

# **Governance Network and Social Infrastructure in Jammu and Kashmir: The Study of Urban Drinking Water Services in Two Capital Cities**

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Providing public services is considered an essential mandate of the government to retain institutional legitimacy among citizens. Governance structures are subject to periodic innovations through changes in political leadership, regulatory priorities, and enhanced budgetary provisioning in critical social infrastructure. Such infrastructures are beneficiary-friendly and help improve the governing class's political legitimacy. The lack of it causes social unrest, and the governance system becomes a contested entity. The paper attempts to track the condition of reforms initiated in the Social Infrastructure, service delivery, and Governance in the Union Territory (UT) of Jammu and Kashmir (J&K). The paper discusses the shift in the political dynamics post-abrogation (August 5, 2019) of Article 370 and bringing the state under the UT. This historical event of abrogating J&K's special status calls for a shift in governance networks and Social Infrastructure with the support of central budgetary assistance and policy guidelines. With the new experimentation of bringing central laws to J&K, the study dissects and understands the changes in governance networks with a focus on Social Infrastructure as regards urban drinking water in two capital cities of J&K, i.e., Srinagar (Summer Capital) and Jammu (Winter Capital).

**Keywords:** Governance Networks, Policy Reforms, Social Infrastructure, Urban Drinking Water Services, Jammu and Kashmir, Public Service Delivery

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Terror-induced violence, conflict, and political instabilities impacted governance networks and public service delivery mechanisms in Jammu and Kashmir (J&K). Such variables indicated a contested governance paradigm prevailing in the erstwhile state and reorganised UT in post-August 5, 2019 (Ganguly, 1994, 1996, 1997, 2003). Furthermore, these variables often limit governance performances, creating a negative popular perspective on the credibility of the political establishment to deliver developmental outcomes (Bose, 1997; Akbar, 2000; Baba, 2012). The erstwhile state of J&K, with its 167 unique administrative privileges enjoyed under Article 370 and Article 35A in the Constitution of India, had historically been studied from the perspectives of contested and unsettled territorial disputes between two nuclear neighbourhoods of South Asia (Akbar, 2000; Kohli, 1997). Governance outcomes became hostages to political contestation and the peace between India and Pakistan remains a prerequisite to the region's socio-economic development

(Wani, 2018, 2019, 2021; Baba, 2012; GoI, 2012). It consolidated the administrative consensus among the successive political regimes in New Delhi that the combination of political devolution of power, economic development of the state, and effective governance for socio-economic infrastructures are the way forward for sustainable peace in the region (Saxena, 2008, 2020; GoI, 2012).

India's multi-level democratic governance structures and performances, backed by well-ordained constitutionalism, provide a model framework for accommodation and aggregation of the contested pluralistic demands, preferences, grievances, and aspirations of society and polity within the territorial integrity of the country since independence (BD Dua, 2003; Kohli, 1997; Hussain, 2018). Despite the central government's budgetary assistance to the state along with policy directives and financial devolution through centrally sponsored social sector schemes (Ministry of Finance, 2020), policy outcomes of the subsequent government schemes and programmes has belied the expectation of the people of J&K.

The absence of adequate public service delivery and social infrastructure had also contributed to the emerging conflict narratives in the UT (Hussain, 2018). As regards J&K, this is significantly felt. Conflict around ethnic, religious, territorial and developmental lines has found many takers in the regions. There was a need for a more extensive policy shift in the narratives, which has now been seen through significant structural reforms in the service delivery mechanism carried out since the reorganisation of the erstwhile state of J&K (Ministry of Law and Justice, 2019; Directorate of Planning and Statistics, 2017). Wani (2018) articulated that the mismatch and disproportionate governance structure have aggravated the situation on the ground, where citizens' democratic aspirations and rights are being compromised.

