting heritage has engendered remarkable shifts in the planning process and perception of planners as well as policymakers in India. Against this background, a thorough review of literature has been undertaken to comprehend the process of localisation of SDGs in the context of India and more specifically, Delhi, in the present paper. Besides, it also reviews existing international literature of urban heritage management, nationalisation of the SDGs and narrows down to heritage management in Delhi through the process of localisation. The paper finally gives instances of how Local Area Plans can be integrated with Heritage Management to achieve the localisation of SDGs. And that a bottom approach facilitated by local area planning can facilitate localisation.

Keywords

Localisation of SDGs, Urban heritage management, UN, UNESCO, Local Area Plan, Delhi, HRIDAY.

Introduction

The UN-Habitat in June 2023 considered localisation of the SDGs as one of the priority action areas. The successful implementation of localisation of SDGs in the UN Agenda 2030 involves national, subnational, and local dynamics. The inclusion of SDG Target 11.4 in the agenda reiterates commitment of the international body for safeguarding and protecting world's cultural and natural heritage. The paper reviews literature in the context of localisation of SDGs in the background of heritage management policies in India, especially that of Delhi.

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Keeping heritage management in the background, the paper investigates literature available in both textual and audio-visual formats that cover three facets – localisation of SDGs in national, subnational, and international contexts. It traverses through the Indian model of localisation of SDGs and initiatives taken by different states and Union Territories in localising the global goals. The paper identifies that while localisation relates to a bottom-up approach within an urban development policy framework, the Indian model of localisation appears to be a top down as well as bottom-up approach. In general, no specific attention is given to heritage policies and management in the approach. While attempts have been made in the National Indicator Framework (NIF) to nationalise the SDG Indicators, not much heed has been given to SDG 11.4 and its indicators (NITI, 2022).

As for literature on Delhi, only a draft vision document towards achieving the SDGs is available till date. Delhi has not developed its State Indicator Framework (SIF) for operationalisation, which could have identified heritage management policies or integrated planning policies towards localisation of SDGs, which is the identified literature gap.

Localisation of SDGs: At International Levels

The UN defines localisation as the process of considering subnational contexts in achievement of the 2030 Agenda. According to this definition, localisation deals with how the SDGs can provide a framework for local development policy and how local and regional governments can support the achievement of the SDGs through bottom-up initiatives (UN, 2020).

The UN in *‘Transforming Our World: The 2030 Agenda for Sustainable Development’* encourages national responses towards SDGs and refers to localisation at ten instances. It states that sustainable management is critical for enhancing the quality of life of people and in that direction working with local authorities and communities is crucial; that national governments and public institutions should work closely with local authorities and local institutions on implementation of SDGs; that the process should involve not only engaging with national governments, but also local authorities and civil society; SDG Target 6.b focuses on supporting and strengthening of local communities’ participation in improving ‘water and sanitation management’; SDG Target 8.9 deals with devising and implementing policies that promote local cultural products towards employment generation; SDG Target 11.c advocates utilisation of local materials in constructing ‘sustainable and resilient buildings’; SDG Target 12.b aims at developing tools towards utilisation of local materials; SDG Target 13.b mentions requirement of promoting mechanisms for capacity building focusing on local communities that support effective planning and management with respect to climate change and its impact; SDG Target 15.9 calls for integrating ‘ecosystem and biodiversity values’ into the local planning; finally, SDG Target 15.c indicates

enhancing ‘capacity of local communities for pursuing opportunities of ‘sustainable livelihood’.

Localisation of SDGs is also evident from the review mechanism stipulated which informs that the governments have the primary responsibility to follow up and review at national, regional, and local levels, and report the progress made towards implementing the global goals and targets; encourage a ‘robust, voluntary, effective, participatory, transparent and integrated’ framework for tracking the progress (UN, 2015).

The UN Trust Fund for Human Security guides localised analysis, planning and implementation in collaboration with a broad range of partners to collectively identify needs, address gaps and build on existing capacities, leveraging ingenuity and initiatives of local actors (UNTF, 2018). The Global Observatory reiterates that mechanisms must be designed to facilitate regular interactions between municipal authorities, community leaders, grassroots organisations, and local private sector. ‘*The key to localising the 2030 Agenda*, then, lies in organising these new models of engagement’ (Rahmaty and Roesch, 2020).

The ‘*Roadmap for Localising the SDGs: Implementation and Monitoring at Subnational Level, the Global Task Force*’ defines localisation as the ‘process of taking into account subnational contexts’. The book mentions that localisation is not only related to SDGs providing local development policy framework but also about local governments supporting achievement of the SDGs. It further asserts that local and regional governments must be central to the implementation of SDGs. While the SDGs are applicable to every country in the world at the national level, the local and regional governments of each country play an equally important role in influencing the definition of the SDGs, also in international recognition of the pivotal role of local and regional governments’ initiatives (GTF, 2016).

The ‘New Urban Agenda’ (NUA), lays out guidelines for effective implementation through ‘Transformative commitments for sustainable urban development’ by adopting ‘sustainable, people-centred, gender-responsive and integrated approaches to urban and territorial development by implementing policies, strategies, capacity development and actions at all levels’ (UN-Habitat, 2017). The NUA essentially contributes to implementation of the Agenda 2030 in an integrated manner at the national level to drive sustainable urban development at the local level (UN Habitat III, 2017). It gives thrusts on capacity development and mobilisation of financial resources by tapping all available traditional and innovative sources at the global, regional, national, subnational, and local levels (UN Habitat III, 2017). On similar lines, ‘*The New Urban Agenda Illustrated*’, elaborates the NUA further and in the context of localisation, the document states that, linkages between diverse means of implementation need to be understood to allow both governments as well as civil society stakeholders to use focused actions to achieve outcomes to localise the NUA (UN-Habitat, 2020; UN, 2023).

David Satterthwaite states while commenting on the preparation of the NUA text that much of the agenda is considerably influenced by a number of initiatives of urban governments such as the 'Local Agenda 21', which helps guide local governments in planning and implementing sustainable development. Observing the success of these initiatives, David pens the reason mainly due to the 'encouragement of do-able local actions' while addressing local issues (Satterthwaite, 2016). Croese and Duminy opine that there is a need to identify emerging urban practices and expertise that are engaged in advancing global development policies at the urban level and also need to observe partnerships in producing particular forms of urban practices and expertise that support the localisation of SDGs (Croese & Duminy, 2023).

In the context of Heritage Management, the Agenda 2030 has laid way for a paradigm shift with the SDG 11.4, i.e., 'safeguarding and protecting world's cultural and natural heritage'. This is reflected in the '*Policy Document for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention*' of UNESCO. This document is designed to ensure policy coherence with the UN Agenda 2030 and encourages an 'appropriate and equitable balance between conservation, sustainability and development'. The document acknowledges the inherent potential of UNESCO listed World Heritage Properties to contribute to all dimensions of sustainable development and recognises that sustainability in its broadest definition is inherent to the spirit of the World Heritage Convention (UNESCO, 2015).

Further, UNESCO has identified 30 indicators that acknowledge contribution of culture towards achieving SDGs at the local level, around transversal themes in line with UNESCO's programmes, activities and policies (UNESCO, 2019). In addition, International Council on Monuments and Sites (ICOMOS) in its '*Culture in the Localisation of the SDGs: an Analysis of Voluntary Local Reviews*' (VLRs), brings out a great diversity of how local and regional governments address culture in their sustainable development policies and reporting. It shows that a majority of VLRs have included the cultural dimension in their implementation of the 2030 Agenda (ICOMOS, 2021). There is, however no reference of Indian Voluntary National Review (VNR) or anything on Delhi in the analysis. Moreover, both the documents have used the term culture rather than heritage.

The ICOMOS's '*Heritage and the Sustainable Development Goals: Localisation Manual for the Policy Guidance*', has a two-fold aim in this respect. First, engaging development actors and raising awareness of potential contribution of heritage practices to sustainable development processes; and second, guiding heritage professionals in adopting a sustainable development perspective in their heritage practices towards SDGs. The guidance document recommends prioritising "engagement of ICOMOS Committees in localising the SDGs, leveraging strategic partnerships for the dissemination of case studies, and promoting research for the development of indicators" (ICOMOS, 2022).

In ‘*Rethinking Heritage for Sustainable Development*’, Sophia Labadi raises concerns that despite several successful uses of heritage for sustainable development, heritage did not have the expected impact on ground. In the context of Africa, she emphasised on localisation by pointing that selected schemes were funded by international aid and government schemes, which are top-down in nature and often disregard local needs and specificities. (Labadi, 2022).

Likewise, another book titled, ‘*The Governance of Urban Heritage*’, in support of localisation highlights the importance of urban heritage, and stresses that governance at municipal level is key to integrated urban planning policy and practice (Ripp and Rodwell, 2016).

The ‘*Delhi Declaration on Heritage and Democracy*’, emphasises that “people’s perspective is central to heritage”. And that “protection and sustenance of heritage should be the basis of development policies and planning programmes, integrating heritage-conservation strategies within the larger goals of sustainable development”. And essentially, “heritage conservation is a condition of sustainable development” (ICOMOS, 2017). To localise SDGs, ICOMOS National and International Committees have engaged with the UN 2030 Agenda by supporting governments in producing data for SDG reporting, including VNRs and VLRs. Additionally, they aim to consolidate data for national, provincial, and local indicators specific to culture, identifying leverage points where heritage contributes to regenerative sustainability for people and the planet (ICOMOS, 2021).

The ‘*Recommendation on the Historic Urban Landscape*’(HUL) is about applying landscape approach to integrate cultural heritage policies and management into sustainable urban development goals (Ginzarly et al., 2019). UNESCO has acknowledged that “the HUL Recommendation does not stand alone in the protection and management” of heritage rather it is closely linked to the SDGs, NUA and the World Heritage Convention. It demonstrates the ‘connections between the New Urban Agenda and the HUL’ (UNESCO, 2023). This demonstration is, however, focused mostly on SDG 11. In fact, UNESCO, in ‘*Urban Heritage for Resilience: Consolidated Results of the Implementation of the 2011 Recommendation on the Historic Urban Landscape*’, emphasises both the importance and the urgency of integrating heritage conservation with urban development plans, disaster risk reduction and climate action at the local level.” The report summarises “six thematic areas of implementation that captured the key principles of the 2011 Recommendation in the framework of the 2030 Agenda for Sustainable Development”, for “inclusive and participatory decision-making, equitable economic development, the impacts of climate change, and the use of digital technologies for managing urban heritage” (UNESCO, 2023).

The localisation of SDGs towards heritage management can greatly be facilitated through preparation of Local Area Plans (LAPs), especially for city core areas rich in

heritage structures. LAPs enable a tailored approach that considers the unique historical, cultural, and environmental contexts of these areas. Internationally, frameworks like HUL and ICOMOS's guidelines support this by ensuring that heritage management aligns with broader global sustainability goals, e.g., Ballarat, Shanghai, Rawalpindi, Cuenca, Istanbul are best practices where community-driven, area-based strategies provide a structured path for heritage conservation that aligns with the 2030 Agenda, ensuring that historic areas contribute to equitable economic development, climate action, and participatory governance.

Localisation of SDGs: At National & Sub-national Levels

T.S. Tirumurti, India's former Permanent Representative to the UN, emphasised that for countries like India localising SDGs is crucial for the success of the 2030 Agenda. He opined that breaking down goals to sub-national and local levels is key to achieving SDG targets, as it empowers local governments to develop solutions for local challenges. He also highlighted that localisation involves not just government actions but also civil society organisations (*The Hindu*, 2021).

Towards localisation of SDGs, the Government of India had submitted two VNRs, and a '*Strategy for New India @75*'. The India VNR 2017 included progress of State and Union Territory governments on respective programmes and initiatives in cognizance to the SDGs, specifically on achieving goals on eradication of poverty, food security, promoting well-being, gender equality, sustainable industrialisation and fostering innovation, life below water, and revitalising partnerships (NITI, 2017; NITI, 2018).

The VNR 2020 covered all 17 SDGs and more specially Goal 11 regarding how to make cities and human settlements inclusive, safe, resilient, and sustainable. As per the VNR, Government of India, through various schemes and initiatives aligned with SDG 11, promotes inclusive and sustainable urbanisation and aims to enhance capacities for participatory and sustainable urban planning and management. (NITI, 2020). Despite an elaborate VNR 2020, India fails to address the inequalities highlighted during the pandemic, particularly the challenges faced by migrant labourers, including their exodus from urban areas, safety, food security, and shelter during the lockdown, directly impacting SDG 11 and its targets (Ghosh, Nundy, and Mallick, 2020). The VNR while containing an elaborate process of steps to localisation of the SDGs at the national, sub-national and district level, has however, very little on reference on SDG Target 11.4 or its indicators.

Strategy for New India @75 document provides a strategy to accelerate economic growth to achieve the SDGs. The document defines the strategy for 2022-23 across forty-one areas, disaggregated under four sections: *Drivers, Infrastructure, Inclusion* and *Governance*. The document captures three key messages: (i) development must become a mass movement; (ii) development strategy should help achieve broad-based

economic growth to ensure balanced development across all regions and states and across sectors; and (iii) the strategy when implemented, will bridge the gap between public and private sector performance. The document has focused on replacing ‘development state’ with the ‘soft state’ (NITI, 2018).

NITI Aayog also came out with two documents on localising the SDGs, ‘*Localising SDGs Early Lessons from 2019*’ and ‘*The Indian Model of SDG Localisation*’ in 2022. The former defines the term ‘Localising’ as the “process of recognising subnational contexts in the achievement of the 2030 Agenda”. The process involves setting global goals and targets, determining application methods, and measuring progress with indicators, along with raising awareness and capacity building. NITI Aayog states that localisation means both supporting SDG achievement through local action and using SDGs as a framework for local development policy, involving participatory planning, implementation, and evaluation (NITI, 2019).

The ‘Sustainable Development Goals – National Indicator Framework – Version 3’ is a set of national indicators developed by the Ministry of Statistics and Programme Implementation (MoSPI) on nationalisation of the SDGs. This set of indicators consists of ‘306 national indicators along with identified data sources and periodicity following due consultation process with concerned Ministries/Departments, UN Agencies and other stakeholders.’ It informs that the review of National Indicators Framework (NIF) is a continuing process and suitability of the existing as well as new indicators are persistently examined by the MoSPI in consultation with stakeholders for corresponding targets (MoSPI, 2020; 2021). This serves as a benchmark towards how localisation of global goals gets executed.

Chetan Vaidya, in ‘*Role of Urban Planning in Achieving SDG 11 in India*’, highlighted that SDG 11 presents both challenges and opportunities for urban planners. He emphasises the need for a robust system of regular, comparable data at city and state levels, and underscores the importance of capacity building and partnerships among urban planners. Vaidya critiques the current focus on physical planning and stresses the need for interdisciplinary collaboration in areas like energy efficiency, climate change, urban economics, and finance. He urges planners to engage continuously with citizens, community groups, public agencies, the private sector, and academic institutions (Vaidya, C., 2020). Vaidya, however, does not talk about heritage management, as management of heritage is not necessarily new and has been amply addressed in planning. According to him, the potential role for urban planners against some Targets like 11.1, 11.2, 11.3, 11.7, 11.a and 11.b is positive, it is partial for 5 and 11.6 and nil for 11.c and 11.4, i.e., safeguarding of heritage.

“The SDGs are very critical, the act of conservation, the very spirit of conservation is actually to fulfil the SDGs” (Ravindran, 2021). And more specifically SDG 11 and within that the Target 11.4 indicate management of world’s cultural and natural heritage for building a safe, inclusive, resilient, and sustainable environment. According to

E.F.N. Riberio, “Two divergent sets of planning, i.e., spatial planning and socio-economic investment planning have come on to same platform. You need a spatial framework for investments.” He also observed that “Mapping shows how to incorporate heritage in the regional plans of revenue districts. Preservation and conservation of heritage through the canvas of sustainability could emerge as a major take off from the plan.” (Ribeiro, 2021).

Further, ‘Improving Heritage Management in India’ prepared by one of the verticals created to achieve SDGs with focus on heritage in India, highlighted that “currently, India’s heritage is under-financed and a comprehensive vision for heritage budget and planning with innovative means of financing is essential.” It further spells out that “heritage does not just constitute the important markers of India’s past but also presents a unique opportunity for generating employment and income through heritage tourism and local development” (NITI, 2019; NIUA, 2019). The focus on improving heritage management in India, however emphasises only on monuments of national importance.

Heritage City Development and Augmentation Yojana (HRIDAY) is one of the government incentives towards protection of heritage focused on urban areas and was launched at the national level to ‘preserve and revitalise’ the cultural heritage of India. It aimed at ‘conservation of heritage’, ‘urban planning’ and ‘economic growth’ of the selected cities. The scheme also emphasised on ‘accessibility, security, safety, livelihood, cleanliness, and faster service delivery in the selected cities. This, however was launched prior to the rolling out of the SDGs and Delhi has not been made part of scheme as it focused on medium sized cities. (MoHUA-NIUA 2015).

Towards SDGs sub-regional localisation, ‘SDG India Index: Baseline Report 2018’ has given State and UT- wise achievements of SDGs and has divided into these categories—Achievers, Front Runners, Performers and Aspirants. The Report discusses about ‘Institutionalising the Sustainable Development Goals in States’, with Planning departments acting as nodal departments and Steering Committees for finalisation of *Vision Document* and implementation of SDGs. The baseline report not only identifies the Indian government programmes within the global goals but also identifies interrelated goals while taking each of the goals separately (NITI, 2018). SDG India Index has the data for the period between 2018- 2020 and it shows the overall achievement of the SDGs across the states and Union Territories. The SDG achievement across India is divided into four categories of scoring, Achiever with a score of 100, Front Runners 65-99, Performer 50-64, and Aspirant 0-49. The draft ‘Vision Document 2030 for Delhi’ has designed programmes, projects, and schemes in accord with the SDG targets which are in sync with NIF (GNCTD, 2019). It is interesting to note that during the period between 2018-2020, there has been conspicuous absence of Achievers, the Aspirants and Performers. In 2020, there were no Aspirants, reflecting progress in localisation of SDGs. While the Goal-wise Performance has increased from 60 in 2019 to 66 in 2020, the individual SDG localisation at the national level has been between ‘improved’, ‘no change’ and ‘dropped’. To ensure that State governments and UTs have guidance and

capacities to monitor the SDGs at the state and lower levels, the MoSPI have developed guidelines within the NIF framework towards developing SIFs. In the 'Guidelines for Development of Sustainable Development Goals (SDGs) State Indicator Framework (SIF),' the Social Statistics Division at the National Statistical Office of the MoSPI, has provided guidelines to facilitate the State Governments and Union Territories of India to develop 'State Level Monitoring Framework' to track the achievements of the SDGs based on the 'National Indicator Framework' (MoSPI, 2019).

The Guidelines also highlighted the need for a State Indicator Framework (SIF) as it would hold primary responsibility for monitoring SDG progress at state, district, and local levels. States are encouraged to develop their own SIFs based on their unique priorities, data needs, infrastructure, and resources, and can adapt the National Indicator Framework (NIF) to local requirements. Each state must create its SIF in consultation with stakeholders, with provisions for ongoing refinement. Notably, Delhi has not yet established its SIF (MoSPI, 2019). It is worth noting that among all SIF and District Indicator Framework (DIF) and Block Indicator Framework (BIF) there have been no discussion of SDG Target 11.4 with respect to heritage.

At the national level in India, the localisation of SDGs, particularly in heritage management, can be significantly advanced through the preparation of Local Area Plans (LAPs). LAPs, as area-based strategies, allow for the integration of heritage structures within city cores into sustainable urban planning frameworks. The HRIDAY programme, while a precursor to the SDGs, highlighted the importance of conservation and revitalisation of urban heritage through comprehensive planning emerged from the initial pilots of HUL, e.g., Jaipur, Ajmer-Pushkar, Hyderabad and Varanasi (NIUA, 2022) and can be said to have taken an effort in this direction under the influence of MDGs. This alignment of LAPs with the SDG framework, particularly SDG 11.4, not only safeguards cultural and natural heritage but also promotes inclusive urban development. While the Indian National frameworks encourage states to adopt their own indicator frameworks, but there remains a gap in recognising heritage management under SDG 11.4. Therefore, incorporating LAPs for heritage-rich areas can ensure that local challenges are met with locally- driven solutions, contributing to the overall national achievement of sustainable development goals in India. The 12 HRIDAY cities though criticised heavily for not being culturally sensitive to the context, are however, good benchmarks towards integrating with LAP.

Localisation of SDGs: National Capital Territory of Delhi

In the SDG Index India, NCTD had moved from Rank 4 and score 62 in 2018, to Rank 5 and score 61 in 2019 and ending up at Rank 2 with a score of 68 in 2020. It shows an improved score in nine out of 15 SDGs, six have dropped score. Indicators and targets used to derive at this score, is however, not available and there are apparent discrepancies between the claim made and the ground reality.

The *Vision Delhi 2030 – Draft Report*, states that Delhi aspires to be an inclusive, equitable, liveable global city, providing equal economic, social, and legal opportunities to all its residents. It aspires to provide access to healthy livelihood, safe, just, and pollution-free environment, barrier-free mobility, and empowerment for all the residents in a time-bound manner with use of digital technology and good governance. The document has identified additional indicators for SDG Target 11.4 such as Percentage documentation of World Heritage Sites; Percentage of historical sites free of encroachment; Percentage of tourist sites with adequate basic services coverage; Percentage of tourist footfall; Nearness of tourist sites from police stations; Police per thousand of tourists, etc. (GNCTD, 2019).

In ‘*Sustainable Urbanisation in India and Delhi: Challenges and Way Forward*’, Debolina Kundu and Arvind Pandey state that challenges shared by both India and Delhi include insufficient efforts to localise SDGs, weak governance structures, financial constraints of city governments, involvement of multiple governing agencies, and a lack of reliable, timely data at a granular level (Kundu & Pandey, 2021). They further recommend the requirement of “a robust SDG localisation process involving local governments.” The paper focuses strictly on SDG 11 while taking each of the SDG 11 Targets one by one and identifying the present scenario, the trend, and challenges specific to Delhi in the broader context of India. The authors highlight the challenges while achieving SDG 11 in Delhi by stating that most of these challenges are structural and require intervention from state governments. Their paper argues that although localisation involves a bottom-up approach within the urban development policy framework, preliminary assessments reveal that implementing and monitoring SDG 11 at the municipal ward level has been a significant obstacle, leading to ‘limited efforts to localise SDGs. ‘Weak Governance Structure’ being yet another challenge identified in the paper. The emergence of powerful Resident Welfare Associations (RWAs) in Delhi that act as pressure groups representing mainly the middle-income and elite neighbourhoods and work as parallel agencies of governance, has diluted the scope and functions of Ward Development Committees, a mandate of the 74th Constitutional Amendment Act (CAA).

Furthermore, in Delhi, out of 18 functions to be devolved to cities under the 74th CAA, only four are under the MCD while the remaining 11 functions are under multiple agencies and three are with the state government. The complexity of governance structure is a major challenge in implementing and monitoring SDG targets at the local level. The paper also highlights the weak financial condition of ULBs, compounded by lack of financial autonomy to introduce new taxes and user charges. In Delhi, this has resulted in significant disparities in the provision of basic services, largely driven by the varying tax-raising capacities of different city governments. The authors note that the New Delhi Municipal Council, benefiting from Smart City Mission grants, has ample funds, leading to better housing and urban infrastructure compared to the south,

east, and north city governments in Delhi. Additionally, the lack of robust, timely data remains a challenge for localising SDG 11. Regarding Target 11.4, the paper highlights that protecting cultural and natural heritage is key. In 2019-20, India spent 40 USD per capita and Delhi 189 USD, with Delhi receiving more due to its historical significance. The authors advocate for a bottom-up localisation model (Kundu & Pandey, 2021).

MoHUA in the *'Sustainable Development Goals and Urban Local Bodies: The Future We Want'*, informs that "it is the city government that should have the primary responsibility of implementing the SDGs". It stresses upon that the ULBs have a crucial role to play in achieving the SDGs and its targets from the perspective of local communities and thereby local planning and implementation is a tool towards localisation of SDGs. In the context of the NCTD, the most vital role is played by the DDA both in terms of planning and in terms of management of heritage and policies. The Master Plans of Delhi (MPD) are formulated and based on the provisions of the Delhi Development Act, 1957, Chapter III (DDA, 1957). Delhi has, thus far witnessed four Master Plans, i.e., MPD 1962, MPD 2001, MPD 2021 and MPD 2041 (DDA, 2010; DDA, 1990; DDA, 1962). Management of heritage in the MPDs has come a long way since 1962, the starting point of organised urban planning of Delhi. If a comparison is made between all four MPDs, the MPD 2041 has come much ahead in terms of heritage conservation, in its definition, strategies and recommendations and incentivisation. With two volumes of action-oriented Plan with a monitoring framework, there has been clear shift in MPD 2041 from the earlier Master Plans. In presenting integrated planning as well as transversal reflection heritage in chapters of economy and environment, it provides an opportunity to harness the power of heritage to accelerate the achievement of the SDGs, target 11.4, which needs to be seen at the local level (DDA, 2021; NIUA-DDA, 2020). The plan of clubbing culture heritage and public spaces recommended in MPD 2041 is a good idea, but, if not carefully monitored, it may undermine heritage value of the city as a Historic Urban Landscape (HUL).

At the city level of Delhi, the localisation of SDGs in heritage management can be facilitated through the preparation of LAPs that target the city's core historic areas. The MPD 2041 has made significant strides in integrating heritage conservation with urban development, ensuring that the cultural and natural heritage of the city aligns with SDG Target 11.4. LAPs enable a bottom-up approach, allowing for the participation of local communities and aligning local planning with the broader objectives of sustainable urban development. This approach ensures that the Delhi's historical sites are not only preserved but leveraged to meet SDGs. Through careful planning and the monitoring framework provided by MPD 2041, LAPs offer an opportunity to harmonise heritage conservation with the economic and environmental needs of the city, supporting the achievement of the SDGs at the local level. However, implementation in this respect needs to be seen, more, since Delhi has been left of HUL as well as HRIDAY programmes.

Summing Up: Identified Research Gaps

The introduction of SDG 11.4, which emphasises safeguarding cultural and natural heritage, has significantly influenced urban planning, including the MPD 2041. This shift is reflected in the NIUA report, which highlights the importance of both designated and non-designated heritage in Delhi's historical narrative. However, rapid urbanisation impacts these resources. The MPD 2041 responds by prioritising urban conservation, integrating heritage management with key focus areas such as environment, water, mobility, housing, public spaces, and economic potential. It aims to establish connections between heritage assets and broader urban systems.

Despite these efforts, not only Delhi but also India's approach to localising SDGs, particularly SDG 11.4, remains largely top-down, with limited focus on specific heritage policies. While NITI Aayog has created verticals to address culture, current policies primarily focus on designated monuments, neglecting the broader scope of cultural heritage. The NIF has also made little progress in operationalising SDG 11.4, leaving its single indicator unchanged. Delhi has only produced a draft vision document for SDG achievement, lacking a SIF to guide implementation and integration of heritage management policies.

The need for bottom-up strategies is evident, particularly through the development of LAPs that can align local heritage management with global sustainability goals. These efforts can help foster inclusive, participatory governance and ensure that heritage assets contribute to equitable economic development and urban resilience. By refining heritage management approaches and strengthening integration within broader urban planning processes, Delhi and other heritage-rich cities can better achieve the SDG agenda, leveraging their cultural assets as critical components of sustainable urban futures.

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Social Sustainability of Neighbourhood Parks in India: A Systematic Review of Gaps and Directions for Further Investigation

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Abstract

Social sustainability is a key goal to be achieved in the built environment of cities. There is a need to operationalise the concept at the neighbourhood scale. This can be done by formulating context-specific objectives for planning and designing public spaces in the neighbourhood that are conducive to promoting social sustainability. Neighbourhood parks as public spaces at this scale can effectively create socially sustainable neighbourhoods in global south cities. Despite extensive theoretical literature on social sustainability, there is a lack of evidence-based empirical research on its relation to neighbourhood parks, especially in the urban Indian context. Therefore, this study aims to understand the gaps in the operationalisation of the concept and uncover areas for further examination for future research through a systematic literature review. The results indicate a western predominance with fewer studies in the Indian cities on social sustainability at the neighbourhood park scale. The study recommends future empirical research to investigate key components of social sustainability such as social interaction, social cohesion, participation, community building, place attachment, safety, and equity in relation to park quality, usage and participative management, etc. to formulate an evidence-based systematic assessment framework and methodology for neighbourhood parks.

Keywords

Sustainability, Neighbourhood parks, Systematic review.

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Introduction

Social sustainability as the third pillar of Sustainable Development, besides environmental and economic sustainability, has been a subject of debate and research within multiple disciplines. In the field of built environment research and praxis, social sustainability has figured both as a conceptual springboard as well as a goal to be achieved. Several scholars have established the relational aspect of social sustainability to the built environment (Mckenzie, 2004; Bramley et al., 2009; Cuthill, 2010; Dempsey et al., 2012; Murphy, 2012; Eizenberg & Jabareen, 2017). The concept of social sustainability has evolved over time, and certain trends have been traced in studies in the built environment domain.

The first is that social sustainability is an umbrella concept that may be defined as a set of general values, essential concepts, and basic characteristics, but which is also flexible and is adapted and reformulated as per the context. A shift is detected from traditional, “hard” themes such as employment, poverty, and basic needs towards more intangible, “soft” concepts such as identity, sense of place, happiness, and social networks (Colantonio, 2009; Shirazi & Keivani, 2017).

The second is that several associated concepts are used either within or in lieu of the social sustainability concept such as social equity (Cuthill, 2009; Bramley et al., 2009; Dempsey et al., 2012, Eizenberg & Jabareen, 2017), social cohesion (Raman, 2010; Stender and Walter, 2019), social capital (Cuthill, 2009; Colantonio, 2009; Moroke et al., 2019) and well-being (Dempsey et al., 2012; Brulé, 2022).

The third is that there is a shift in the scale of application of the concept from the macro scale (city and region) to the micro scale (communities and neighbourhoods), pointing to the significance of communities and neighbourhoods as the primary spatial units, not only for investigating but also for achieving social sustainability (Shirazi & Keivani, 2017; Madanipour, 2021).

The fourth is that the indicators and measures of social sustainability are related to the scale and the context of application. They have moved from physical and quantitative aspects, such as access to urban resources, to more qualitative aspects, such as a sense of place or well-being (Brulé, 2022), which tend to be perception-based and place-specific. Shirazi & Keivani (2017) identify seven key principles of social sustainability as:

- Equity
- Democracy, participation, and civic society
- Social inclusion and mix
- Social networking and interaction
- Livelihood and sense of place
- Safety and security
- Human well-being and quality of life

Social sustainability needs to be operationalised at the neighbourhood scale and adapted and re-formulated specifically to the social, cultural and economic context to plan and design a built environment conducive to promoting the key principles of social sustainability. Madanipour (2021) argues for neighbourhood public spaces as an effective tool for ‘micro-urbanism’ to create sustainable urban neighbourhoods. A key component of urban neighbourhoods is the public green spaces and parks that play a significant role in people’s everyday lives by providing space for human contact and interaction, community life and individual well-being. These urban green spaces (UGSs) are an essential resource in urban areas that provide people with ecological, economic, health and social benefits. UGSs exist at different scales in a city.

Neighbourhood parks are the most proximate public spaces at the neighbourhood scale, and residents frequently use them. There is a distinct emphasis on the social aspect of UGSs in most global initiatives and indices and their importance in achieving sustainable, healthy, and liveable cities. SDG 11.7 explicitly states: “*Provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities by 2030*” (United Nations, 2015).

The growing interest in UGSs shows a need to translate the concept of social sustainability to the context of global south cities and develop evidence-based systems of operationalising social sustainability in urban neighbourhoods. It is pertinent to understand the mechanism through which UGSs are provisioned in local planning policies, the standards of space and quality that govern their design and their role in promoting social sustainability in urban neighbourhoods. Through extensive literature research, this paper aims to establish the current state of scholarly research available and the gaps and challenges in the theory and practice of planning neighbourhood parks for social sustainability in Indian cities. To investigate and analyse this topic in more detail, this study identified the following main objectives:

1. To identify the available body of research on urban parks in the context of social sustainability at the neighbourhood scale, especially in Indian cities and analyse their contextual (geographical, temporal and thematic) trends.
2. To identify the approach and methodology employed in the research on urban parks to promote social sustainability at the neighbourhood scale.
3. To identify the gaps and limitations in existing studies on neighbourhood parks in India and make recommendations for future research to promote social sustainability in urban neighbourhoods.

Method of Review

This study reviews research articles that use empirical research methods to investigate the role of neighbourhood parks in promoting social sustainability objectives at the neighbourhood scale in Indian cities. A systematic literature review process is followed,

which entails identifying, evaluating, and interpreting extant studies relevant to a specific question, topic, or phenomenon. Three steps for systematic literature review, planning, conducting and reporting the outcomes are followed (Kitchenham et al. 2010). Planning involves the identification of research objectives and the development of a review protocol for developing the inclusion and exclusion criteria and a search strategy. Conducting this involves selecting the articles based on the review protocol, as well as data extraction and data synthesis. Finally, reporting the outcomes involves presenting the findings based on the information obtained from the selected articles.

Review Protocol

This study adopts the review protocol suggested and summarised in previous studies by Niknejad et al., (2020). It focuses on articles published in the English language up to June 2024. A sequential selection process using three criteria and attributes is employed as indicated in Table 1. The review protocol process is presented in Figure 1.

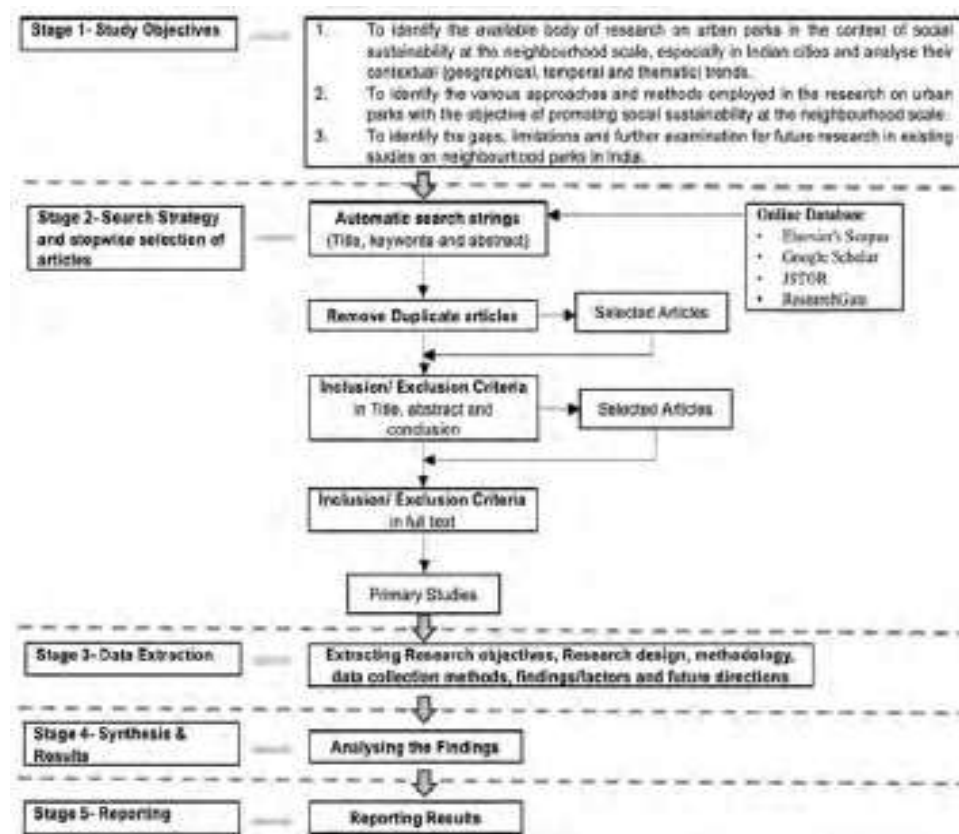


Figure 1: Review Protocol Process

Source: Authors.

Search Strategy

The most relevant studies have been identified from Elsevier's Scopus database, which is the largest database for peer-reviewed international conferences and journals, Google Scholar, JSTOR and ResearchGate. The keyword search strings included a combination of "park" and its synonyms with either "social sustainability" or "India" or both. The keyword search strings according to the study objectives that have been used are: "park" OR "green space" OR "urban green space" OR "neighbourhood parks" OR "neighbourhood open space" OR "urban parks" AND "social sustainability" AND "India". The keywords positions were shifted and deleted during each search process to obtain the most relevant papers using the automatic search method in the Scopus database. The title, abstract, and keywords were searched for in the first identification stage, resulting in 1031 articles. Through the inclusion and exclusion criteria and duplicate elimination, 248 articles were identified. Titles, abstracts and conclusions were reviewed to extract 133 articles in the next stage. After that, full-text scanning was done, resulting in the elimination of 79 articles. Finally, 64 articles were left, which were more relevant to the objective of the current review. These were the primary studies used for this systematic review.

Table 1: Sequential Selection Process Based on Inclusion and Exclusion Criteria

Criteria	Attributes	Inclusion	Exclusion
Quality	- Language - Year of publication - Review process - Information availability	Articles in the English language Article published up to June 2024 Peer-reviewed studies, conference proceedings Full text	Other languages than English Non-peer reviewed studies, book chapters Articles less than 3 pages
Approach	Discipline	Studies pertaining to aspects of social sustainability and its allied concepts	Studies pertaining to other sciences and fields such as environment, ecology, biological sciences, earth and planetary sciences, energy, medicine, neuroscience, business and management, psychology, etc
Scale	Scale of investigation	Studies about urban parks that are provided to serve neighbourhoods	Studies about National parks, reserve forests, bio-reserves, knowledge parks, etc.

Source: Authors.

Data Extraction and Synthesis

Each primary study was read carefully, and the data pertaining to the heads elaborated in Table 2 was extracted into a Microsoft Excel spreadsheet. The extracted data from the primary studies is presented in Appendix A.

Table 2: Description of Heads of Extracted Data

Extracted Data	Description
ID	Study ID
Title of study	The title of the paper that is visible in the searching step.
Author(s)	The name of the authors.
Publication	The year in which the paper was published.
Objective	The main objective of the papers.
Theory/Framework	The theory or framework the paper adopted
Geographical context	The place where the empirical studies were conducted.
Scale of investigation	The hierarchical scale of urban park investigated in empirical studies
Target Population Group	The representative population group of data collection in empirical studies
Research strategy	Case study, survey, experiment, action research, archival research, etc.
Methodology	Quantitative, qualitative, mixed method, etc.
Spatial data	GIS, NVDI, satellite imagery, field observations, documentation, plans, park audits, etc.
Social data	Interview, questionnaire, mixed method, etc.
Online database/ publisher	Online database/publisher
Findings/ Factors	The factors or findings of the empirical studies, outcome
Future work	The future work suggested in the primary articles.

Source: Authors.

Findings and Results

This section discusses findings and results related to each objective stated earlier.

Objective 1

The first objective was to identify the available body of research on urban parks in the context of social sustainability at the neighbourhood scale, especially in Indian cities and analyse their contextual (geographical, temporal and thematic) trends.

Geographical Trend

A preliminary search in the Scopus database for published research on social sustainability of neighbourhood parks in the title, abstract and keywords and limited to social science subject area for the last thirty years using the search string “social” and

“sustainability” and “parks” was conducted, which produced 531 results. Search with search strings “social” and “sustainability” and “neighbourhood” and “parks” produced 58 results. This shows that social sustainability at the neighbourhood park scale has not been researched adequately. A geographical analysis of the results indicates a western predominance with very few studies in the Indian cities (12 in the first case and 2 in the second case). The geographical trends are shown in Figure 2 & Figure 3.

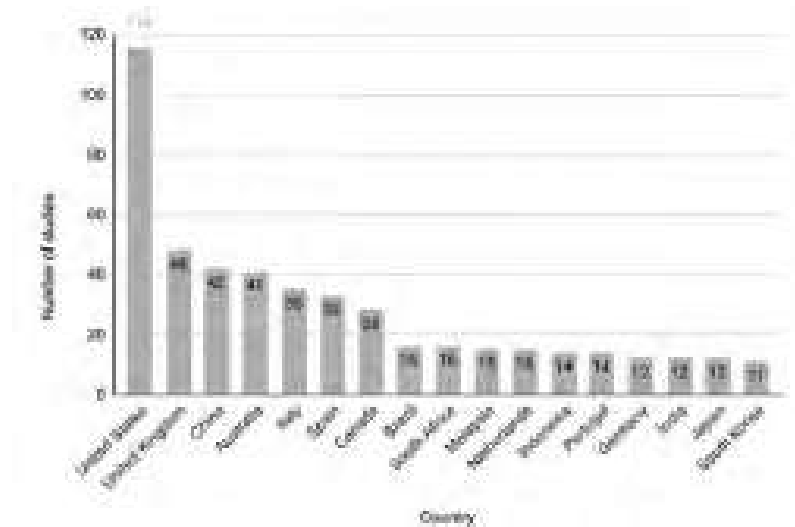


Figure 2: Geographical Trend of Top 25 Results using Search String “social” and “sustainability” and “parks”

Source: Scopus database.