The shift in the political dynamics in post abrogation of Article 370 and bringing the state under the UT calls for emphasis and shift in governance networks and social infrastructure in sync with the experience of the rest of India. With experimentation of bringing central laws to J&K, the study attempts to find out what has been changed in governance networks in order to provide basic essential infrastructure services. Here, the focus is to study urban drinking water services by taking case studies of two capital cities of, Jammu (Winter Capital) and Srinagar (Summer Capital). The research paper relies on primary and secondary data from the field about the investigation. The article uses and evaluates the notion of governance network that prevails in the conflict-affected capital cities of J&K. The research paper primarily focuses on the structures and stakeholders in the related sectors to create a knowledge base, besides studying the complexities and challenges faced in the provisioning of these services, which are essentials to study the governance network in the region.

### **Governance Network Conceptualisation and Framework**

Governance today has been concerned with a web of ties between three actors: the state, the market, and civil society. These actors interact in the public domain and attempt to establish public policy together (Rose & Miller, 1992).

**TABLE 1:** Differing Terms and Definitions for Network Governance

<i>Selected Reference</i>	<i>Term familiar with</i>	<i>Definition used for Governance Network</i>
Hage & Alter, 1993	Inter-organisational Networks	Unbounded or bounded clusters of organisations that, by definition, are nonhierarchical collectives of legally separate units.
Dubini & Aldrich, 1991	Networks	Patterned relationships between individuals, groups, and organisations.
Kreiner & Schultz, 1993	Networks	Informal inter-organisational collaborations
Miles & Snow, 1986; 1992	Network Organisations	Clusters of firms or specialised units coordinated by market mechanisms
Powell, 1990	Network Forms of Organisation	Lateral or horizontal patterns of exchange; independent flows of resources; reciprocal lines of communication;

Governance network help to produce public policy and governance in a concentrated manner. Political visions, policy concepts, broad plans, informal norms, and precise laws are frequently produced or impacted through policy processes that involve relevant actors from the state, market, and civil society (Torfing & Sørensen, 2005). The networked policy output is the product of negotiated interaction among several interdependent but operationally independent actors. These networked policy actions correspond to the structures of interdependence involving multiple organisations, where one unit is not merely the formal subordinate of others in the hierarchical arrangement (Agranoff & McGuise, 2001).

A governance network is defined as “interim cooperation characterised by organic or informal social systems, as opposed to bureaucratic institutions inside businesses and formal interactions between them” (Jones, 1997, pp. 911– 945). In this context, the terms “privatisation, public-private partnership, and contracting are defined.” Network governance is a “different kind of economic activity coordination” that contrasts and competes with markets and hierarchies (Powell, 1990, pp. 295-336). Several researchers have expanded on and analysed the Governance network, which comprises, aside from policy networks, operational networks that serve as implementation mechanisms for delivering public goods and services. The literature on conflict studies argues that the prolong-conflict, also called intractable conflict, devastates human lives and societies where it occurs (Bose, 1997). It challenges the

very foundations of the governance capacities of the body polity. Governance failures of not diagnosing the multi-dimensional root causes of conflict within the constitutional parameters weaken the associated institutional capacities (Rondinelli, 2007). During the conflict, the state's failure shifts governance from the state to other players at the local level. Citizens are further left to fill the sovereignty gap through the involvement of multiple actors at the local and regional levels. Goldstone (2008) and Ginty (2013) argue for the evolution of 'hybrid governance and other alternate structure of governance solutions to resolve conflicts. Literature reporting the field experiences of various organisations like UNDP, DFID, World Bank, OECD, and multiple other agencies in the countries like Syria, Africa, Uganda, Afghanistan, and Pakistan suggests localised models of governance and its network rather than working on the 'best-practice' approach of governance networks available in relatively stable societies to resolve conflict (Price, 2017; DFID, 2004; Khalaf, 2015; SLRC, 2017).

Wani (2018), Baba (2012) and Saxena (2008) consider J&K as a conflict arising out of a weak governance apparatus which has gradually turned the state into a troubled zone. This has impacted a great deal on the delivery of essential services. The region's geopolitical and strategic importance has put India and Pakistan in formidable wars, hostility, and low-intensity conflicts. Being geographically located in a sensitive security area and wedged between the triangular nuclear weapon states of India, Pakistan, and China, the development of social infrastructure and building up the new networks of governance in J&K have become crucial for the sustainable development of the region and the maintenance of peace and stability.