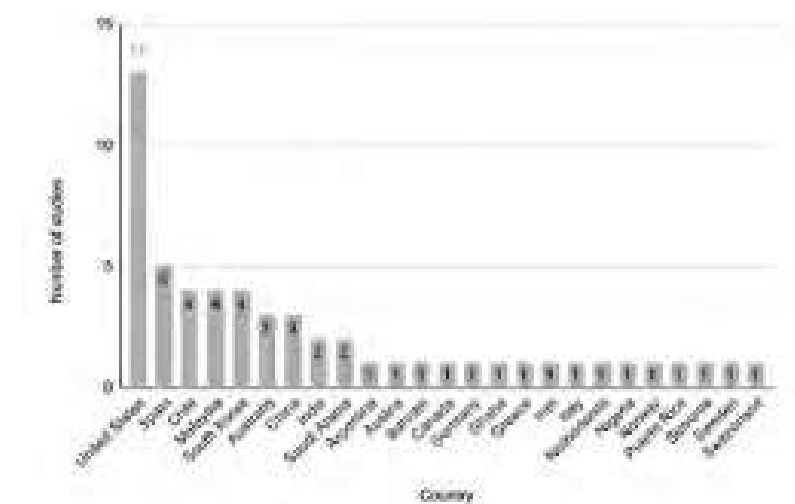


Figure 3: Geographical Trend of Top 25 Results using the Search String “social” and “sustainability” and “neighbourhood” and “parks”

Source: Scopus database.

Temporal Trend

A temporal analysis of the 531 results indicates a rise in 2012, which coincides with the United Nations Conference on Sustainable Development Rio+20, 2012. A rise is seen post-2016, following the 2015 UN Sustainable Development Summit. The subsequent steep rise is seen after the COVID-19 pandemic in 2021 (Figure 4). In primary studies as well (Figure 5), there are few articles before 2015. However, after the 2015 UN Sustainable Development Summit, when the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) were adopted by member states, there was a rise in the research on sustainability issues. However, social sustainability related to parks does not show a big jump till 2021. After the Covid pandemic in 2021, there has been a marked rise in concern for open green spaces like parks in the sustainability agenda. Most articles were published in 2023 (10 papers), followed by 2021 with nine papers and 2022 with eight papers.

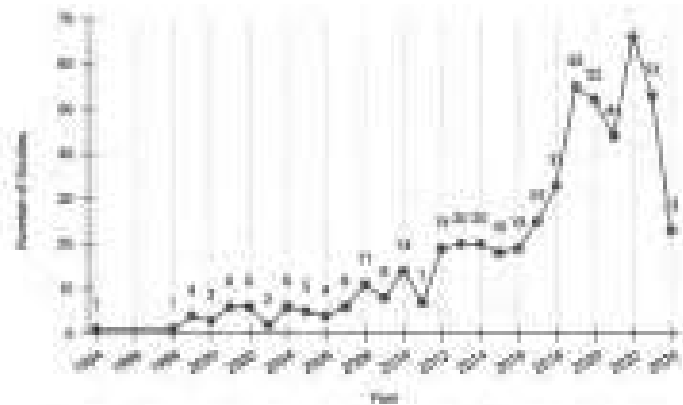


Figure 4: Temporal Spread of 531 Results using the Search String “social” and “sustainability” and “parks”

Source: Scopus database.

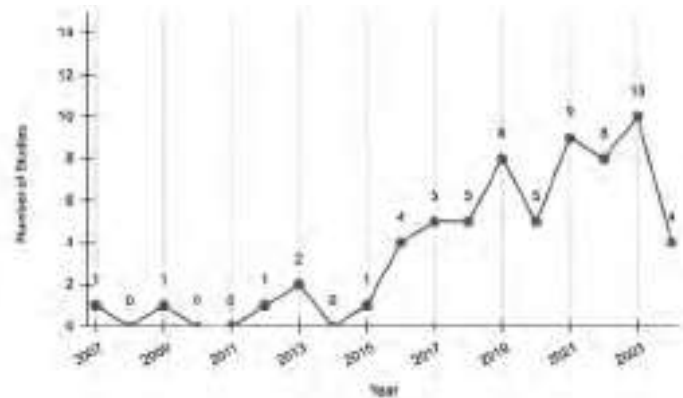


Figure 5: Temporal Spread of Primary Studies

Source: Authors.

Thematic Trend

This study has identified five broad themes or central topics explored in the primary studies described in Table 3. The trend analysis indicates that most studies (61%) deal with social themes due to the search string specifications, and 21% pertain to availability-accessibility-equity of parks. On the other hand, three themes are explored to a lesser extent: 8% conceptual research, 6% focusing on park quality and 5% on the organisational aspects (Figure 6).

Table 3: Description of Heads of Extracted Data

Theme	Description
Conceptual	Studies that focus on describing and analysing one or several theoretical aspect of social sustainability of urban parks.
Social	Studies that focus on social sustainability issues related to people and their perceptions, use and attitude towards parks and/or their specific qualitative aspects.
Availability, accessibility, equity	Studies that focus on describing and analyzing the provision, distribution and resource accessibility of parks for equity.
Organisational	Studies that focus on describing and analyzing the institutional frameworks for provision, management, maintenance of parks.
Park quality	Studies that focus on describing and analyzing the qualitative aspects of park planning and design.

Source: Authors.

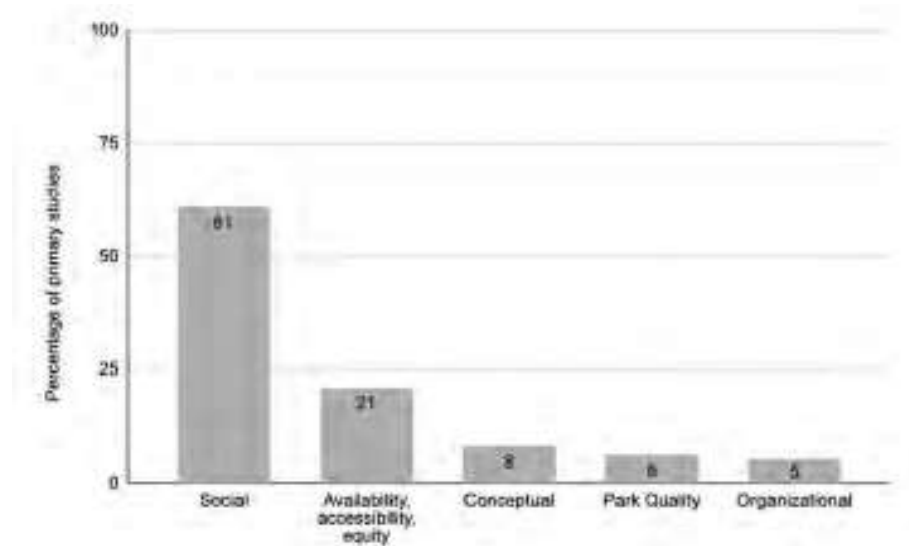


Figure 6: Thematic Trend of Primary Studies

Source: Authors.

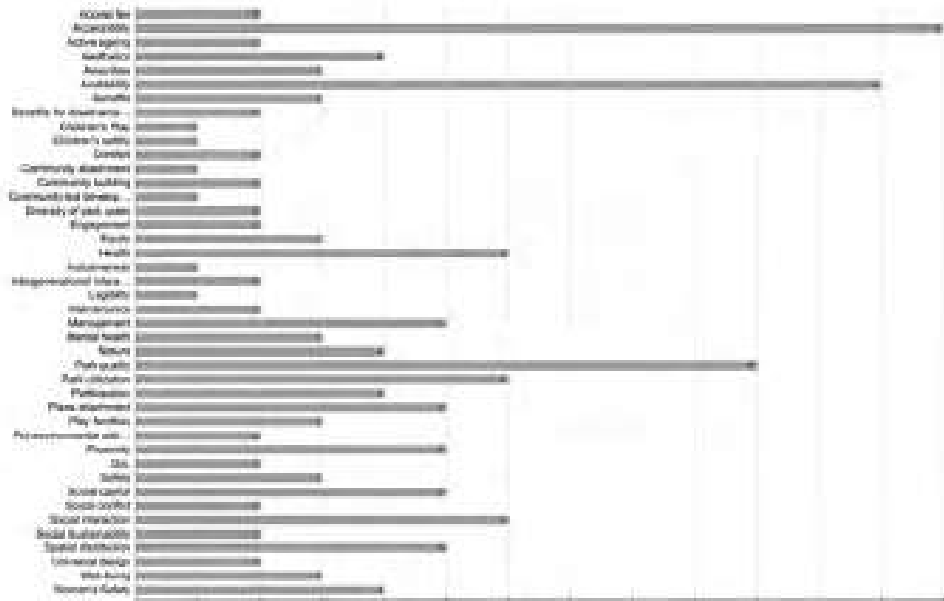


Figure 8: Checklist of Sub-Themes within the 'Social' Main Theme

Source: Authors.

Objective 2

The second objective was to identify the various approaches and methods employed in the research on urban parks to promote social sustainability at the neighbourhood scale.

Types of Research Strategy and Methodology Adopted

The present study uses the term 'research strategy' to denote the overall research approach (case study, survey, experiment, review, action research, archival research, etc.) and the term 'research methodology' to denote the techniques and procedures for analysing data (Quantitative, qualitative, mixed method, etc.).

Figure 9 presents the research strategies that were employed by the primary studies. As is evident, the majority of studies (36 papers) adopted a case study approach to assess the social sustainability of parks, with a single case study in 8 papers (13%) and multiple case studies in 28 papers (44%). 15 papers (23%) adopted a geospatial approach, indicating that many studies used green cover as an assessment criterion for urban green spaces. Other studies used survey and review strategies (6% each). Figure 10 shows that the majority of studies (21 papers) adopted quantitative methods to analyse the data for the social sustainability of parks, followed by qualitative methods in 19 papers (30%) and mixed methods in 18 papers (28%). 6 papers (9%) were based on a literature review.

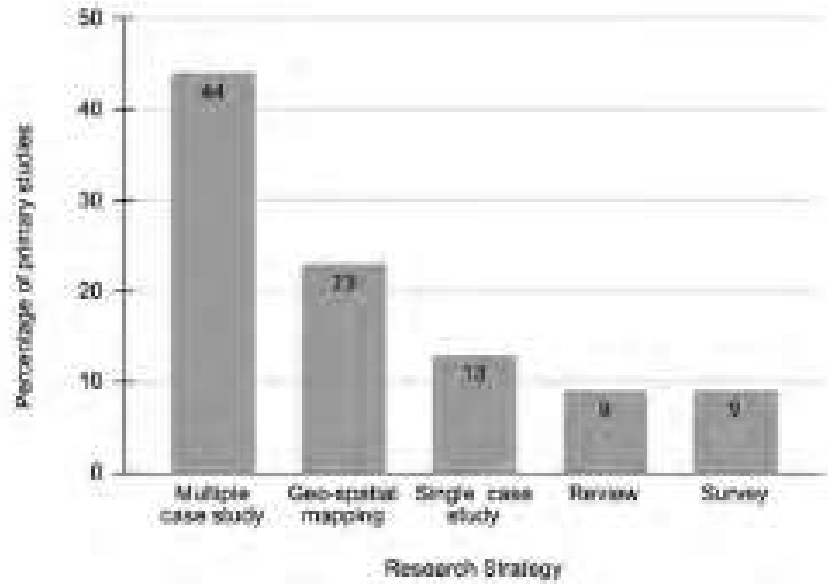


Figure 9: Research Strategy adopted in Primary Studies

Source: Authors.

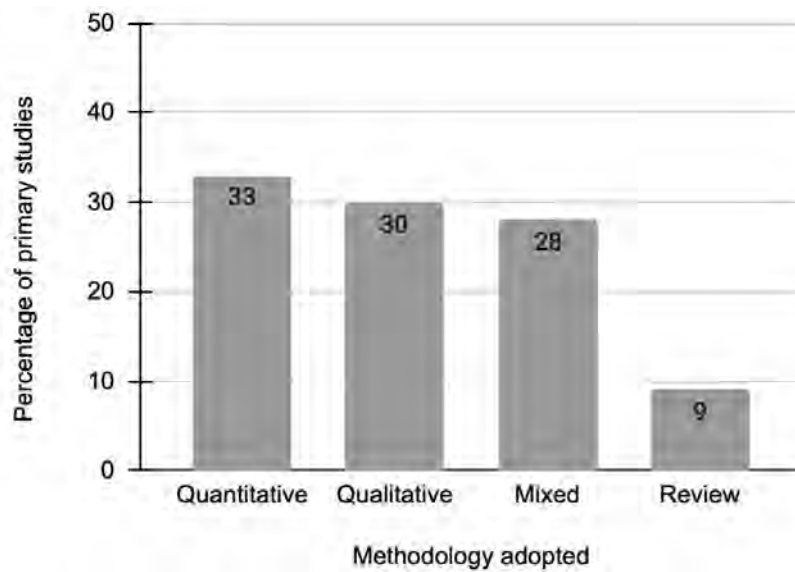


Figure 10: Research Methodology adopted in Primary Studies

Source: Authors.

Spatial Data Collection Method Used

Since this study is investigating the physical space of parks, it is vital to analyse the methods employed to collect spatial data for them. Figure 11 shows that 48% of

primary studies used spatial data for analysis. The majority of them employed GIS mapping (15 papers), followed by field observation and documentation (10 papers) and park audits (3 papers). Others used various methods, such as secondary sources, plans, and Google Maps. 52% of studies did not use spatial data and relied only on user data without collating it with physical aspects of parks.

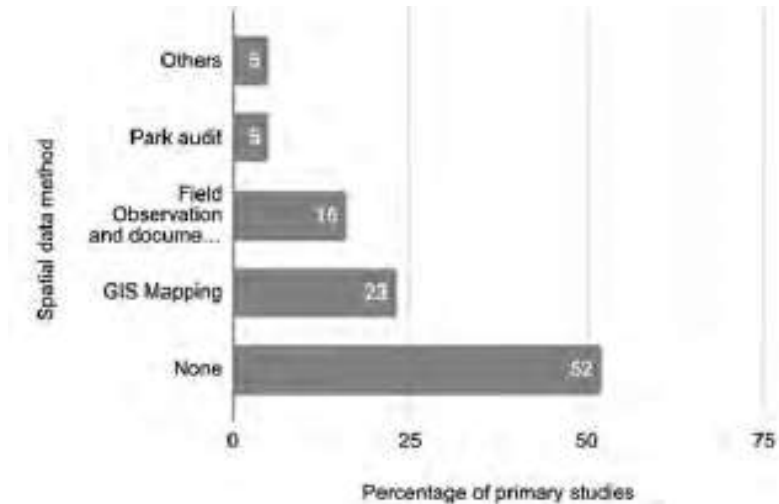


Figure 11: Spatial Data Collection Method adopted in Primary Studies

Source: Authors.

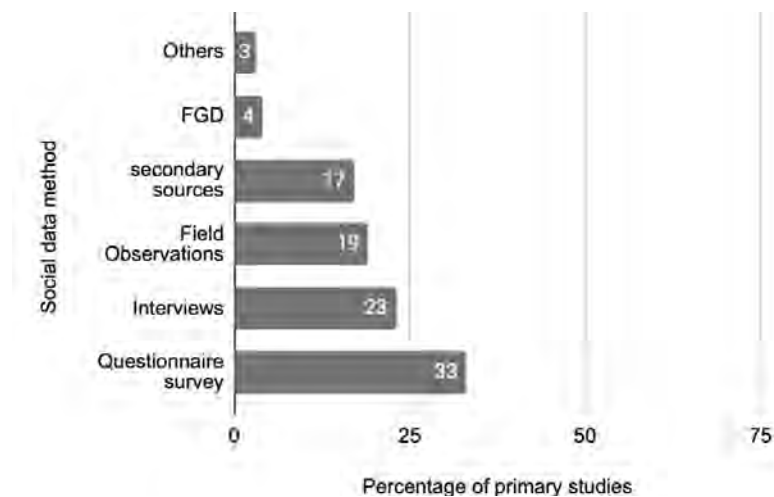


Figure 12: Social Data Collection Method adopted in Primary Studies

Source: Authors.

Social Data Collection Method Used

Social sustainability research requires capturing user-related data. Figure 12 shows that 87% of primary studies used social data for analysis, collected using questionnaire

surveys (23 papers), interviews (16 papers), field observations (13 papers), focus group discussions and others (5 papers). Others employed secondary sources (12 papers) like census data. 13% of studies (8 papers) did not use social data. Out of these, 6 were theoretical literature reviews, and the remaining two papers relied only on quantitative spatial data without collating it with park users. 20% of studies used more than one method for gathering social data about user perception, usage and opinion about parks.

Research Gaps and Recommendations

Objective 3

For the third objective, studies on empirical research in Indian urban contexts were examined for six parameters identified from this review: park hierarchy in focus, central research theme, sub-themes of social sustainability, criteria of park assessment, spatial data type and park-user category.

Park Hierarchy in Focus

Figure 13 for the hierarchy and type of space shows that most studies considered green spaces and parks at the entire city scale. Of these, 19.2% investigated all urban green spaces across a city, including all parks, gardens, playgrounds, rivers, lakes, urban forests, buffer green corridors, etc., 14.9% investigated parks and playgrounds of all hierarchies across a city, 27.8% considered only city-level parks, i.e. parks that serve large populations across a city. Only 38.3% of the studies investigated neighbourhood-level parks and playgrounds. The results show that studies investigating green spaces at the micro-level of the neighbourhood are fewer and that neighbourhood parks are under-researched in India. It is recommended that research focussed on neighbourhood parks in different cities be undertaken.

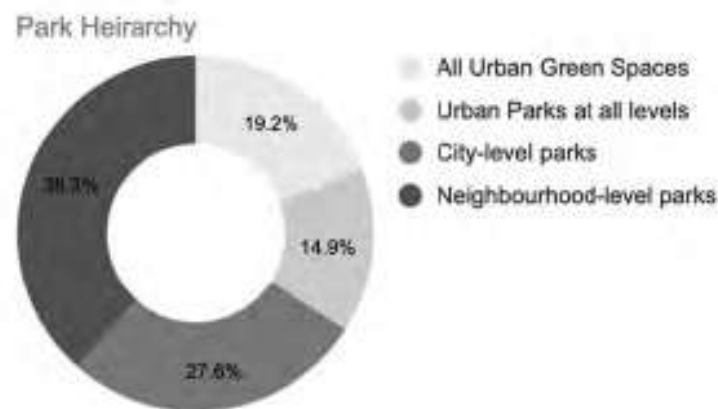


Figure 13: Hierarchy and Type of Space Investigated in Primary Studies

Source: Authors.

Central Research Theme

Further analysis shows that even fewer studies (12 studies) investigate social sustainability and its sub-themes at the neighbourhood park scale in India. This indicates a research gap in the theorisation and operationalisation of social sustainability in the context of the Indian built environment, especially at the scale of neighbourhood parks. Further studies that investigate social sustainability as a holistic goal need to be conducted to operationalise it at the neighbourhood scale for maximum benefits to accrue to people.

Sub-themes of Social Sustainability

A deeper textual analysis of selected studies indicates that not all aspects of social sustainability are uniformly addressed in the extant research as shown in Table 4. Aspects related to social interaction (e.g. Ahirwal, 2020; Karuppannan and Sivam, 2013; Verma, 2017), human well-being (e.g. Adlakha, et al., 2020; Mukherjee et al., 2017), quality of life and safety and security (e.g. Subramanian and Jana, 2018) in neighbourhood parks are investigated to a greater extent. These aspects are related to tangible physical aspects of neighbourhood parks, such as the presence of amenities that support social interaction, physical activity, active and passive recreation and playing, such as seats, benches, walkways, play areas, sports facilities, etc. and are thus, easier to capture. Aspects related to equity, democracy, participation, sense of place, and social inclusion are infrequently investigated in the Indian context. These aspects are relatively more intangible in nature and subject to change according to a place's social, cultural, and economic context. Hence, it is recommended that future empirical research investigate some of the less tangible aspects of social sustainability, such as equity, democracy, participation, sense of place, place attachment and social inclusion at the neighbourhood scale.

Table 4: Sub-Themes of Social Sustainability in Selected Indian Studies

S. No.	ID	Reference	Key Principles of Social Sustainability (Shirazi and Keivani, 2017)						
			Equity	Democracy, Participation & Civil Society	Social Inclusion & mix	Social Interaction	Sense of Place	Safety & Security	Human Well-being & Quality of Life
1	S4	Karuppannan and Sivam (2013)				✓			
2	S5	Mohapatra and Mohamed (2013)		✓		✓	✓		

S. No.	ID	Reference	Key Principles of Social Sustainability (Shirazi and Keivani, 2017)						
			Equity	Democracy, Participation & Civil Society	Social Inclusion & mix	Social Interaction	Sense of Place	Safety & Security	Human Well-being & Quality of Life
3	S14	Mukherjee, et al., (2017)							✓
4	S15	Verma (2017)				✓			
5	S17	Subramanian and Jana (2018)						✓	
6	S27	Gaikwad and Shinde (2019)			✓	✓			✓
7	S31	Tyagi and Raheja (2020)						✓	
8	S32	Adlakha, et al., (2020)				✓		✓	
9	S33	Ahirwal (2020)				✓		✓	
10	S35	Agarwal, et al., (2021)				✓		✓	
11	S36	Adlakha et al., (2021)	✓	✓		✓	✓		✓
12	S43	Shukla and Chhabra (2022)			✓	✓	✓	✓	✓

Source: Authors.

Criteria of Park Assessment

Several scholars have emphasised the importance of park quality for achieving higher park usage, user satisfaction, place attachment and sense of place (Karuppannan and Sivam, 2013; Ahirwal, 2020; Ahirrao and Khan, 2021). However, wide variation is seen in the criteria used to assess the quantity and quality of green space. For example, the Urban Neighbourhood Green Index (UNGI) by Gupta et al. (2012) measured the quality of UGS as type of green i.e., dense, low/grass vegetation, etc. On the other hand, Ghale, et al. (2023) measured the aesthetic quality of Public Urban Green Spaces (PUGS) by the bird population and the presence of water bodies in and around them and the surface quality as the types of surfaces, categorised as dense vegetation, sparse vegetation, waterbody, and impervious surface, in and around them to form a composite

green space index (CGSI). These studies measure the quality of green space in terms of its green cover and other landscape aspects only. In most studies, park availability, accessibility, and equity are measured quantitatively, which may be appropriate at the city scale. However, there is a need for a paradigm shift from the existing quantitative approach to a more user-centric approach for investigations at the neighbourhood scale.

Further, although several researchers have approached park quality from a design perspective, there is an evident variation in the criteria and indicators used. Ahirrao and Khan (2021) proposed the Public Open Space Index (POSI) based on aspects like Individual well-being, Inclusiveness, Engagement, Space sustainability and Management of city-level public parks. In the Public Space Inclusive Matrix (PSIM) proposed by Shukla and Chhabra (2022), approach, social connect, engaging park amenities, safety, maintenance and comfort are used as the criteria to appraise park quality. The Quality Neighbourhood Parks Criteria (QNPC) used by Ahirwal (2020) measures park quality in terms of five parameters, i.e. features and facilities, accessibility, cleanliness and maintenance, aesthetic value and vegetation and safety. This shows that various researchers have employed different criteria and indicators to assess the quality of green spaces in Indian cities. This points to a need to develop objective park indicators related to design, quality, users, etc. Standardisation of the criteria pertaining to neighbourhood park assessment is expected to produce more reliable and comparable results across park hierarchies and cities. Hence, this study recommends that further research is required to formulate an evidence-based systematic assessment framework for neighbourhood parks based on planning and design aspects such as accessibility, universal access, amenities and facilities, thermal comfort, physiological comfort, safety and security, landscape quality and ease of use. It is recommended that park quality and quantity be empirically investigated in future research for empirical validation in different urban contexts.

Spatial Data Type

Owing to the variation in the criteria used, there is a variation in the type of spatial and social data used and the methods of data collection employed. In 52% of studies, spatial data was not built into the investigation, and only user data was used for analysis. Most studies used GIS mapping, which is not appropriate for capturing the granular data at the neighbourhood scale. Incorporating the user perception and experience with the actual ground reality of the space in any inquiry regarding public spaces like parks is bound to give more realistic results. It is shown that more granular data (both spatial and social) ensures a finer understanding of the social aspects of neighbourhood parks and leads to better outcomes in terms of design and policy. It is recommended that future research be undertaken to develop a systematic method for capturing detailed spatial data on the ground for various hierarchical scales of parks. For this, structured audit tools for parks in the Indian context may be developed as a strategy.

Park-User Category Addressed

Research has shown that perceptions, park usage, and experiences vary for users based on specificities like age, gender, socio-economic category, and contextual specificities related to cultural, religious, social, and economic aspects. Analysis of results in Fig 14. show that 37% of the studies did not address any specific user category. In the studies that addressed specific user categories, those targeted towards older persons were the highest (16%), followed by women (10%), children (4%) and informal economy workers (2%). A high percentage did not consider the users (27%). This shows that about one-fourth of Indian studies focus on a quantitative assessment of green spaces and consider physical accessibility based on distance alone. Most user-based studies investigated park use by people as a general category and did not disaggregate based on differences in age, gender or socio-economic characteristics.

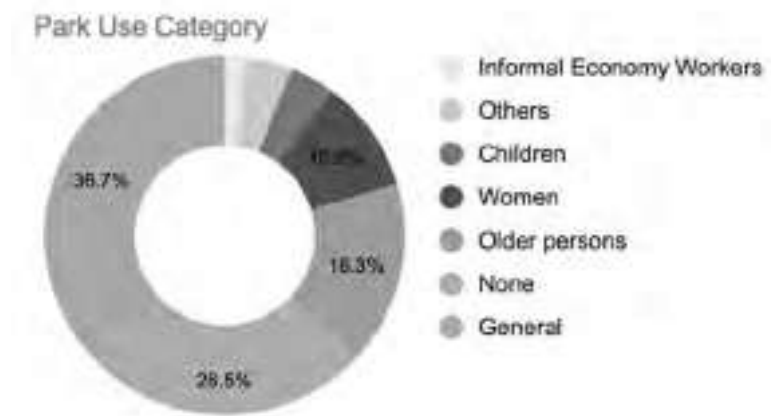


Figure 14: Park User Category Investigated in Indian Studies

Source: Authors.

Several authors have indicated park use constraints due to safety and security concerns for women (Mahadevia and Lathia, 2019; Grover, 2016; Mishra and Gupta, 2018). Other studies identified particular aspects related to other user groups in parks, including needs of older persons and active ageing (Subramanian and Jana, 2018; Ali, et al., 2022; Adlakha, et al., 2020, 2021), active play and recreation needs of children (Agarwal, et al., 2021) and inclusive spaces for diverse user types (Sahakian, et al., 2020). Children, especially younger children, have limited independent mobility from home. Women and older persons who are home-based have a greater need for social interactions in the proximity of home. As a result, the park usage and experience of these three user groups are vital to be studied in the Indian context.

Furthermore, in Indian cities, neighbourhood parks are used not only by the residents but also by people engaged in livelihood in urban neighbourhoods, by people living in other nearby residential areas, service providers, etc. Park usage by different

user groups may lead to conflicts and dissatisfaction if not catered for in the planning and design (Sahakian et al., 2020). Findings by Tyagi and Raheja (2020) indicate that park use by non-residents from low-income residential localities generates a sense of mistrust in parents, affecting their decision to allow children to play in parks. This shows that the socio-economic character of park users has an impact on their park usage and experience. Indian cities showcase a wide variation in their socio-economic, cultural and religious character which affects how public spaces like parks are used by different people. Although there is an uptick in studies about specific population groups, in these, there is an under-representation of studies on park experience and equity matters of people belonging to lower socio-economic categories, minority groups, informal economic sector, children and women. Therefore, the social equity of park usage by diverse groups needs to be investigated, based on the specific socio-economic, cultural, and religious characteristics of Indian cities. The results show a gap in research on parks based on specific user types in the Indian context. Hence, this study recommends more evidence-based, contextual, empirical research that places the user at the centre. Also there is a need for research on park usage and experience of women and children as specific and important user groups.

This study identifies two research gaps concerning two vital neighbourhood park aspects. The first is about the typicality of planning of Indian cities and the resultant green spaces. For neighbourhoods to be liveable and socially sustainable, satisfaction with the place and a sense of belonging are vital to generate a sense of place for the residents. Based on their typology, neighbourhoods have different built environments and the character of neighbourhood open spaces. Neighbourhood parks and associated open spaces like streets vary in different neighbourhood typologies. Compact and organic urban neighbourhoods have well-integrated and small neighbourhood open spaces in parks, while planned residential neighbourhoods may have larger fragmented neighbourhood parks. The shape, size, connectedness, and form of parks, as well as the resultant park experience and usage pattern, vary according to the layout typology and urban form. This review identified only one comparative study based on neighbourhood typology by Karuppannan and Sivam (2013) on neighbourhood parks in planned residential neighbourhoods. Neighbourhood typology, urban form or planning mechanism has not been factored in the remaining studies. Investigations in park research based on these factors are vital for creating a more responsive and appropriate neighbourhood open space network. Therefore, it is recommended that future research on neighbourhood park factors in the diverse typological and urban form variations that exist in Indian cities with a focus on comparative analysis based on building density, morphological layout, park sizes and forms, street layout, etc.

The second research gap concerns the operational and management aspects of neighbourhood parks. In most Indian cities, neighbourhood parks are maintained and managed by urban local bodies such as the Municipal Corporation of Delhi. In some cases, the Residents Welfare Associations of neighbourhoods are also involved. A few

primary studies indicate that participative, user-driven and collaborative mechanisms may be effective and that the management mechanism needs to be restructured in terms of power and responsibilities towards a more user-participative approach to ensure the sustainability of urban parks. Anand and Bhattacharya (2023) highlight the residents' perceptions of and interests in urban green space management and the key obstacles facing UGS management; Subramanian and Jana (2019) evaluate the impact of financial management of recreational open spaces in the city on their use value and Mohapatra and Mohamed (2013) investigate the relation between residents' sense of attachment to the neighbourhood parks and their attitude for participation in managing them. However, there is inadequate research on these aspects in the Indian context. The findings of this systematic review show that there are not enough empirical studies that have examined the effectiveness of existing mechanisms for the maintenance and management of neighbourhood parks, the challenges and gaps in those systems and the way forward for their efficacy. It is recommended that future research in the various management and organisational systems related to parks in Indian cities is undertaken, specifically to examine the effectiveness of existing mechanisms for the maintenance and management of neighbourhood parks, the challenges and gaps in those systems and the role of participative, user-driven and collaborative mechanisms for park management.

Conclusion

Urban green spaces occupy an important place in the discourse for smart and inclusive cities and neighbourhoods. Social sustainability is a key tool to achieve these goals, especially in global south cities. This systematic review has been conducted to establish the current state of scholarly research available and the gaps and challenges that exist in the theory and practice of planning and design for neighbourhood parks for social sustainability in Indian cities. To the best of the authors' knowledge, this is the first systematic literature review that has conducted an in-depth analysis of research on neighbourhood parks in India from a social sustainability standpoint. Following pre-established review protocols, the review examined the extant research and discussed the geographical, temporal and thematic trends to date.

Further, sub-themes of under-researched social sustainability have been identified, which can aid academic researchers in identifying a research area of interest that requires further work. Subsequently, through a detailed textual analysis, the review identified the theoretical and empirical research gaps in the planning, design and management of neighbourhood parks that need further investigations and research. Future directions and recommendations for academic work have been provided. To conclude, this systematic review could prove valuable for both academic researchers and urban planning professionals in developing evidence-based systems of operationalising social sustainability in urban neighbourhoods in Indian cities.

Note: Appendix 'A' can be accessed on request from the first corresponding author.

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Governance and Service Quality in Reorganised Jammu and Kashmir: A Case of Urban and Rural Consumers

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Abstract

The reorganisation of state of Jammu and Kashmir had prompted various noteworthy reforms aimed at ensuring good governance in the Union Territory. By employing the SERVQUAL Model, the study examines the quality of service delivery of the governance, post-reorganisation of the state from the citizens' perspective. The data were gathered using cluster random sampling technique and a total of 578 usable responses were collected on-site via self-administered questionnaires from the respondents belonging to urban, semi-urban and rural areas of the selected districts of Jammu & Kashmir. The data were analysed by adopting structural equation modeling for which PLS-SEM 4 was used. Findings indicate that all dimensions of service quality (tangibility, participation, rule of law, responsiveness, accountability and trust in government) significantly impact citizens' satisfaction. Therefore, SERVQUAL is an effective tool for determining citizens' satisfaction. Theoretically, this study contributes to the literature of good governance by incorporating the recent reforms initiated in the UT of J&K. Practically, it allows the policymakers and government officials to improve their services and further enhance satisfaction among citizens.

Keywords

Good Governance, Reforms, Jammu and Kashmir, SERVQUAL model, Citizens.

Introduction

In the recent years, good governance has emerged as an important concept in the realm of public administration, delving into the core principles and practices that underpin

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effective, responsive, and transparent management of public affairs (Beshi & Kaur, 2020). By adhering to principles like inclusiveness, accountability and participation, good governance fosters an environment where resources are effectively and efficiently utilised, diverse voices are heard and societal needs are addressed promptly (Thusi & Selepe, 2023). This holistic approach towards governance not only ensures that the governmental actions are conducted in an equitable and transparent manner but also promotes harmonious and sustainable development of the citizens (Giao, 2021).

Good governance contributes to an equitable distribution of income and poverty reduction, thereby enhancing stability and social cohesion among the citizens (Chien et al., 2022). This is particularly crucial in Jammu and Kashmir following the reorganisation of the state in 2019 into two Union Territories (UT)—Jammu and Kashmir, and Ladakh. The Reorganization Act, 2019 aimed to enhance integration with the Indian Union and foster socio-economic development. Moreover, strengthening of Panchayati Raj Institutions (PRIs) generating employment and strategising the infrastructural development have been in the limelight since reorganisation. In this regard, various initiatives such as setting up of delimitation commission, announcing New Industrial Policy of J&K, implementing the 73rd Amendment Act, Land Allotment Policy, programmes like *Bhrashtachar Mukh* and *Nasha Mukh*, ending of *Durbar Move*, Mission Youth programme, 'Back to Village' programme, and several Digital India schemes across the UT have been initiated to encourage good governance.

Against this backdrop, it is imperative to note that for the understanding of these governance reforms and the perceived satisfaction among the citizens, it is vital to study the citizens' perspective. This research evaluates the satisfaction level of the citizens with the recently implemented schemes, focusing on providing valuable insights to guide future policies and reforms. The current study employs the SERVQUAL model, demonstrating how citizens evaluate service quality post-reorganisation by considering the factors that contribute to its multi-dimensional subject. The SERVQUAL model is a widely accepted model to evaluate service quality and is applied in varied contexts to measure e-learning service quality (Sumi & Kabir, 2021); public transport (Luke & Heyns, 2020); and logistics sector (Roslan et al., 2015) to name a few. Thus, this study specifically aims to assess the relationship between the predictors of the SERVQUAL model and the citizens' perceived service quality, which highlights their satisfaction towards the governance of J&K post-reorganisation.

Theoretical Background and Hypothesis Development

The SERVQUAL model dates back to 1980's as given by Parasuraman et al., (1985) and serves as a comprehensive framework for evaluating the gaps between customer expectations and actual service delivery. This model elucidates that any discrepancies between the expectations and the actual delivery can negatively impact customer satisfaction and loyalty. The instrument of SERVQUAL model consists of five

dimensions namely: Tangibility, Reliability, Responsiveness, Assurance, and Empathy (Parasuraman et al., 1988).

Citizens' satisfaction can be understood as the evaluation of the service quality of a public institution and its overall performance from the citizens' perspective (Piyasunthornsakul et al., 2022). According to Chan et al. (2021) citizens' perceptions of the service dimensions, namely, core service, facilitating services, and supporting services play an important role in impacting their perceived service quality. A well-planned government instills in its citizens a sense of transparency, responsiveness, and efficiency, fostering a greater level of trust and satisfaction (Ma & Zheng, 2019). Consequently, this study deemed it important to evaluate citizens' satisfaction with the recently implemented reforms post the reorganisation of J&K. While the SERVQUAL model has been extensively utilised in the marketing and services marketing literature, it has limited application in context of assessing the quality of public service delivery in the Indian context. Thus, based on these identified gaps, the following hypotheses have been proposed (Figure 1).

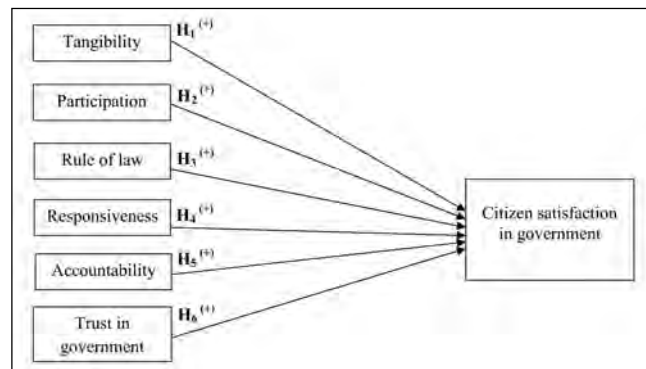


Figure 1: The Proposed Model

Source: Figure by authors.

Tangibility

Tangibility can be understood as the visual aspect of physical facilities, infrastructure, appearance of personnel, and the quality of communication materials used (Mokhlis et al., 2011). According to Gobena (2019), there is a significant relationship between tangibility and satisfaction among customers. Sugiarto and Octaviana (2021) posit that tangibility has a significant influence on their satisfaction. Tangibility has a significant impact on the satisfaction among citizens in Israel (Zagorie & Rozenes, 2017); Piura (Marreros et al., 2022); and Philippines (Lascuña & Junsay, 2023). In fact, Nguyen et al. (2021) state that tangibility has the strongest impact on citizens' satisfaction among the dimensions of service quality that have a positively significant impact. Based on these findings, it can be hypothesized that:

H₁: There is a positive relationship between tangibility and citizen satisfaction

Participation

Participation can be understood as the decision-making behaviour and voluntary involvement of citizens in several activities, matters, or associations (Kenny et al., 2015). According to Xu & Zhu (2021), citizens' participation in the decision-making process can positively lead to their satisfaction. Similarly, Jo (2024) established the positive impact of participative management and public participation interaction on satisfaction among citizens. Citizens' performance in e-information, e-services, and e-participation is positively associated to their satisfaction (Ma & Zheng, 2019). Liu et al., (2022) suggest that Chinese citizens' participation in public affairs is crucial for their satisfaction. Based on these findings, it can be hypothesized that:

H₂: There is a positive relationship between participation and citizen satisfaction

Rule of Law

Rule of law stands for the actions of the government that not only strengthen the democracy in a developing country like India but also promote good governance (Kumar, 2014). According to Nag (2018), the dimension of rule of law explains that objective laws must be the basis for the operations and functions of governance. Studies elucidate that legally enforced rules, regulations, processes and actions by public servants and bureaucrats lead to citizens' satisfaction (Gupta et al., 2019; Nguyen et al., 2016). Lamsal and Gupta (2022) establish that well defined rules when followed by the government officials, ensure citizen satisfaction. Further, Noja et al., (2019) verified that rule of law significantly impacts gross domestic product per capita and in turn increases the cooperation between state authorities and the citizens. Based on these findings, it can be hypothesized that:

H₃: There is a positive relationship between rule of law and citizen satisfaction

Responsiveness

Responsiveness is an important tenet of good governance that neutralises the unwanted consequences of difficult policy decisions from the citizens (Esaiasson et al., 2017). Setiono and Hidayat (2022) elucidate that responsiveness significantly impacts customer satisfaction. Studies verify that responsiveness from the public officials and governance has significant impact on the satisfaction among citizens (Nie & Wang, 2023; Rölle, 2017). Similarly, Abootalebi et al., (2013) established that there is a significant relationship between public responsiveness and citizens' satisfaction. Responsiveness is one of the strongest determinants that leads to satisfaction among citizens (Manolitzas & Yannacopoulos, 2013). Bentum-Micah et al., (2020) found that patients' satisfaction and loyalty are influenced by the service quality of hospital through the dimension of responsiveness. Based on these findings, it can be hypothesized that:

H₄: There is a positive relationship between responsiveness and citizen satisfaction

Accountability

Accountability means the obligation of the government to provide consistent and reliable information about their actions to the citizens (Brinkerhoff & Wetterberg, 2016). According to Saengchai et al., (2020), there is a significant mediating role of accountability between e-government and satisfaction among citizens of Thailand. Accountability is positively associated with citizens' satisfaction with the government (Ma, 2017). Similarly, police accountability came out to be a strong predictor of satisfaction among individuals with local police in the U.S (Angelis & Wolf, 2016). Manaf et al., (2023) state that increased accountability and citizens' engagement in the political matters and procedures positively impacts citizens' satisfaction. Wang et al., (2021) elaborate that service-oriented government should not only focus on the service outcome but also adopt accountability mechanisms to ensure citizens' satisfaction. Based on these findings, it can be hypothesized that:

H₅: There is a positive relationship between accountability and citizen satisfaction

Trust in Government

Trust in government refers to the citizens' confidence in government to operate in the best interests of the public (Anderson, 2010). Ginting et al. (2023) elucidate that e-commerce customers' trust has a significant impact on their satisfaction. Mahmoud et al. (2018) confirm a significant relationship between customers' trust and their satisfaction with mobile telecommunication operators. Diputra et al. (2021) corroborate that customers' trust in a brand has a positive and significant influence on their satisfaction. Studies found that public satisfaction and public trust on local government are significantly associated to each other (Beeri et al., 2019; Lanin and Hermanto, 2019). According to He and Ma (2021) citizens who believe that their opinions regarding health care reforms are taken care of by the government tend to be more satisfied. Based on these findings, it can be hypothesized that:

H₆: There is a positive relationship between trust in government and citizen satisfaction

Research Design and Methodology

Sampling and procedure

To test the proposed hypotheses, a self-administrated online questionnaire was employed within the Indian context, focusing on J&K, the northernmost region of India. Since the reorganisation of the state, the UT of J&K has bifurcated into two regions –Jammu and Kashmir, each comprising of ten districts. Data were collected using cluster random sampling technique wherein the survey administrators visited every ninth home on randomly selected streets within the study area. The sampling strategy involved selecting residents from four districts, namely Jammu and Ramban from Jammu division while Srinagar and Baramulla were selected from Kashmir district (as shown

in Figure 2). The target population for the study was approached at their residence and included participants above the age of 25 years who had at least voted once in the elections. In Jammu district, the data were collected from Kot Bhalwal, Paloura, Thathar, and Bantalab. In Ramban, data were collected during July 2023 from Bandan, Chanderkot, Chaka, and Gool. In Srinagar, district data were collected from Khanyar, Eidgah, Noor Bagh, and Maisuma. Lastly, in Baramulla data were collected from Lal Pora, Fatehgarh, Mala Pora, and Singapore. Data collection was conducted during the period of June-July, 2023. To confirm the constructs' reliability and discriminant validity, a pilot study with 85 respondents with the same data collection method was conducted. After recommendations from experts and respondents, minor changes were made before running the main study. Of the final sample of 610, 594 were received and after elimination of invalid responses, 578 were useable and complete. From the total sample, males accounted for 56.06% and females accounted for 43.94%. A total of 50.17% respondents were married and 39.62% were self-employed. Regarding the area, 39.10% of the respondents were from rural areas, 29.93% were from semi-urban areas and 30.97% of them belonged to urban areas, highlighting the diversity of the respondents. Table 1 shows the demographic characteristics of the sample.