Providing essential services is the primary function of administrative governance in societies ridden with conflict and instability (UNDP, 2007; Mcloughlin & Scott, 2004). Essential services, as defined by (Marcus, 2004), are classified under the following heads such as social services (primary education and basic health care), infrastructure services (water, sanitation, roads, and bridges), and personal protection services. These services help develop trust among the citizens that policy systems are responsive to their needs and grievances (Berry;Forder; Sultan;& MorenoTorres,2004). The governance network approach, as literature articulate (Sorensen, 2006; Sorensen & Torfing, 2005, 2007, 2014; Torfing, 2005; Torfing, Sørensen & Fotel,2009), that delivery of such essential services is an outgrowth of complex interactions of multiple policy actors, working in synergy to deliver developmental outcomes with a relative level of citizen satisfaction.

Many governments, especially under-developed and developing countries, face a common need to meet the United Nations Sustainable Development Goals (SDGs). The achievement of SDGs is closely linked and associated with the effective delivery of public services (OECD, 2017). Conflict or a fragile situation of the state closely impacts the coverage and quality of basic services, and this, in turn, negatively impacts human development and economic activity (Mcloughlin & Scott, 2004). Public service delivery and compatible institutional arrangement have become crucial and critical in developing countries like India, where the means and ways to provide access to quality parameters are grossly inadequate (Ayog, 2021; Bhattacharya, Rathi & Anusree, 2015). Good governance is key to improving the service delivery mechanism (Sangitha, 2002). The concept of governance concerning service delivery can be understood as the set of incentives and accountabilities that affect the way provider organisation, their managers, and the staff behave, as well as the quality

and efficiency with which they deliver services (Batley & McLoughlin, 2015; Hall & Jones, 1999).

The engagement of individuals and civil society is critical to the success of governance processes and an effective service delivery system. Along with governmental machinery, they form the foundation of governance networks (Skelcher, Klijn, Kübler, Sorensen & Sullivan, 2011). They supplement rather than replace or substitute current systems for service delivery and governance results. Effective service delivery can also be regarded as the entry point for granting legitimacy to the system for beneficiary accounts; thus, governance networks usually enforce capacity-building exercises of front-line service providers and trigger democratic actions in the decision-making system by mobilising citizens around service demands and participation in the planning process. Building stronger governance networks aid in breaking the intergenerational cycle of poverty and increasing economic opportunity (Berry, Forder; Sultan; & Moreno-Torres, 2004).

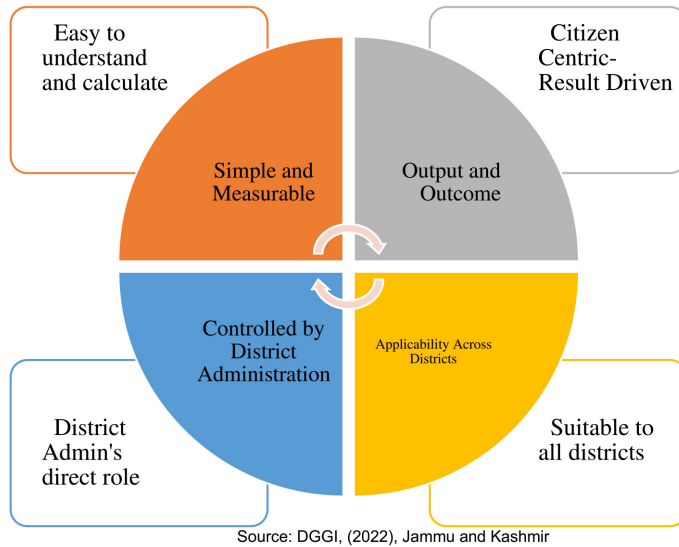
Governance (Fulda, Li & Song, 2012; Guy Peters, 2019) is defined here as an administrative mechanism signifying mostly top-down government architecture to provide essential services and administrative order through self-organizing interorganisational networks duly recognised by the principles of constitutionalism prevailing in any bounded territorial region. This does not limit only to stakeholders associated with the state but also considers the contribution and participation of other non-governmental bodies which act in tandem with the state-based stakeholders to deliver the developmental outcomes (Bell, A. H. (ed.), 2009; Bell & Hindmoor, 2009). The complex interlinkages between and among these stakeholders of governance networks come under pressure when the case is vetted in a conflict setting (Kooiman, 2003). The larger purpose of complex governance networks in conflict settings for delivering developmental dividends and promoting Just, peaceful, and inclusive societies by reducing the tenors of violence and conflicts get derailed due to other variables like intractable social conflicts, political instabilities, increased inequalities, and social exclusions (Ahmad, 2006; McLoughlin & Scott, 2004).