Table 1: Sample profile

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	324	56.06
	Female	254	43.94
Age	25-40	219	37.89
	41-60	285	49.31
	Above 60	74	12.80
Marital status	Single	177	30.62
	Married	290	50.17
	Separated	36	6.23
	Widowed	75	12.98
Qualification	Under matriculate	83	14.36
	Higher secondary	201	34.78
	Graduate	237	41.00
	Post- graduate and above	57	9.86
Occupation	Employed	203	35.12
	Unemployed	64	11.07
	Self-employed	229	39.62
	Student	82	14.19
Area	Rural	226	39.10
	Semi-urban	173	29.93
	Urban	179	30.97

Source: Compiled by authors

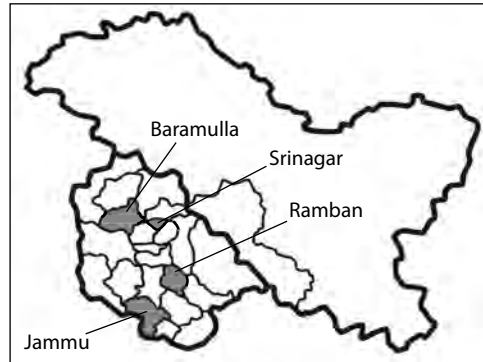


Figure 2: Map of Jammu and Kashmir highlighting the study area

Adopted from: Adobe Stock

Survey instrument

The questionnaire consisted of two sections in which the first section included questions related to the study's variables while the questions related to respondents' demographic profile were included in the second section. A five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) had been used. Based on thorough literature review, a total of 35 statements had been adopted to fit the context of the current study. First, the scale used for measuring tangibility had six items adopted from Haming et al., (2019). Next, since, participation had not yet been used extensively in the good governance literature empirically; the items were self-developed. Next, the scale items used for measuring rule of law had six items adopted from Versteeg and Ginsburg (2017) and responsiveness had five items that were adapted from Prentkovskis et al., (2018). Accountability had five items adopted from Han and Perry (2020). The construct of trust in government had five items adopted from Mahmood et al., (2020). Finally, citizen satisfaction has three items adopted from Venkatesh et al., (2016).

Data Analysis

Partial-least square structural equation modelling (PLS-SEM) using SmartPLS 4 has been used to test the proposed research hypothesis (Ringle et al., 2023). Since, PLS-SEM is a well established technique and can estimate complex models with multiple constructs without imposing distributional assumptions on the data, it was deemed fit to analyse the data of this study (Hair et al., 2012). PLS-SEM involves two-step approach; first step is the assessment of measurement model and second step involves the assessment of structural model (Anderson & Gerbing, 1988).

Results

Assessment of Measurement Model

In the first stage of data analysis, the reliability and validity (convergent and discriminant) of the constructs was analysed. It was observed that the cronbach's alpha

and composite reliability coefficient values for all constructs were above the suggested value of 0.70 (Hair et al., 2011). To determine convergent validity, the average variance extracted (AVE) values were determined and all the values were above the minimum value of 0.50 (Fornell and Larcker, 1981). The reliability of each item was examined using the factor-loadings that were above the threshold value of 0.70 (Hair et al., 2011). Thus, convergent validity of all these constructs is acceptable as summarised in Table 2. The VIF for each construct ranged between 1.2 and 2.2, which is below the threshold of 3.3, representing minimal collinearity. Variance inflation factors (VIFs) for all constructs were also examined. Results reveal that all values of VIFs ranged from 1.298 to 3.222, which are less than the recommended value of 3.3 (Cenfetelli and Bassellier, 2009). Therefore, multicollinearity was not much of a concern in this study. Therefore, the results indicate satisfactory discriminant validity (Table 3).

Table 2: Item descriptive and loadings

Latent Construct and Measurement Items	Loadings	Rho_A	CR	Cronbach alpha	AVE	VIF
TANGIBILITY		0.865	0.813	0.822	0.643	
TAN 1: Infrastructure in Government schools	0.705					1.823
TAN 2: Infrastructure in Government colleges and universities	0.703					2.145
TAN 3: Infrastructure in Government hospitals	0.737					1.066
TAN 4: Parking facilities	0.714					2.511
TAN 5: Industrial development	0.719					1.364
TAN 6: Public park, toilets, drainage system	0.722					2.232
PARTICIPATION		0.896	0.946	0.801	0.578	
PART 1: Government officials are open to public opinion	0.781					2.636
PART 2: Officials recognise public input while making decisions	0.839					1.564
PART 3: Officials encourage citizens' involvement in the governance process	0.771					2.315
PART 4: Officials meet and interact with citizens more frequently	0.801					2.312

Latent Construct and Measurement Items	Loadings	Rho_A	CR	Cronbach alpha	AVE	VIF
PAR 5: Officials seek suggestions from citizens	0.710					1.125
RULE OF LAW						1.268
RULE 1: The law and order situation has improved	0.873					2.347
RULE 2: Reduction of terrorism and infiltration	0.739					2.490
RULE 3: Reduction in the usage of drugs	0.785					2.761
ROLE 4: Level of corruption	0.761					2.365
RULE 5: Access to Judiciary system	0.792					1.890
RULE 6: Safety and security of women	0.852					1.732
RESPONSIVENESS		0.825	0.866	0.938	0.517	
RES 1: Officials respond to public requests quickly	0.712					1.319
RES 2: Officials support citizens who need help	0.878					1.616
RES3: Citizens' appeals / complaints are treated well in time	0.739					2.237
RES 4: Citizens' complaints are provided quality solutions	0.845					1.129
RES 5: Grievance redressal mechanism is now available for the citizens	0.861					1.566
ACCOUNTABILITY		0.914	0.853	0.872	0.614	
ACC 1: Government is now more accountable	0.862					2.114
ACC 2: Officials recognise their responsibility	0.821					1.423

Latent Construct and Measurement Items	Loadings	Rho_A	CR	Cronbach alpha	AVE	VIF
ACC 3: Officials use the budget available for development / other works properly	0.729					2.312
ACC 4: Officials perform their duties properly	0.752					1.720
ACC5: There is a strong mechanism to track progress of work	0.701					1.433
TRUST IN GOVERNMENT		0.798	0.824	0.782	0.546	
TRUST 1: Public authorities are acting in the interest of the public.	0.717					2.151
TRUST 2: Public authorities are capable.	0.804					3.157
TRUST 3: Public authorities carry out their duties effectively	0.912					3.225
TRUST 4: Public authorities are sincere.	0.724					1.943
TRUST 5: Public authorities are honest	0.856					2.012
SATISFACTION		0.789	0.827	0.767	0.511	
SAT1: I am satisfied with the performance of the government	0.889					1.590
SAT2: I am satisfied with the new reforms introduced by the government	0.811					2.135
SAT3: I am satisfied with the governance of the public authorities	0.833					2.176

Source: Compiled by authors

Table 3: Discriminant validity

Measurement model							
	ROL	PAR	RES	SAT	ASS	TR	TAN
ROL	0.916						
PAR	0.814	0.859					
RES	0.716	0.771	0.773				
SAT	0.793	0.621	0.621	0.801			
ACC	0.863	0.708	0.652	0.615	0.891		
TR	0.784	0.651	0.641	0.725	0.614	0.739	
TAN	0.741	0.732	0.645	0.713	0.655	0.710	0.707

Source: Compiled by authors

Note: The square-root of AVE is on the diagonal; lower-diagonal values are inter-construct correlations

Assessment of Structural Model

The path analysis and proposed research hypotheses were confirmed using SmartPLS (Figure 3). Path values were evaluated using the bootstrapping procedure with 5,000 iterations (Hair et al., 2017). Empirical evidence supports all hypotheses from H1 to H6 (Table 4). Overall, the research model explains 68% of variability in explaining citizens' satisfaction with government (Table 4). Firstly, tangibility has a significantly positive impact on satisfaction among citizens ($\beta=0.132$, $p < 0.05$) as hypothesised. Secondly, participation does significantly impact citizens' satisfaction with government ($\beta=0.014$, $p < 0.05$). Thirdly, significant relationship between rule of law and citizens' satisfaction has also been confirmed ($\beta=0.453$, $p < 0.05$). Next, responsiveness and citizens' satisfaction have a positively significant relationship ($\beta=0.176$, $p < 0.05$). Further, accountability positively influences citizens' satisfaction ($\beta=0.612$, $p < 0.05$). Finally, citizens' satisfaction is impacted by trust in the government, thus exerting a strong positive impact ($\beta = 0.843$, $p < 0.05$).

Table 4: Hypothesis Summary

Parameters	Result	B	P-value	R Square
(H1) TAN→SAT	supported	0.132	0.000	0.680
(H2) PAR→SAT	supported	0.014	0.003	
(H3) ROL→SAT	supported	0.453	0.000	
(H4) RES→SAT	supported	0.176	0.002	
(H5) ACC→SAT	supported	0.612	0.000	
(H6) TR→SAT	Supported	0.843	0.000	

Source: Compiled by authors

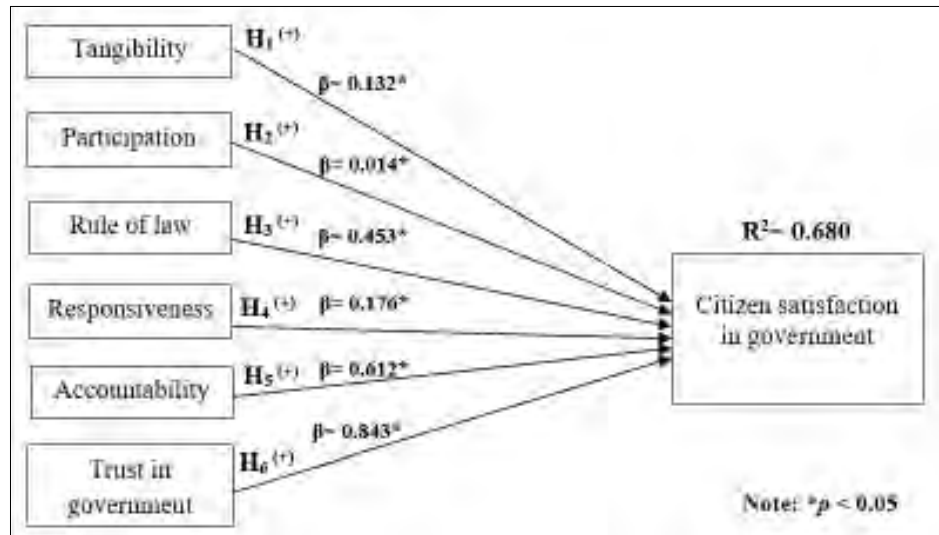


Figure 3: Results of the Structural Model

Source: Figure by authors

Discussions and Implications

Conclusion

This research validates the factors that are crucial in explaining citizens' satisfaction with governance reforms by extending the SERVQUAL model. Empirical findings reveal that trust is the most significant contributor in predicting citizens' satisfaction with the government. The findings are consistent with Al-Ma'aitah (2019) suggesting that trust is an important determinant of satisfaction. Thus, this study suggests that the government officials need to emphasise on their ethical behaviour and transparency. Citizens trust the government when they perceive that the public officials are working in their best interests, free from corruption or any unfair means.

Second, accountability has a significant impact on citizens' satisfaction with government which suggests that accountability in government creates responsibility of public officials to deliver services by enhancing transparency and comprehending the opinions of citizens in decision-making (Manaf et al., 2023). Further, the study establishes that rule of law positively associates with satisfaction which is consistent with the study of Ali (2015) stating that rule of law is a critical dimension of good governance.

Findings also corroborate a significant relationship between responsiveness and citizens' satisfaction which is consistent with the findings of Ye et al. (2017). This suggests that prompt and effective responses from the officials to the citizens' inquiries, concerns, and needs to boost their satisfaction and trust. Next, the relationship between tangibility and citizens' satisfaction came out to be significant. This result coincides

with Psomas (2020). This implies that citizens value tangible infrastructure like roads, bridges, public buildings, and parks and such improvements in physical infrastructure can significantly enhance their satisfaction. Lastly, participation has a significant impact on citizens' satisfaction with government which is in line with the findings of Wu and Jung (2016).

Theoretical Implications

The present study makes several theoretical contributions. First, post-reorganisation of the state of J&K, several political changes have been initiated to the government structures in the now established UT. It is pertinent to mention that the UT's historical, political, and social dynamics may require tailoring as reforms of such extensive magnitude are being undertaken in the recent past. However, till date, this phenomenon has not received researchers' attention. Thus, this study tries to examine the quality of service delivery from the citizen's perspective in a neutral context across urban, semi-urban, and rural areas taking into account the diverse geopolitical landscape of J&K.

Second, this study adapts the SERVQUAL model to evaluate the distinctive socio-political and cultural context of J&K. The study also assesses the impact of newly introduced policies post-reorganisation on citizen's satisfaction. This includes evaluating the recent changes in infrastructure development, law enforcement, and public welfare initiatives that have been introduced after the abrogation of Article 370.

Third, this paper provides deeper insights of the determinants of citizen satisfaction from a unique geo-political perspective, acknowledging the diverse needs and grievances of the citizens.

Practical Implications

From a practical perspective, this study offers recommendations for policy-makers and government officials. First, since citizens' trust in government significantly impacts their satisfaction, public officials should build stronger relationships with citizens through routine meetings and accessible communication channels to promote citizens' trust. The government can implement measures like regular anti-corruption reports and enacting protection laws for citizens to ensure that citizens trust the public servants and institutions. Next, accountability came out to be a significant predictor of citizens' satisfaction. Thus, the government must ensure that citizens can seek legal remedies and have access to grievance mechanisms in case the public services fail to meet the pre-determined standards. Further, the government must promote a culture of integration within the various public institutions and emphasise upon ethical behaviour and commitment by all public servants.

Further, findings reveal that rule of law and citizens' satisfaction has a significant relationship. The Government of India should ensure that the judiciary is autonomous, well-equipped, and authorised to adjudicate cases that involve official service failures

and unfair means. It is also important for the policy-makers to promote collaboration among various government institutions to ensure dynamic and comprehensive approaches to track progress and enable continuous improvement. The government officials should also aim to improve policy implementation and address regional disparities. For instance, focused outreach programmes in the rural areas and enhanced infrastructure facilities in the urban areas of the UT can potentially improve the perceived service delivery among citizens.

Also, since responsiveness is an important determinant; the government authorities must offer multiple channels of communication for citizens including online portals, mobile apps, websites, toll-free contact numbers, 24X7 operational call centres, plus functional offices, to ensure quick response and efficient public service within J&K. This also includes implementation of robust feedback mechanisms and systems allowing the citizens to provide input on their experiences and track the status of their complaints and concerns in real time. Lastly, considering the significant relationship between tangibility and participation, government officials can further invest in physical infrastructure like roads, public buildings, and offices to improve the tangibility of public services and consistently include the citizens in the decision-making process.

Limitations and Future Research

The study acknowledges a few limitations. First, keeping the time constraint in mind, a cross-sectional design was adopted. Future studies can adopt a longitudinal design to confirm citizens' satisfaction with the governance reforms introduced from time-to-time. Second, data were collected from only four districts of J&K which implies that future researchers can include other districts as well to get robust findings. Third, research in the near future may incorporate other factors such as consensus orientation, stability and ethical leadership and verify the results. Even though the literature available on these constructs is scarcely available, it would be interesting to evaluate the impact of these determinants on citizens' satisfaction. Lastly, future studies can analyse the variations in citizens' satisfaction with government among different demographic groups, such as age, gender, household income, and educational qualification. Such analyses will facilitate the government to identify sections of the society that may be disproportionately affected by the reforms.

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The COVID-19 Pandemic: A Case Study of Reverse Migration from Mumbai

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Abstract

All throughout the world, the pandemic had caused widespread social unrest. As the virus spread, the Indian government imposed a sudden lockdown as an emergency measure to control it. This had a significant impact on migrants' livelihoods in India. Migration is a complex phenomenon, both in India and elsewhere. This study focuses on the reverse migration that occurred as a result of India's sudden lockdown. These restrictions had detrimental effects on migratory populations. The focus of this article is directed at migrants from Mumbai who had returned to their hometowns in search of a sustainable livelihood during lockdown. To analyse the situation of these workers, this study used primary data as secondary data was not available during this period. To determine whether these migrants found employment in rural areas during the pandemic, two rounds of interviews were conducted. The study also analysed the possibility that post-pandemic migrants would return to the city and resume their previous means of subsistence. By concentrating on the location, employment, work, income, savings, and access to basic services of migrants, the study draws attention to their vulnerability and contributes to the literature for understanding the migration crises caused by COVID-19.

Keywords

Covid-19, Migration, Internal Migrants, Migrant Mobility, Reverse Migration, Mumbai.

Introduction

Reverse migration at the domestic level began to emerge in India after Wuhan Province in China reported an outbreak of the COVID-19 epidemic. India's massive internal

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migration from cities to villages is twinned by reverse international migration (Abella and Sasikumar, 2020). The potential loss of immigrants from Gulf countries during the pandemic was estimated by researchers M. I. Abella and S. K. Sasikumar in 2020. On March 11, 2020, the Indian government made its first announcement regarding travel restrictions by requiring quarantines for visitors from China, South Korea, Iran, France, Germany, Italy, and Spain. A complete lockdown was enacted on March 24, 2020, which restricted people to travel across the country. The immediate effect on migrants was the loss of employment, leaving them with no choice but to return to their native places. Indian highways devoid of major vehicles were lined with bedraggled, poor pedestrians, many carrying all their worldly belongings in bundles atop their heads walking to their home in villages, hundreds or thousands of miles away across states (Dandekar, 2020). The lockdown juxtaposed the fact that the migrant workforce already highly vulnerable, with few safety nets, did require the state to intervene on multiple fronts. Crises and shocks, such as COVID-19, are bound to have a deep and long-standing impact on migrant workers' employment and social protection (ILO, 2020). The severe restrictions which placed India at the top of the Oxford University's stringency index were considered essential to control the virus's transmission and to give time for the public health infrastructure to be strengthened to respond to the pandemic. But it left the poor and the migratory populations high and dry (Srivastava 2020).

Migration can be triggered by both the push and pull factors, which include income level, job prospects, and opportunities for better education, living standards, and health services. These immigrants relocate to urban or semi-urban areas such as Mumbai, Navi Mumbai. This results in barren rural areas, putting strain on cities' infrastructure, and lower income levels in urban areas. Following the Janata curfew on March 22, 2020, the Indian government abruptly imposed a complete lockdown on March 24, 2020. Migrant workers faced uncertainties owing to the closure of non-essential markets and the suspension of all trains. Job loss, hunger, and the depletion of savings, made the matters worse for the lower and middle class. However, according to a directive from the Ministry of Home Affairs (MHA), wage cuts were not permitted during these long lockdown periods by private businesses, industry, shops, or commercial establishments. Additionally, it instructed landlords to waive rent for one month. However, many workers either did not get paid during this period or had their pay reduced. Numerous petitions alleged violations of Articles 14 and 19 of the Constitution as well as the validity of MHA orders, but the Supreme Court issued a stay order and instructed lower courts not to use coercive measures because of factory closures and financial losses.

This study seeks to understand the circumstances of Mumbai's migrant population during the pandemic. How unexpected lockdowns affected migrant workers' livelihoods and income. Further, the paper investigates whether workers have returned to Mumbai post-pandemic and are able to live their lives with a new normalcy? Are there any

employment changes? The remainder of this paper is structured as follows: Section II reviews the literature; Section III presents the data, methodology, and various estimation techniques. The analysis of the results is covered in Section IV, and the paper's conclusion and findings are covered in the final section.

Literature Review

Migration is an intricate phenomenon, and India is no exception to it. Internal migration can be classified as rural-rural, rural-urban, urban-urban, and urban-rural migration. The factors associated with each of these migrations are difficult to comprehend and have an impact on regional growth and development in India. Due to these shifting demographic patterns, it is critical to conduct a thorough analysis and research. Internal migration accounted for 37.4 per cent of the total migration in 2011, an increase from 31 per cent in 2001. The census provides data on migrants based on place of birth (PoB) and place of last residence (PoLR). If the place of birth or place of last residence is different from place of enumeration, a person is defined as migrant (Bhagat, 2008). Maharashtra continues to be one of the major destinations for migrant labourers (Srivastava, 2020).

According to Harris & Todaro (1970), workers do move from rural to urban areas for higher earnings and wage gaps between the manufacturing and agricultural sectors. However, the COVID-19 pandemic created significant disruptions in society and one of the most notable changes was the shift in patterns, particularly the reverse migration from cities to rural areas. In 2006, the report by the General Secretary of the United Nations on international migration and development suggested a “new era of mobility,” which is characterised mainly by non-permanent, or “circular migration,” (Samet, 2013). Circular migration is both recurring and transient, and overlaps with the concept of reverse migration. Numerous studies have been conducted during the pandemic to analyse the situation of migrants. Datt, Dutta, and Mishra (2021) found that 94 per cent of migrant workers in rural Bihar experienced the pandemic's negative effects when they examined the situation of migrant workers there. In 2022, Sampat Chowdhury et al. have analysed the situation of domestic workers in Jaipur. This study traces the recovery of these workers in terms of their income, savings, debt, dynamics of the employment and bargaining capacities. Sengupta, S. conducted an empirical study in 2022 on the effects of closure of schools and other educational institutions on tribal girls looking for work in the Surat construction sector. These girls were exposed to vulnerability at such a young age as a result of the financial crisis. In Kerala, Mohammed Kasim et al. (2023) investigated the livelihood vulnerability of unorganised workers during COVID-19. The state's livelihood and economic crises were evaluated, along with the state government's coping mechanisms and policy recommendations. The effective implementation of welfare schemes by the Government had also mitigated vulnerability substantially.

Data, Methodology and Estimation Methods

Cluster random sampling was used to select the survey respondents. The primary data were collected in Mumbai between June 2020 and January 2022. The same person was interviewed twice for the survey, each time during a different period. To determine changes in their employment, income, and spending, this study analyses the conditions of the workers during and after the pandemic. Table 1 presents a summary of the sample. There were 223 respondents in the entire sample, migrated from Aurangabad, Nagpur, Uttar Pradesh, Hyderabad, Satara, Pune, Ahmedabad, Pali, Rasaini, Chiplun, Alibaug, Karjat, Vengurla and Mysuru. Out of the sample, 51 per cent of workers were the only wage earners for their families, while 49 per cent of workers had other family members who supported them financially. The majority of workers were in the 18–60 age category, but older workers accounted for a smaller portion of the workforce. The gender-wise distribution shows that 65 per cent of the respondents were male and 35 per cent were female. This clearly shows that the female labour force participation rate in Mumbai was quite low during that period.

Table 1: Overview of the sample

Particulars	Value
Number of respondents	223
Average age of respondents	33yrs
Single Income Earner	
Yes	51.2 per cent
No	48.8 per cent
Male	64.57 per cent
Female	35.42 per cent
Age of migrant workers (in years)	
Minimum	18 yrs
Median	32 yrs
Maximum	60 yrs

Source: Data collected by authors during the period between June 2020 to January 2022.

Workers' incomes were classified based on their type. The income categories were as follows: a) the lowest income group with a monthly income less than Rs. 10,000; b) the low-income group with a monthly income between Rs. 10,000 and Rs. 20,000; c) the middle-income group with a monthly income range between Rs. 20,000 and Rs. 30,000; and d) the high-income group with a monthly income greater than Rs. 30,000. Table 2 shows the shares of the lowest-, low-, middle-, and high-income groups in the total number of households that is, 12 per cent, 39 per cent, 11 per cent, and 38 per cent, respectively. Regular workers accounted for 32 per cent of the total, whereas

casual workers accounted for 68 per cent. The relative change in income of the high-income category has a modest level of income, and 35 per cent of households were significantly poorer than the other relative groups of casual and migrant workers.

Table 2: Distribution of households by income group and types of workers (in percentage)

Income Group	Regular worker	Casual Worker	Total
Less than Rs. 10,000 (Economically weaker section)	4.93	7.16	12.09
between Rs. 10,000 to 20,000 (Low Income Group)	11.21	27.84	39.05
between Rs. 20,000 to 30,000 (Middle Income Group)	2.69	8.51	11.2
More than 30,000 (High-income Group)	13.00	24.66	37.66
Total	31.83	68.17	100

Source: Data Compiled by authors from primary survey collected during the period from June 2020 to January 2022

Table 3 shows how the pandemic had affected workers' earnings. The sample revealed that 61.88 per cent of households returned to their hometowns, resulting in reverse migration from Mumbai. During the lockdown, 38.12 per cent of households remained in the city. The imposed lockdown had an impact on workers' families' income. Job losses, wage reductions, the closure of factories and complete shutdowns affected approximately 75 per cent of the household income. Many employers did not reduce wages in accordance with the Ministry of Home Affairs' order or paid employees 50 per cent of their wages. According to our research, 59 per cent of the workforce was not paid while the lockdown was in effect, while 41 per cent of workers received their full wages or at least a 50 per cent pay cut. 25 per cent of workers received less than 50 per cent of the average wage. In the second round of workers' interviews, the authors attempted to determine the total number of workers who had lost their jobs and those who had returned to the same or another job. Even after the lockdown was lifted in June 2020, after about its four phases, approximately 80 per cent of the employees lost their jobs, while 11 per cent of the workers did not lose their jobs. Only 9.2 per cent of workers returned to their previous jobs in Mumbai. This clearly shows that workers' income levels were completely shattered because of these unprecedented times. Approximately 86 per cent of workers had no other sources of income. This resulted in a significant deterioration in their living conditions.

Table 3: Workers' income level affected by COVID-19/ Pandemic

Reverse Migration (City to Hometown)
Yes - 61.88 per cent
No – 38.12 per cent
Family Income reduced due to pandemic / or lockdown
Yes -74.7 per cent
No- 25.3 per cent
Employer paid full salary during Lockdown
Yes- 44.7 per cent
No -55.3 per cent
Employer paid atleast 50 per cent of salary during Lockdown
Yes -40.6 per cent
No -24.4 per cent
NA -35 per cent
Any other source of income
Yes-13.8 per cent
No -86.2 per cent
Lost work due to COVID-19 induced lockdown
Yes- 80.2 per cent
No - 10.6 per cent
Join same job after lockdown – 9.2 per cent

Source: Data Compiled by authors from primary survey during the period from June 2020 to January 2022.

It must have been very difficult to survive this unexpected shock with a decline in income levels, no other source of income, and loss of employment. Savings are the only available source of income under such circumstances. Although the Finance Minister of India announced “One Nation, One Ration Card” (ONORC) to provide all rations at no cost, this was a significant relief for workers during the COVID-19 pandemic. However, during the interviews, the workers disclosed that their pre-lockdown savings were insufficient to cover their education and medical expenses. Only 52 per cent of workers were saving with formal banks and financial institutions, while 23 per cent did not save regularly, and thus had low levels of savings to rely on in an uncertain situation. Approximately 48 per cent of the workers did not have any savings, and some of them did not even have any bank accounts. Moreover, 59 per cent of the workforce had life insurance compared to 41 per cent who had no such protection. 54 per cent of the employees had health insurance, compared to 46 per cent who either had none or were unprepared to deal with the coronavirus. On September 23, 2018, the Government of India launched *Aayushman Bharat*, a programme offering universal health coverage to everyone. According to our analysis, only 12 per cent of workers are insured under the scheme, while the remaining 88 per cent are not registered for the scheme due to a lack

of awareness. (As per the data from the sample population as collected by the authors). This clearly shows that workers have suffered not only because of low incomes and savings but also because they did not have adequate insurance against their lives and health (Table 4).

Table 4: Savings portfolio of the workers

Savings with Banks or Financial Institutions
Yes- 51.56 per cent
Yes, but not regularly; 22.86 per cent.
No – 48.44 per cent
Having Life Insurance
Yes – 58.74 per cent
No- 41.24 per cent
Having Medical Insurance
Yes – 54.26 per cent
No- 45.74 per cent
Having Insured Under Aayushman Bharat
Yes – 12.10 per cent
No- 87.90 per cent

Source: Data Compiled by authors from the primary survey collected during the period from June 2020 to January 2022.

To comprehend the harsh reality of reverse migration, it is critical to understand the nature of the work done by the migrants in their hometowns. Whether these workers had jobs, if they actually received any work in their hometown, what kind of employment did they receive when they returned to their hometown? Did they return to the city after the pandemic or the lockdown? Table 5 reveals that most of the immigrants who returned to their hometowns worked in the agricultural sector. The agriculture sector employed approximately 32 per cent of the workforce, while other industries or sectors employed 10 per cent of the workforce. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) shielded workers from sizable income losses and depleted savings during this time. The MGNREGA programme employed 19 per cent of the labour force. These workers were involved in tree-cutting, road construction, bridge construction, and other tasks.

Table 5: Employment in Hometown during pandemic

Workers have returned to the city (Hometown to Mumbai)
Yes- 63.98 per cent
No- 36.32 per cent

Work in Hometown
Self-employed in agriculture sector: 32.28 per cent
MGNREGA - 19.28 per cent
Other / Non-agriculture work – 10.31 per cent

Source: Data Compiled by authors from the primary survey collected during the period from June 2020 to January 2022.

Policy Response

The National Food Security Act authorised the government to distribute free rations. Every month, five kilograms of grain and one kilogram of pulses were given free of charge per person. With the One Nation, One Ration Card Scheme (ONORC), any citizen can use their ration card in any State's Public Distribution System and still receive benefits. The plan was initially offered for three months, but it was repeatedly extended. According to the Ministry of Consumer Affairs, Food, and Public Distribution, over 70 crore transactions were made during the COVID period. Till April 14, 2020, more than 94 per cent did not have access to government rations, and by April 26, 2020, this number had worsened to around 96 per cent. Stranded Workers Action Network (2020) Maharashtra was severely affected by the pandemic owing to the high number of cases of COVID. Mass gatherings were prohibited, COVID patients were continuously screened, travellers were quarantined, and containment zone procedures, among other measures, were followed by the Maharashtra government to combat COVID. Under Bharat Ratna, Dr. A.P.J. Abdul Kalam Amrut Aahar Yojana, the Department of Tribal Development issued instructions for beneficiaries mainly women and children to provide food and dietary supplements at home (Department of Tribal Development, 2020). All ration holders, including those above the poverty line, received wheat and rice at a discounted price. In all Shiv Bhojan centres, Shiv Bhojan is available for Rs 5 for three months. However, the nutritional component was another drawback of PDS and other services. (Ministry of Consumer Affairs, Food and Public Distribution, 2020).

Conclusion

This study seeks to comprehend the situation of migrants both pre and post lockdown. Their vulnerability has been exposed to abruptly imposed lockdowns and travel restrictions. This paper focuses on migrant workers' employment, income, saving, and insurance in pre- and post-lockdown situations. As a result of the lockdown, most migrants lost their jobs and income and returned to their hometowns. Savings were insufficient, and the majority of them found employment in rural areas, mostly in the agriculture sector, and through the MGNREGA programme. They lacked life and medical insurance, making it difficult to deal with dire situations. Additionally, according to our sample, very few migrants returned and are currently working in the same place. The majority of them had made their homes in rural areas. With the launch of the "One Nation, One Ration Card Scheme," the state government was

able to give impoverished migrants access to food security. Together with other organisations, a number of NGOs supplied food to migrants living on the streets. For those without access to agricultural land, the MGNREGA Scheme emerged as a lifesaver, offering a means of subsistence and employment. Beyond these kinds of initiatives, the government needs a data repository in order to support big data or real-time analysis in our quickly expanding information technology industry. To track the socio-economic status of migrants during the COVID-19 pandemic, outdated census and National Sample Survey data sets are not useful. There are currently no available data on seasonal and temporary migrants. Issuing smart cards which can be linked to an individual's ration card, electricity bill, MGNREGA job card, and Aadhar card is another initiative that could be used to track the movements of migrants. These cards would contain information about the migrants, including their place of birth, education, employment locations, and type of work. This will enable us to comprehend India's internal migration situation as it stands today. In the form of Universal Basic Income (UBI), the government may have disbursed some cash benefits transfers. These might have served as payment for the man hours that were lost from their jobs to help them through these difficult times. Local and state government can provide universal health care coverage like *Aayushman Bharat* in each state to handle such kind of situation. Local government can collaborate with NGO's and community leaders to trace the underprivileged for providing them employment, food, health and insurance services.

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Exploring the Prospects of Integrating Informal Sector in Solid Waste Management: An Empirical Study of Nagar Nigam Dehradun, Uttarakhand

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Abstract

The informal sector of waste collection has a key role in the social and economic upliftment of waste workers and the improvement of waste recycling and management. Though integration of the informal sector in waste management is now recognised in government policies like SWM Rules-2016, it is yet to be implemented in many states. This paper is based on a case study that examined the integration of the informal sector in solid waste management at Nagar Nigam Dehradun, Uttarakhand. The analysis is constructed on the field survey with waste pickers, scrap buyers, households, and inputs from the staff and public councillors in Nagar Nigam Dehradun, Uttarakhand. Based on the experiences of waste pickers residing in the ward areas of Nagar Nigam Dehradun, the paper focuses on three areas: first, challenges faced by them, second, strategies, if any, adopted by the Nagar Nigam Dehradun (NND) to integrate them into the formal structure of waste management, and third, it focuses on the opportunities that can be tapped by their integration. The researchers find that their integration has multiple opportunities such as improvement in existing waste management, gender equality, abolition of child labour, financial inclusion and fulfilment of Sustainable Development Goals (SDGs).

Keywords

Informal Sector, Waste picker, Solid waste management Rules-2016, SDGs, Nagar Nigam, Dehradun.

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Introduction

Waste management is one of the most important problems the world is facing today. The growing amount and complexity of waste have profound effects on the environment and the health of society. One of the most talked-about environmental challenges is solid waste, particularly in metropolitan areas where the public and commercial sectors actively produce and participate in its management. Residential, commercial, institutional, and industrial activities are among the sources of solid waste. Unscientific management of solid waste also adds to the emissions of the greenhouse gases (GHGs). The United Nations Environment Programme (UNEP) estimates that 11.2 billion tonnes of solid garbage is collected each year worldwide and the decomposition of solid waste accounts for around five per cent of GHGs emissions (UNEP, 2022). Presently, a total of around 160,000 metric tonnes of solid waste is produced per day (TPD) in India, at an efficiency of around 96%. Approximately 153,000 TPD of solid waste is collected and out of it 80,000 TPD (about 50%) is processed, and approximately 30,000 TPD (18.4%) is landfilled (CPCB, 2021). Due to changing consumption patterns and rapid economic growth, it is anticipated that the generation of metropolitan municipal solid waste will reach 165 million tonnes by 2030. The majority of landfills in India have surpassed both their 20-meter height restriction and capacity. These locations encompass over 10,000 hectares of metropolitan area.

Approximately, India is a three trillion dollars plus economy, and according to the Finance Minister, it is expected to become five trillion by 2027-28 (Keshri, 2024). It means that in the coming years, production will increase, so will consumption, followed by the production of waste. Hence, solid waste management is becoming a challenging task and integration of the informal sector is the right step to address this challenge. The issue of solid waste caught the attention of the Union Government which has launched budgetary interventions through flagship programmes like the **Swachh Bharat Mission**. However, much more still needs to be done.

Even though garbage collection and recycling play an important role in providing income sources to the urban poor, it seems that the authorities do not fully utilise this opportunity to enhance and develop solid waste management. Workers in the waste management sector are actively engaged in the field, yet their contributions remain unrecognised. Additionally, they are excluded from the formal waste management system both legally and financially and face social neglect. The 2016 Municipal Solid Waste Management Rules in India maintain that all Urban Local Bodies (ULBs) are responsible for the collection, transportation, disposal, and segregation of solid waste. Recognising the importance of these workers, the SWM Rules-2016 in Section 11 directs State governments to frame policies and integrate workers of the informal sector in managing solid waste. Furthermore, Section 5.4 of the 'Uttarakhand State Action Plan for the Management of Solid Waste-2017' outlines a framework for incorporating the informal sector into solid waste management. It is against this background that this

research paper empirically explores the inclusion of workers in the informal sector of waste management in Nagar Nigam Dehradun. Primary data on informal workers was collected directly from the ground, supplemented by consultations with other stakeholders, including public representatives and executors. The findings are analysed through the twin dimensions of challenges and prospects.

Role of the Informal Sector in Solid Waste Management

Largely consisting of individuals or family-owned businesses, informal sector operations are often modest in scope. These businesses are mostly based in residences, little workshops, or mobile food carts. This industry depends more on labour than it does on technology. People in the informal economy frequently lack formal education and training, operate in unstable environments with minimal job security, and have few social safeguards. The “informal sector” provides solid waste management services but is beyond regulation, financially excluded, unrecognised, not monitored, out of formal taxation like Goods and Services Tax (GST) or otherwise regulated by governmental bodies. More than 90 per cent of the workforce in India is engaged in the informal sector, and waste management is not an exception to it (Singh, 2020). Informal stakeholders include garbage collectors, itinerant waste purchasers, small-scale junkshop dealers, and large waste godown owners. This group also includes waste pickers operating at dumpsites and communal waste-collection points.

The informal sector has an important role in mitigating environmental pollution through its collection and recycling activities. Workers who manage informal garbage contribute to reducing air, water, and soil pollution by keeping these materials from being burned or disposed of inappropriately. Informal waste pickers and recyclers help to improve livelihoods and reduce poverty by obtaining value from waste products and earning a living for themselves and their families. Formal waste management systems may not be able to handle the amount of waste generated in many developing nations. By offering more collection and recycling services, the informal waste industry closes this gap and supports local governments’ initiatives (Narayana, 2009).

Waste pickers collect a wide range of junk from residential or commercial areas, and a large number of waste disposal workers in developing countries like India rely on this job for a living despite various health and social implications. Waste pickers extract valuable items from rubbish bins, trucks, streets, waterways, and dumpsites. Some are also engaged in cooperative recycling plants or part of waste picking associations. For many urban poor households, waste collection is their primary means of income. It also supplies useful materials to other enterprises, providing these families with a steady stream of revenue.