Good governance is described as an effective and efficient decision-making process, as well as the process by which decisions are made (or not made) for implementation with the improvement of people as the primary goal. Resource allocation, the development of formal entities with the necessary sustenance and autonomy, the formulation of rules and laws, and so on all contribute to achieving this goal. A state government must guarantee that all districts begin to reach various objectives and desired outputs and results in order to be effective in meeting the ambitions of its population. The current Jammu and Kashmir District Good Governance Index Framework (DGGI, 2022) includes 58 indicators in 10 categories because of each district's extensive and comprehensive data collecting, screening, and validation procedure. The DGGI intends to examine the state of governance in all 20 districts of Jammu and Kashmir using specific sectors and indicators, allowing districts to be rated and a comparative picture to be given. The framework is meant to aid the UT and District administrations of J&K and other stakeholders in identifying present weaknesses, planning to bridge these gaps, and serving as a decision-making tool.

Figure 1 displays the DGGI indicator selection criterion. The framework employs several characteristics of networked governance. The framework consists of two distinct components: governance sectors, which encompass the many features of the governance paradigm existing in the UT of J&K. It contains a detailed discussion

with many stakeholders involved in the governance of quantifiable indicators. The other component consists of a set of Governance indicators that are used to assess the performance and consequent results of several sectors. The DGGI's governance system is based on a participatory approach, with multiple sets of indicators ranging from broad topics to indicators.

**FIGURE 1.** DGGI Indicator Selection Principles



Source: DGGI, (2022), Jammu and Kashmir

**TABLE 2:** Sector wise Ranking of Jammu and Srinagar District (DGGI, 2022)

<i>Sector</i>	<i>Jammu</i>	<i>Srinagar</i>
Agriculture and Allied Sector	1 0	2
Commerce and Industry Sector	1	8
HRD Sector	4	9
Public Health	2	3
Public Infrastructure and utilities	2	1
Social Welfare and Development	2 0	1 8
Judicial and Public Safety	4	1 3

Financial Inclusion	1 2	1 5
Environment	1 3	1 6
Citizen Centric Governance	1	3

Table 2 shows the sector rankings of Jammu and Srinagar's capital cities. The study clearly demonstrates a governance deficit. Despite having administrative advantages as the UT's political centres for numerous years, the twin districts have fared comparatively worse than the other 18 districts in several categories.

### **Governance Network in Twin Cities**

As we delved into the issue of governance networks (Blanco; Lowndes & Pratchett 2011; Mehta, 2005) in the twin cities of Jammu and Kashmir (J&K), we need to reiterate the argument that governance network is a complex exercise of multiples policy actors vetting and dealing the same outcomes. India follows multi-layers governance systems, which are intertwined constitutionally by the union government, state government and local bodies. Constitutional jurisdictions are codified under a single policy document (Constitution of India); however, variation persists with the specific exemption. Apart from union government at the central and state government, the governance of the twin cities is coordinated and shared among the municipal corporations of the respective cities along with the allied government departments.