Waste pickers collect organic waste for composting and biogas generation. As per an estimation, there are nearly five million sanitation workers engaged in different categories of sanitation works, which also include waste pickers (UNDP, 2021). This

demonstrates the wide range of locations and activities that waste pickers have in urban settings, where they actively gather, sort, and recycle things. According to the research, Urban Local Bodies (ULBs) saved about INR 24,500 annually for each tonne of recyclable material collected. Additionally, by recycling materials, 721 kg of CO₂ emissions were prevented annually, aiding in the fight against climate change (Annepu, 2012). Waste management in megacities like Delhi is handled creatively by the formal and informal sectors working together. Waste is gathered from homes by unofficial labourers and sent to makeshift storage facilities. Secondary collection is then handled by the municipality and private businesses (Wilson et al., 2009).

Nagar Nigam Dehradun and Informal Sector of Waste Management

Dehradun, a unique city in Uttarakhand state, serves as the state capital and the district headquarters, governed by a municipal corporation (Nagar Nigam). Nagar Nigam Dehradun was constituted on 9 December, 1998, before the formation of Uttarakhand. At present, it covers an area of 196.48 sq. km. divided into 100 wards. It has 1,67,577 households with a population of 8,03,983 (Nagar Nigam Dehradun, 2023). The survey conducted by the researchers found that Nagar Nigam Dehradun has a working population of nearly 15,000 waste workers in the informal sector. In recent years, extensive environmental deterioration due to limestone quarrying, ever-increasing air pollution and heaps of solid waste, around the town — have caused concern amongst residents, environmentalists and government counterparts. Urban Uttarakhand produces around 1458.46 TPD as per CPCB (2021), out of which around 290 TDP is produced at Nagar Nigam Dehradun and with the rise of population and economic activities, it is expected to rise to 642.16 TPD by 2041 (Government of Uttarakhand, 2017).

Dehradun, once, known for its unhurried lifestyle and pleasant climate, is an ideal retirement town for many. While much of the town has transcended its colonial roots, certain areas still retained it. Nagar Nigam Dehradun has the highest degree of urbanisation in the adjoining areas, with three additional significant urban centres—Mussoorie, Haridwar, and Rishikesh—all within a 30 to 50-kilometer radius. Presently, the city is struggling to manage the amount of solid trash generated while implementing an appropriate system that incorporates the current informal waste collection business. With particular reference to Nagar Nigam Dehradun, this article empirically identifies the individuals who comprise the lowest echelons of the informal sector, examines the obstacles they face, and explores the potential benefits of their integration into the city's solid waste management system.

Legal framework: Key Waste Management Legislations in India and Uttarakhand

Waste management is a post-industrial challenge accompanied by the rise in urbanisation. The contemporary model of development aspires to raise the Gross

Domestic Product (GDP) followed by a rise in consumption resulting in the generation of waste. The rise in industrialisation is accompanied by a dual effect: an increase in urbanisation and a rise in individual consumption within society. Currently, the Indian economy stands at \$3.1 trillion, with an urban population of 483 million. By 2035, urbanisation is projected to reach 675 million, alongside a GDP exceeding \$7 trillion (United Nations, 2022). India was concerned for its overall environmental issues, including waste management in the post-Stockholm conference on Human Environment-1972. The Government of India enacted the Environment Protection Act (EPA) in 1986. This Act provided comprehensive power to the Central Government for the protection of the environment and the prevention of pollution. Section 3 of the EPA, 1986 empowers the Central Government to legislate rules for the protection and improvement of the environment. In addition to this, section 6 empowers the Central Government to make rules to regulate pollution. While exercising its power under Sections 3 and 6 of the EPA, 1986 and following the success of the *Total Sanitation Campaign* in 1998, the Indian government notified a new set of rules called “The Municipal Solid Wastes, (Management and Handling) Rules 2000.” These Rules were amended subsequently in 2001. However, the dynamics of trash generation posed fresh challenges to the formal sector, whose waste disposal methods lacked clear plans for waste minimisation and its proper management. Additionally, a Working Paper on MSW (2009) published by the Department of Economic Affairs, Government of India, outlined a number of crucial issues, including: “First, the barriers to private sector participation in urban infrastructure as ULBs’ financial situations, except for a minority, are precarious. Because of institutional complexity and the large number of entities involved in service delivery, the urban sector is considered to be one with a high risk of disaster; Second, with a few notable exceptions, there is a lack of regulatory or policy-enabling framework for PPPs (Public-Private Partnerships), as well as a lack of bankable and financially sustainable projects, given the opportunities and risks involved; Third, municipal authorities have not demonstrated a commitment to ensuring source segregation of MSW compliance.” The Central Government responded to these issues along with other challenges in waste management by framing six categories of rules for specialised responses to sector-wise waste management in 2016. These six categories are: Solid Waste Management Rules, Plastic Waste Management Rules, eWaste Management Rules, Hazardous Waste Management Rules, Biomedical Waste Management Rules, and Construction and Demolition Waste Management Rules.

Municipal Solid Waste Management Rules 2016 define solid waste as ‘commercial and residential wastes generated in municipal or notified areas in either solid or semi-solid form, treated bio-medical wastes but excluding e-waste, battery waste and industrial hazardous wastes’ (GoI, SWM Rules, 2016). Solid Waste Management Rules 2016 are

more significant for mandating waste separation at the source into “bio-degradable (kitchen waste), non-bio-degradable (plastic, metal, wood), and domestic hazardous waste (paint drums, pesticide cans, CFL bulbs, tube lights) — before handing it over to authorised waste pickers or waste collectors (Agnihotri, 2022). However, most ULBs lack adequate infrastructure, financial incentives, regulatory oversight, political will, coordination between the Centre and the States, and awareness among the masses. The government is taking steps to overcome these problems through various policies and programmes and community participation, like Swachh Bharat Abhiyan and Jawaharlal Nehru National Urban Renewable Mission (JNNURM).

Interestingly, it is almost the first time that the Central government has recognised the importance of informal sector workers in the management of solid waste and provided a legal roadmap for their inclusion in SWM rules, 2016. The workers in the informal sector of waste management are engaged in the collection and recovery of reusable and recyclable solid waste from the source of waste generation to the sale of waste to recyclers directly or through intermediaries. The SWM Rules, 2016 defines the informal waste collectors as individuals, associations or waste traders who are involved in the sorting, sale and purchase of recyclable materials. These workers are exposed to several situations like poor work conditions, vulnerability to lung and heart diseases, social and economic exclusion, physical and sexual abuse and child labour (Singh, 2020). The inclusion of the informal sector shall not only improve the quality of lives of the workers in that informal sector but will also improve solid waste management holistically.

Entry 6 of the 12th Schedule of the Constitution of India provides that the urban local bodies (ULBs) are responsible for public health, sanitation conservancy, and solid waste management (Constitution of India, Article 243W, n.d.). Hence, the primary responsibility of solid waste management lies with ULBs. As a result, SWM Rules 2016 also empower the ULBs in this regard as Section 15 of the rules provides comprehensive responsibilities to ULBs from preparing a solid waste management plan, collection, segregation, and transportation of solid waste, engagement of Self-Help Groups, informal sectors, and private sector in waste management activities and identification and notifying the waste sites with their systematic segregation and scientific treatment of the waste, and so on.

The SWM Rules 2016 also mandates that every state shall prepare an action plan and constitute a State Level Advisory Board (SWM Rules, Section 23, 2016). Following the directions of the SWM Rules 2016, Uttarakhand had prepared the final draft of its “Urban Municipal Solid Waste Management Action Plan for the State of Uttarakhand in 2017.” Its vision states that while accomplishing the Swachh Bharat Mission, it aims that all Urban Local Bodies (ULBs) put their efforts towards

Sustainable Solid Waste Management as per SWM Rules 2016 by adopting suitable measures for waste minimisation at the source with an emphasis on the principles of five Rs, comprising Reduce, Reuse, Recycle, Recover and Rethink. It also emphasises proper collection, segregation, transportation, processing, treatment, and disposal systems in complete harmony with the environment and in tune with prevalent regulations. Section 2 of the Action Plan spells out its objective and provides for integrating the informal sector in managing municipal solid waste. Section 5.4, dealing with the strategy, maintains that “the activities of the informal sector (waste pickers and scrap dealers) have a significant role in the collection and recycling of material resulting in a significant impact on overall solid waste management in the city. As such, the urban local bodies shall establish a system to recognise organisations of waste pickers and scrap dealers and promote and establish a system for integration of these waste collectors in organised systems of door-to-door collection (Government of Uttarakhand, 2017). Even though they play a critical role, systemic economic and social marginalisation of informal garbage workers persists.

Methodology Applied to Collect Data from Nagar Nigam Dehradun

The present study is based on empirical research findings from Nagar Nigam Dehradun, Uttarakhand. This paper aims to identify the people who make up the lowest ranks of the informal sector, review their challenges, and discuss the opportunities of integrating them into the solid waste management of the city. The four major clusters of workers of the informal sectors were identified in Nagar Nigam Dehradun (NND). These areas were—Malin Basti Chukhuwala, Kanwali Basti, Malin Basti Kargi Chowk, and Malin Basti Lime Stone area. People living in these areas and working in the informal sector of waste management were contacted to explore the approach of the NND for their integration into solid waste management. Workers of the informal sector comprises men, women and children as well. Cluster and snowball sampling techniques were applied to locate the respondents. A mixed method approach was designed containing structures and unstructured interaction. For the structural part, their responses were recorded by a questionnaire focusing on whether the rules directed by the Central government for their integration into waste management and action plans created by the Uttarakhand government had been implemented on the ground or not. It covered issues, like training programme organised exclusively by them, tool-kit for safety and identity card for their recognition. Secondly, the views of the workers and their expectations from the urban local bodies were also covered. Nearly 400 responses had been collected from a scattered population of informal workers in Nagar Nigam Dehradun.

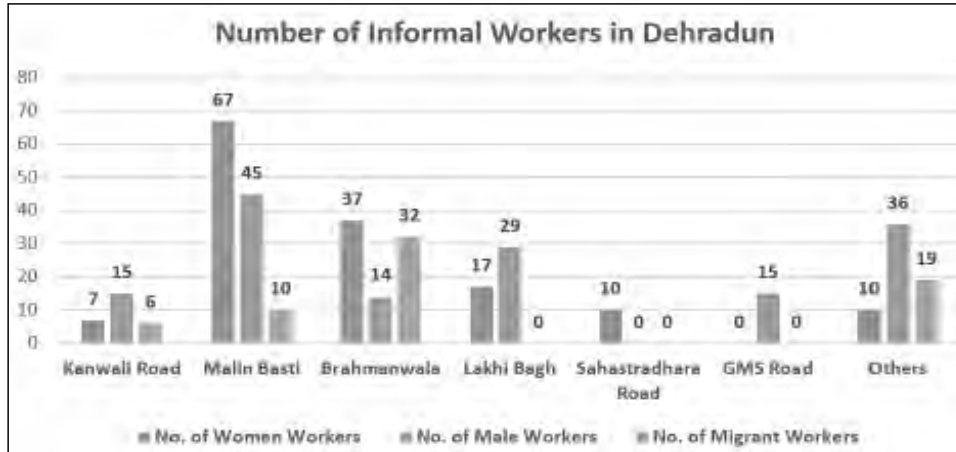


Figure 1: Number of Informal workers in Nagar Nigam Dehradun

Source: Data collected from Nagar Nigam Dehradun

Data Analysis

Based on the responses received from the workers, a wide range of outcomes were recorded that reflect a lot of latent facts. The data revealed that most of the workers were migrants, so they had been denied the benefits of any policy and inclusion. Further, a few workers were found to be minors and working as child labourers. In addition, women were subjected to multiple exploitation at the workplace, on the domestic front and also at the system level. These findings are discussed in the following points.

Majority of Workers are Non-residents of Uttarakhand

The majority of the informal workers are non-residents of Uttarakhand. They are migrants from far-off states. The data showed that around 60 per cent of workers in the informal sector of waste management in the Nagar Nigam Dehradun were outsiders. The data analysis clearly shows a good number of informal workers who come from rural parts of Bihar, West Bengal, and Bangladesh. These are the individuals who, because of the paucity of employment in their state, migrate to urban areas here, in this case, to Dehradun, for better earning and living conditions. However, many of them end up in the waste management sector. They are double marginalised as already living in a neglected zone by working in the informal sector of waste management and secondly, they are deprived of any inclusion or benefit from the policies of Central/state government. The State Law in Uttarakhand provides that a person should reside for more than 15 years continuously in the state for qualifying to be a domicile of the state (Information Technology Development Agency, 2024). This made their situation vulnerable as the government authorities declined to extend the benefit of inclusion to a non-resident of Uttarakhand.

Child Labour

Child labour is common in the informal sector of waste management, they often work with their parents in family units. It is regrettable to say that children from underprivileged neighbourhoods or societies frequently engage in dangerous and unethical solid waste recycling processes. Additionally, households and sorting /segregation centres may employ children who are of school-going age or even younger. When their parents collect waste from the streets or residences, children commonly sort the garbage at home so that it can be sold. Waste picking, especially in open dumps, is one of the most horrible forms of child labour. It has the potential to negatively impact children's health and development (ILO Report, 2004). These kids can make between 10% and 50% of what an adult makes, which emphasises how important this work is to many low-income households (Bhaduri, 2018).

Children are subjected to the same hazards as adult workers, but the risks to their health and well-being are greater due to their age. They are particularly vulnerable to diseases such as typhoid fever, malaria, tuberculosis, and cholera, which sometimes can be fatal for their life (Singh, 2020). In addition to the health risks, participation in waste picking also harms children's schooling. The responses received from the data depicted that while most children from low strata of society enter school, many of them miss extended periods and eventually drop out of primary school. It is painful to find that kids in the informal sector of waste management tend to keep joining and dropping out of the school as their work adds a sizable portion of their family's income. It is noteworthy to know that in the Chukkuwal Malin Basti, one NGO, *Aasraa* is also providing children of the locality with mobile schools.

Exploitation of Women Workforce

The pay disparity between male and female gender persists throughout the workforce. Gender inequality exists across the pay spectrum from the top to bottom. It is not different in the informal waste sector, where a male waste collector earns more than a female counterpart. Women across all age-groups participate actively in waste picking. Sometimes, women are forced into this type of job due to their family conditions, like the death of their husbands or due to their meagre resources or poor sources of income. Even though there is a good number of female waste collectors in the informal sector, they are nevertheless subject to disparities and suffer disproportionate economic and health concerns. Analysis of the collected data reveals that these women lack tools like pushcarts, storage spaces, and personal protective equipment, and they compete with males for the most valuable recyclables at work and in the marketplace. Our data analysis shows that women workers have to face many problems, like, low income, social neglect, lack of dignity, harassment at the workplace, and domestic violence. The majority of the respondents did not have tool kits, exposing and making them vulnerable to diseases due to their unsafe contact with waste materials.

Economically Disadvantaged

The majority of the informal sector workers in waste management do not receive a fair price for their jobs. There are several reasons behind it. First, there is no regulation of prices from the government; second, the waste collector/junk dealers' shops always underpay the waste collectors, and the child labourers are not in a condition to resist or negotiate the price, and similarly, women are also comparatively powerless in terms of negotiations. Waste picking is the lowest-paid part of the solid waste management system in many countries, including India. The income of waste pickers depends on the kind of material that they collect from waste. Paper, cardboard boxes, plastic bottles, and scrap metal are among the MSW items, picked up by the waste pickers. (Table 1).

Table 1: Types of waste associated with each locality

S. No.	Type of waste	Area/ Locality
1.	Solid and Plastic Waste	Malin Basti, Lakhi bagh, GMS road, Chukkuwala
2.	Metal and E-waste	Kanwali Road, Sahastradhra Road, Moti Bazar, Raipur, Chunabhata
3.	Mixed waste	Brahmanwala

Source: Data collected from Nagar Nigam Dehradun

The analysis of the responses from the workers shows that there is no stability of their income as there is no stable collection of the waste, and secondly, there is a lack of regularity due to health or family reasons; third, they have to sell their daily collection to the junk dealers as there is no facility of storage as majority live in the *malin basti* and their residence lack space to accommodate any storage. Interestingly, though this economic disadvantage is for entire informal workers of waste management, it is not uniform among all the sections. A scale of economic disadvantage is recorded in the responses that it is most acute in the case of child labour, severe in the case of women workers, and moderate for the men working in this sector.

Missing Information link between stakeholders and government

Though there are policies and laws for workers in informal sectors, very few of them are aware of these. As observed by the authors, neither the workers nor the residents are aware of the Solid Waste Management Rules 2016. Uttarakhand has prepared the final draft of its "Urban Municipal Solid Waste Management Action Plan for the State of Uttarakhand in 2017." According to its goals, all Urban Local Bodies (ULBs) should strive towards Sustainable Solid Waste Management in accordance with SWM Rules 2016 as they implement the Swachh Bharat Mission. There are several challenges and gaps in implementing the policy, which can be filled by taking appropriate measures.

Ninety-nine per cent of the respondents from all five pockets of workers living in Nagar Nigam Dehradun did not have any information about any Central or state

government rules aiming to integrate the informal sector of waste management with the formal system. However, some of the Non-Governmental Organisations (NGOs) like Waste Warriors, in collaboration with Nagar Nigam Dehradun organised a training camp for a handful of workers in 2020 but due to COVID-19 it got derailed and could not be revived thereafter. In the present digital and globalised world, information is power. Hence, the absence of information for the workers of the informal sector is also a handicap to them as they cannot stake their claim for their right to integration from the ULBs.

Poor Health Conditions

The workers in the informal sector of waste management in Nagar Nigam Dehradun are also exposed to toxic gases, sharp objects, broken glasses, and bacteria which pose a great health risk for them. To cope with working in such unhygienic conditions, many workers resort to drug use, which not only worsens their health but also leads to domestic violence. A lot of studies have been conducted on the health conditions of the workers in the informal sector of waste management, and it has been found that people working in these areas are prone to diseases like cholera, tetanus, diarrhoea, tuberculosis, asthma, skin diseases, etc. By studying the data collected on-site, it is very clear that there are several requirements for informal workers. To keep the solid waste management practices, keep going smoothly, and on the right track, these needs and expectations are to be addressed. Below is the graphical representation of the data collected about the expectations of the workers from the local government, NGOs and Nagar Nigam Dehradun.



Figure 2: Expectations of Informal Sector Workers

Source: Data Collected from Nagar Nigam Dehradun

Opportunities and Prospects

Due to the immense contribution of the informal sector to Solid Waste Management, cities have become more sustainable, reducing the risk of flooding and waterlogging.

The workers turn waste into tradable items, thereby, the informal waste recycling sector boosts the economy. They promote the shift to a circular economy and provide the raw material for recycling. In a way, they are the important pillars of the three R's of Reduce, Reuse, and Recycle. Five major opportunities can be availed by the integration of informal sector workers into the formal structure of solid waste management.

The first dimension lies in the implementation of a National Waste Policy and incorporation of waste pickers into municipal solid waste management systems via cooperatives, e.g., Brazil is a pioneer in both these areas, acknowledging waste pickers' contributions and offering a legal framework for waste picker cooperatives to be contracted as service providers. Other countries in South America have followed Brazil's lead. Waste pickers from Argentina's El Amanecer de los Cartoneros have gathered and recycled 225 tonnes of unwanted material, earning recognition and financial rewards from their municipality (WIEGO, 2013).

The second dimension relates to the fulfilment of Sustainable Development Goals (SDGs). It will add a good number of workers within an existing network of solid waste management warriors, hence increasing the waste collection and sorting and thus moving towards achieving the following SDGs. First, it will help in reducing poverty among the informal waste sector workers, which relates to SDG Goal 1; second, formalising the informal sector will ensure better working conditions, fair wages, and protection of labour rights for the workers, which is a part of Goal 8. The third relates to Target 11.6 of Goal 11, which discusses paying attention to municipal and other waste management. Finally, it will help reduce land pollution by combating land and soil degradation in Goal 15 (United Nations, the 17 Goals, n.d.).

The third dimension of opportunities is the social recognition and acceptability of the subalterns in our society. Integration of informal workers into a formal setup would provide them with good social recognition to prevent exploitation at all levels. It will give them a dignified livelihood, a school bag to their wards rather than a sack for waste picking.

The fourth major dimension is the financial inclusion of the informal workers. One of the most important benefits of integrating them into the main sector would aid the economy as they would be registered with ID, and the government could collect some amount of Goods and Services Tax (GST) from their transaction, which at present, is out of sight. The prominence of untaxed, unregulated activity distinguishes developing economies. According to current estimates, it is not uncommon for the informal sector to account for more than half of GDP and employment in low-income countries. The fifth dimension of the integration shall be gender equality and the abolition of child labour. The informal sector of waste management is plagued with two major issues: one is the exploitation of women, and the second is the prevalence of child labour. Both can be addressed effectively by their integration into the formal structure of waste management.

Some of the suggested inputs from the empirical study could be:

- Identifying and planning for the involvement of informal sector participants;
- Collaboration with public and social enterprises, communities, and local governments;
- Training and awareness programme related to policies and their benefits;
- Facilitating mechanisms for inclusion of the informal sector; and
- Ensuring workplace health and safety through the procurement of personal protective equipment (PPE) for waste collection and segregation.

Conclusion

In order to address the problems with solid waste management in India, the Solid Waste Management Rules of 2016 are undoubtedly a positive move. The regulations provide Urban Local Bodies (ULBs) the ability to handle solid waste more proactively within their respective jurisdictions. ULBs are in charge of organising, carrying out, and overseeing waste management initiatives. This entails the construction of infrastructure for the processing and disposal of waste, the encouragement of source segregation, the implementation of waste management laws and the integration of informal sector workers. However, it is surprising to find that most of the states failed to implement the SWM Rules 2016 in letter and spirit. This led the members of the Civil Society Organisations (CSOs) to file petitions for their implementation. It was in case OA606/2018 that the National Green Tribunal (NGT) expressed concerns over the poor implementation of SWM Rules by the states and constituted one central and four regional monitoring committees to observe the implementation of these rules (NGT, 2018). Similar to other provisions of the SWM Rules, integration of the informal sector also received a cold response from the states.

The present paper concludes that while both the SWM Rules and Uttarakhand's State Action Plan mandate the inclusion of the informal sector; no serious efforts have been made in this regard. Analysis of the collected data suggests that there is an urgent need for the inclusion of the informal sector in managing municipal waste. This will not only improve the existing Solid Waste Management System but also improve the condition of informal workers. This may, in turn, alleviate the housing and health concerns of many waste pickers and provide them with a better social position, greater career opportunities, and education. To create a more inclusive and equitable environment where everyone has the chance to lead dignified and contented life, the state/society must address the systemic hurdles and inequalities that sustain the marginalisation of the informal waste sector. Through cooperative efforts to tackle the underlying causes of marginalisation and inequality, the state, along with civil society, must create conditions where all people, even informal waste workers, can live honourable lives. This integration of the informal sector workers shall not only

fulfil the national commitment but also India's international obligation to achieve Sustainable Development Goals like no poverty, good health, gender equality, reduced inequalities, and life on land.

Note: This paper is largely an outcome of the research project titled "Management of Municipal Solid Waste by Integrating Informal Sector: A Case Study of Nagar Nigam Dehradun, District Dehradun, Uttarakhand" sponsored by the Indian Council of Social Science Research (ICSSR) Delhi.

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Exploring Socio-Spatial Aspects Contributing to Sense of Pride in Urban Neighbourhoods: A Case of Pune City

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Abstract

Urban studies meticulously examine the dynamic interactions between residents and their surrounding environments, encompassing both man-made structures and natural landscapes. These interactions are pivotal, as the emotional connection and sense of pride, individuals foster towards their environment can significantly vary across different locales. This correlation underscores the importance of active involvement and engagement within one's neighbourhood, suggesting that pride is cultivated through a multifaceted relationship with the community. This paper focuses on residents' sense of pride and presents the comparative analysis of two neighbourhoods in Pune, distinguished by their distinct spatial configurations, social fabric, historical narratives, and demographic profiles.

Through this study the intricate linkages between the psycho-social need of 'Sense of Pride' in neighbourhoods and the various socio-spatial factors that underpin this emotion were identified.

Keywords

Neighbourhood, Sense of Pride, Psychology, Urban pride, Urban studies.

Introduction

The phenomenon of neighbourhood pride is intricate and encompasses various dimensions, significantly influencing the fabric of community cohesion, individual happiness, and the essence of local identity. This topic has attracted attention

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from scholars in diverse fields such as sociology, psychology, urban planning, and anthropology, all seeking to dissect the roots, impacts, and broader implications this sense of pride carries for the development of communities. The intricate weave of local identity and cultural heritage emerges as a critical element in nurturing residents' sense of pride.

According to the seminal work of Nasar and Julian (1995), communities that boast a rich tapestry of history and unique cultural markers are more successful in creating strong emotional ties among their members. Such environments naturally engender an elevated level of pride and a deeper sense of belonging among the populace. This suggests that the cultural and historical backdrop of a neighbourhood plays a pivotal role in forging strong communal bonds and fostering a collective sense of pride, underscoring the importance of preserving and celebrating local heritage as a cornerstone of community development and individual identity.

Literature Review

Neighbourhoods are dynamic entities shaped by various spatial and social factors that influence the quality of life, community cohesion, and individual well-being. In rapidly urbanizing cities like Pune, understanding these factors is crucial for effective urban planning, development, and social policy formulation.

Spatial Factors

Urban Form and Morphology: Studies have highlighted the role of urban form and morphology in shaping neighbourhood dynamics in Pune. Urban sprawl, high population density, and mixed land use patterns characterise many neighbourhoods, influencing accessibility, mobility, and social interactions (Bhagat et al., 2006).

Infrastructure and Services: Access to basic infrastructure and services such as water supply, sanitation, healthcare, and education significantly impacts neighbourhood quality.

Green Spaces and Environment: The availability of green spaces and environmental quality contribute to neighbourhood livability and residents' well-being.

Social Factors

Socio-economic Status and Housing: Socio-economic status influences housing access, affordability, and living conditions, shaping neighbourhood composition and social dynamics.

Community Cohesion and Social Capital: Strong social ties and community networks foster a sense of belonging and social cohesion within neighbourhoods.

Ethnic Diversity and Social Integration: Pune's neighbourhoods exhibit ethnic diversity, with residents from various cultural backgrounds coexisting in urban spaces.

Pride as a Psychological Definition

Boulding (1987) writes that pride and shame are powerful emotions that can significantly influence decision-making, both at the individual and societal levels. He concludes that these emotions affect economic choices, resource allocation, consumption patterns, and even policymaking. Pride is a social construct that we adopt early on in our lives because it is closely associated with the formation of our identity (Reissland, 1994).

Pride in the Urban Context: Civic Pride and Urban Pride

‘Urban pride’, is a personal, collective, and institutional reaction to urban conditions that can be used to promote the growth of urban amenities and services (Morisson, 2016).

Collins (2016) uses discourse analysis to look at recent urban literature and the local media to see how civic pride is mobilised and supported both in and outside the city. In contrast, his paper looks at how and why people express urban pride in their own lives and the impact of the city on their relationships. Collins argues that cities foster and protect their local identity and freedom by talking about “civic pride”. Collin’s point of view states that civic pride is used by different city leaders and speakers as a marketing strategy that is expressed from the ‘top down’ by city leaders, and Morrison (2016) adds that ‘urban sense of pride’ is pride expressed from the ‘bottom up’ by people in their own communities and surroundings.

Pride in Neighbourhoods and Sense of Community

Substantial body of research indicates that, pride in neighbourhoods correlates closely with residents’ sense of social solidarity and attachment to their community. Perkins et al., (1992), point out that physical and visual elements play a significant role in instilling a sense of pride in a neighbourhood. A clean and well-kept public space, aesthetically appealing architecture, and a variety of local amenities all contribute to the positive perception of a neighbourhood and its inhabitants’ emotional attachment to it.

It is also important to recognise the importance of community involvement and empowerment. The idea of a ‘sense of community’ was first introduced in 1986 by McMillan and Chavis (1986). This concept is based on the idea that people feel a sense of belonging, a sense of influence, and a shared emotional bond among their neighbours. Communities that are engaged and empowered tend to have a stronger sense of ownership and pride in their neighbourhoods.

Methodology

The present study was conducted in the city of Pune, which is India’s 8th largest city with a historical evolution spanning over more than 1000 years. Hence, like many historical cities, Pune has a historical core zone and newer layers developed in a concentric pattern. This study seeks to identify and evaluate social and spatial factors

of the neighbourhood and their relationship to the sense of neighbourhood pride in different neighbourhoods.

Tool: The tool used in this research was an interview schedule both in English and Marathi (the local language). The survey collected qualitative data through open-ended responses from residents of the two neighbourhoods, focusing on their sense of pride, aspect they liked regarding the neighbourhoods and areas for improvement in their neighbourhoods.

Sampling: The cases of neighbourhoods for the study were – Kasba Peth (a neighbourhood in old and congested part of the city) and Erandwane (a neighbourhood in non-congested part of the city developed in 1960s). A random sample of 50 respondents was taken, with 25 from each neighbourhood (Kasba Peth and Erandwane).

Kasba Peth stands as a unique, mixed-use, low-rise urban enclave within the Peth sub-district, distinguished by its remarkable architectural style that seamlessly blends historic elements with densely packed structures. This area, deeply rooted in the ancient core of the city, showcases a rich tapestry of physical, social, economic, and spatial attributes that are intrinsically tied to its profound cultural heritage.

The social composition of Kasba Peth is characterised by a predominantly middle income to lower income groups, dominantly Hindus. Other religious communities, such as Muslims, also have a presence in the area, though they are smaller in number. The Kasba Peth is one of the oldest localities in Pune. As one of Pune's most venerable neighbourhoods, Kasba Peth is celebrated for its deep historical roots and the dynamic, vibrant atmosphere it sustains. The locality is characterised by its labyrinthine lanes, age-old temples, animated markets, and buildings that exemplify traditional architectural practices. The sense of community in Kasba Peth is palpable, fostered by the residents' shared cultural and social connections that knit the community tightly together. The streets of Kasba Peth are alive with activity; vendors peddle local wares, street food stalls tempt passersby with traditional delicacies, and a variety of cultural festivities animate the neighbourhood throughout the year.

Erandwane (Figure 1) on the other hand presents a striking contrast to Kasba Peth, embodying the characteristics of a modern and affluent neighbourhood within Pune's urban landscape. The locality has a predominant Marathi influence with influx of new cosmopolitan residents and is a middle to high income economic group.

Renowned for its verdant, tree-lined avenues, Erandwane boasts expansive residential zones that exude tranquillity and space, setting it apart from the denser historic quarters of the city. The area is a hub for educational excellence, hosting an array of prestigious schools, colleges, and specialised coaching centres. This concentration of academic institutions draws students and families from various parts of Pune, contributing to the neighbourhood's vibrant environment. The locale is peppered with a wide range of recreational options; parks provide serene escapes from urban bustle, while restaurants and cultural centres offer spaces for socialisation and

entertainment. Such a diverse urban fabric makes Erandwane a sought-after residential area, appealing to those who seek a blend of modern convenience and cultural richness in their daily lives.



Figure 1: The built morphological character of Kasba peth

Source: Captured by Author.

In summary, while Kasba Peth (Figure 2) exudes a historical and vibrant urban character with its old-world charm and bustling streets, Erandwane offers a more modern and planned residential environment with amenities catering to contemporary lifestyles.



Figure 2: The built morphological character of Erandwane

Source: Captured by Author.

This research aims to answer the following questions:

1. What are the factors contributing to pride in Pune's neighbourhoods?
2. What are the contributions of the built (spatial) and unbuilt (social) environment to the concept of pride in neighbourhoods?

3. Is there a larger association to either spatial or social factors contributing to the sense of pride in Pune's neighbourhoods?
4. Does the old and new neighbourhoods' sense of pride differ with respect to the factors?

The tool comprised of open-ended questions. Hence the responses were spontaneous and non-directed. The responses were analysed and categorised inductively.

Findings and Analysis

Data Collection: Primary data was collected through a survey, focusing on qualitative responses about neighbourhood pride. The survey was conducted online as an open-ended response collection. The questions asked were on the aspects of pride in the neighbourhood, the reasons to like their neighbourhood and the scope for improvement, along with certain demographic variables.

Thematic Analysis: The qualitative data obtained from the survey was analysed using thematic analysis to identify patterns and classify factors contributing to the sense of neighbourhood pride.

Case 1: Kasba Peth

Table 1: Thematic analysis of qualitative data for classifying factors of sense of neighbourhood pride in Case 1: Kasbapeth

Factors of neighbourhood sense of pride	Response count
Culture and tradition.	13
Build Heritage – wadas, temples, religious places	43
Cleanliness and hygiene	2
Safety and security due to infrastructure and public spaces	5
Social factors & human relationship	17
Accessibility and connectivity	22

Source: Authors' own.

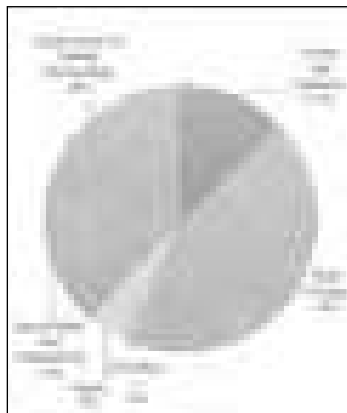


Figure 3: Percentage of responses for factors of sense of neighbourhood pride in Case 1: Kasba Peth

Table 1 lists the themes identified during the data collection via survey questionnaires. As seen in Figure 1, in Kasbapeth, factors of built heritage, accessibility and connectivity can be combined to associate with the built or spatial characteristics of the neighbourhood, whereas culture and traditions, human interactions, proximity to friends and family can be combined to associate with unbuilt or social factors contributing to sense of neighbourhood pride.

Case 2: Erandwane

Table 2: Thematic analysis of qualitative data for classifying factors of sense of neighbourhood pride in Case 2: Erandwane

Factors of Neighbourhood sense of pride.	Response Count
Safety and security due to infrastructure and public spaces	10
Greenery and amenities	20
Presence of amenities nearby	25
Social factors & human relationships with neighbours	20
Accessibility and connectivity	21
Factors due to low density of the planned neighbourhood- peace, quiet, light, ventilation, building heights	20

Source: Authors' own.

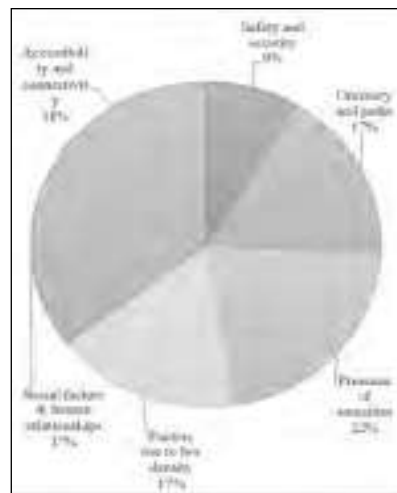


Figure 4: Observed percentages of factors of sense of neighbourhood pride in Case 2: Erandwane

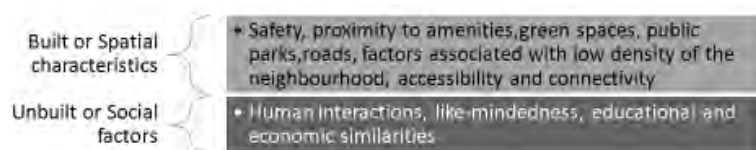


Table 2 lists the themes identified during the data collection via survey questionnaires. As seen in Figure 2, in Erandwane, the factors of safety, proximity to amenities, green spaces, public parks, roads, factors associated with low density of the neighbourhood, accessibility and connectivity can be combined to associate with the built or spatial characteristics of the neighbourhood, whereas human interactions, like-mindedness, educational and economic similarities can be combined to associate with unbuilt or social factors contributing to sense of neighbourhood pride.

Table 3: Recorded responses of factors of sense of pride of residents in old and new neighbourhood

Factors as per responses collected	Old neighbourhood (Kasbapeth)	New neighbourhood (Erandwane)
Spatial factors (Built heritage, accessibility, connectivity, safety, amenities, roads, density, planning and neighbourhood)	72	106
Social factors (Culture and traditions, human interactions proximity to relatives, education and economic similarities)	30	20
Total number of responses in each neighbourhood	102	126

Source: Authors' own.

As seen in Table 3, in the two neighbourhoods, more responses were recorded with spatial factors as contributors to a sense of pride in the new neighbourhood.

Chi Square Test

The chi square test was used to establish the association of neighbourhood characteristics and elements of pride. The following comparison and count can be considered for the Chi-Square test:

Table 4: Chi-square test of the observed characteristics as per the thematic analysis and classification of qualitative data

	Old neighbourhood (Kasbapeth)	New neighbourhood (Erandwane)	Marginal Row Totals
Spatial factors	72	106	178
Social factors	30	20	50
Marginal Column Totals	102	126	228 (Grand Total)

The chi-square statistic is 6.0349. The p-value is .014025. Significant at $p < .05$. It is thus found that there is an association between the neighbourhood characteristics and the factors affecting sense of pride.

Residents' Expectations for Improvements

The survey also enquired residents' expectations in terms of neighbourhood development.

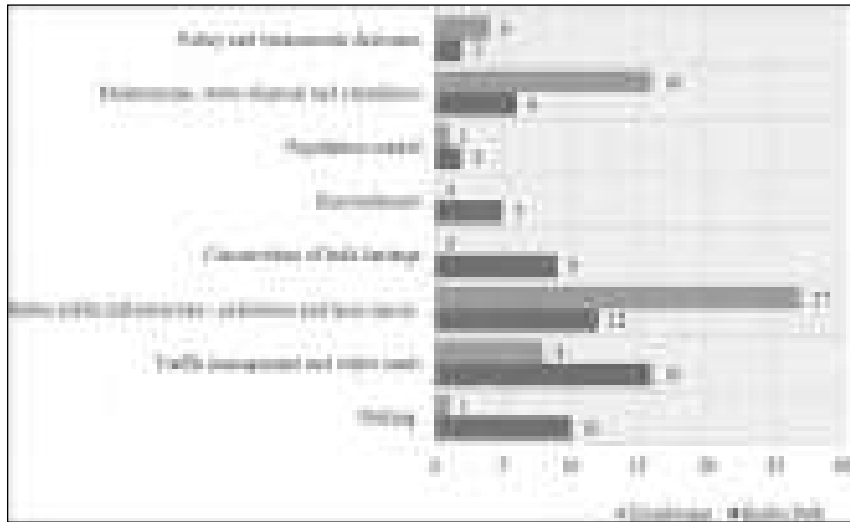


Figure 5: Residents' response to expected improvements in the neighbourhood for both cases.

Source: Authors' own.

It is observed in Figure 3 that population control, waste management and policy and bureaucratic decisions contribute to 26% of the total responses received from Case 1 & 2, whereas 74 % of the responses received, e.g., better parking, roads, footpaths, open spaces, conservation, encroachment control are expectations from the built characteristics of the neighbourhood.

Conclusion

The conclusions drawn from this study unequivocally demonstrate that the physical attributes of a neighbourhood—its spatial characteristics—hold more weight for residents in cultivating a sense of pride than do social factors. These spatial attributes encompass the overall quality of public spaces, the presence and maintenance of greenery, the architectural design of buildings, and the ease of access to various amenities. These elements were universally identified as crucial influencers of neighbourhood pride across different demographic cohorts. Residents reported a deep sense of satisfaction and emotional attachment to their neighbourhoods when these spatial aspects were well-cared-for and visually appealing. Furthermore, the respondents frequently highlighted the impact that the physical organisation and aesthetic design of their neighbourhoods had on their everyday lives and their feelings of community belonging.

Conversely, social factors, including the quality of interactions with neighbours and the sense of community cohesion, though recognised as significant, did not exert

as much influence on the residents' pride in their neighbourhoods. Social connections and community engagement were appreciated and acknowledged for enhancing a sense of belonging but were generally seen as secondary to the physical environment in determining neighbourhood pride. This observation indicates that residents give precedence to the concrete and observable characteristics of their environment over the nuances of social relationships when evaluating their connection to and pride in their neighbourhoods.

Given these insights, it is imperative for urban planners, policymakers, and community leaders to focus their efforts on improving the spatial qualities of neighbourhoods. Initiatives should be directed towards the enhancement of public spaces, the development of infrastructure, and the beautification of the built environment. Recognising the paramount importance of spatial factors in shaping residents' sense of pride can guide the formulation of neighbourhood rejuvenation policies and urban development initiatives aimed at crafting spaces that not only meet functional needs but also inspire a robust sense of pride and attachment among community members.

This study also opens avenues for further exploration into how spatial and social factors interplay and mutually influence each other in the context of neighbourhood pride. Investigating this relationship in greater detail could yield valuable insights for crafting comprehensive neighbourhood planning and community development strategies. Such research could lead to the development of integrated approaches that consider both the physical makeup and the social fabric of neighbourhoods, thereby aligning more closely with residents' preferences and contributing to the creation of more cohesive, proud, and engaged communities.

In essence, the findings from this research underscore the critical role that the physical environment plays in fostering a sense of neighbourhood pride. They suggest a clear direction for future urban development efforts—highlighting the need for a balanced focus on enhancing spatial attributes while also considering the supportive role of social factors. By doing so, urban development can create more liveable, attractive, and pride-inspiring neighbourhoods that resonate with the values and needs of their residents.

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