Municipal Governance in J&K can be traced back to the mid-nineties (the 1990s). The municipal governance structures and finances of the UT of J&K have remained very weak since then, as the mandatory periodic elections of rural and urban local bodies hardly occurred on time. Democratic-mandated election of choosing people representatives was threatened under prolonged militancy and terrorism. This made the structure weaker and never took off. The local governments' spending capacity remained hostage to grants-in-aid and transfers from the central and state governments. Own-source of revenue generated at urban and rural local bodies are limited hence strangulating flexibilities in spending capacities. It is also argued that the special privilege granted to J&K under Article 370 of the Constitution of India did not help the growth of the democratic institutions in the state at par with the rest of the country and prevented the consolidation of sustainable self-governance. The role of the central government under the particular provision of Article 370 remained to be advisory and provided a suggestive policy framework subject to state governmental approval and programmatic implementations. The governance performances remain far below the desired level compared to neighbouring states like Punjab and Himachal Pradesh. The weak political establishment and inefficient governance have led to severe losses to the state. Financial assistance amounting to Rs 169.28 crore under the 13th finance commission was not awarded to the state for not conducting elections for local urban Governance (CAG, 2017). The state administration, though, devolved certain functions to Municipal Corporations. However, scholars seem sceptic of this in the absence of proper fiscal devolution, which is the backbone of any development agenda (Pant, 2020).

The legacy of large-scale corruption prevailing in J&K increases the perverse incentives of being dependent on the largess of the central exchequer. Besides, the lack of political will, weak municipal administration, and most significantly, the

unutilised grants from the Central government allocations hinder city development. Even though there is scope for local revenue generation, and as the 2004 State Finance Commission's report suggests, the local government can generate these resources through sources such as property tax, services charges, and entertainment tax in its jurisdiction. Besides revenue generation, the cities also witnessed a completely dried up of external aided projects supported by the World Bank, ADB and other donor agencies like USAID due to a spike in terror- induced violence and lack of institutional support to execute aided projects. The Economic Reconstruction Organisation (ERA), the nodal agency in charge of coordinating donor projects in the state since 2005, claimed that external finance for twin city development is essentially non-existent. The ongoing militancy prevented the development of an active civil society and discouraged local and international business investment in the state. According to reports, most contractors on infrastructure projects are locals, and the insurgency continues to discourage exterior commercial contractors and labour. However, in the post-abrogated phase, there has been some return of external support. For example, the World Bank is considering the second phase of the Integrated Water Development Project. The ADB completed the J&K Urban Sector Development Project, which largely focused on water supply and solid waste management.

The rising demographic pressure on twin cities also warrants increased public and private investments in essential services infrastructures and strengthening governance networks. The urbanisation process in Jammu and Kashmir continues to be uneven and is oriented towards its large cities and towns. The study by Khan and Mondol (2018) found that the state's urban population is densely compacted in three cities, i.e., Srinagar, Jammu and Anantnag, that accounted for more than half of the total urban population in 2011. The phenomenon of primacy is extreme, where the single most significant city, i.e., Srinagar, constitutes about one-third of the state's urban population and is two times larger than the second largest city, Jammu. As per Table 2, among the Top 10 Cities in J&K, Srinagar and Jammu (the Twin Cities) constitute nearly 77 per cent of the total urban population of the top 10 cities in (Census, 2011), which shows some decline rate over the 2001 Census. The rapidly rising population in the urban centres in the region calls for attention to the patterns of urban governance. The successive attempts to rectify the situation at the local level are frustrating due to the ineffective devolution of the 74th Amendment Act in the state, thus weakening state capacity and structural development in the urban centres.

**TABLE 3:** Top Ten J&K Towns and their Urban Populations in 2001 & 2011

<i>Rank</i>	<i>Town</i>	<i>Pop_2001</i>	<i>Percentage of urban populations (%)</i>	<i>Pop_2011</i>	<i>Percentage distribution of Urban (%)</i>
1	Srinagar	952324	37.84	1206419	35.14
2	Jammu	549791	21.85	576198	16.78
3	Anantnag	91359	3.63	150592	4.394
4	Udhampur	79299	3.15	84015	2.45



5	Baramulla	71896	2.86	71434	2.08
6	Sopore	59624	2.37	71292	2.08
7	Kathua	51034	2.03	59866	1.74
8	Baribrahamana	33581	1.33	37081	1.08
9	Jammu cantonment	28791	1.14	30870	0.9
10	Leh	28639	1.14	29486	0.86
TOP 10		1946338	77.34	2317253	67.49

Source: Calculated from Khan and Mondol, 2018, p.8

The Twin Capital cities are now part of the much-celebrated urban flagship programme like 'Smart Cities Mission' (SCM) to boost the overall infrastructural development. The mission focuses on four things: Social Infrastructure, Physical Infrastructure, Institutional Infrastructure (including Governance) and Economic Infrastructure. Moreover, the cities are also part of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Mission, a centrally sponsored programme. AMRUT believes that infrastructure creation should have a direct impact on the real needs of people. Hence, the focus should be on infrastructure creation, which is directly linked to providing better services to people. Capacity Building and set reforms have been included in the mission to enhance transparency in the service delivery by the Urban Local Bodies through improving governance.

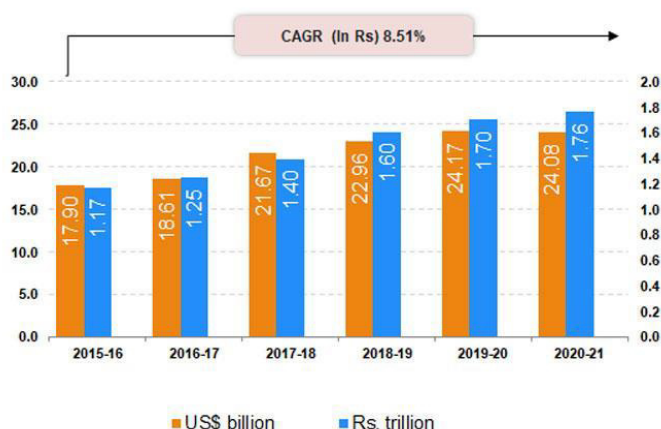
Infrastructure has a direct relationship with determining the level of living. Its amount and quality define the legitimacy of an economy's basis and character. Broadly defined, Infrastructure encompasses all fundamental systems and structures, as well as facilities and services, that are essential for the proper operation of an economy at various levels. Thus, infrastructure supplies and provisions strongly influence the nature and level of a country's socioeconomic activities. Social Infrastructure may be investigated as those services that are prepared to address a society's fundamental demands (Torfing, Sorensen & Fotel, 2009). Social Infrastructure refers to the set of Institutions and government policies that determine the economic environment within which individuals accumulate skills and firms accumulate capital and produce output (Hall & Jones, 1999; Rhodes, 1997). It encompasses education, health, sanitation, drinking water, housing, and sewage, among other things. Social overheads are another word for social infrastructures (Rose & Miller, 1992).

Economic and Social Infrastructure is one of the most important pillars of every country's growth. It is not an exaggeration to say that the status of an economy's Infrastructure and the quality of services it provides are vital to its development and sustainability (European Commission, 2018). While governments set and maintain social infrastructure, it must also be recognised that, quite often, individuals or groups with competing interests engage in a contest to influence political or bureaucratic decisions in their favour. Empirical evidence suggests that good governance is positively related to economic development.

### The Study of Social Sector Investment and Infrastructure

Despite their crucial importance, development activities in the establishment and maintenance of infrastructures such as drainage systems, transportation, health, and education have taken a back seat since the outbreak of militancy in the late 1980s. Rather than creating new assets, most capital works have concentrated on the restoration and repair of infrastructure and public assets that were destroyed or neglected during the years of militancy. Social Infrastructure expansions have suffered the most. Unplanned constructions around the urban peripheries came up during the peak period of militancy. The citizens migrated to safer places in the cities. Unintended growth and crowding resulted in the rise of urban slums and impoverished villages with no infrastructure. Much of the focus of the State and municipal governments has been to ensure the maintenance of Law and order rather than urban revitalisation.

**FIGURE 2:** Gross State Domestic Product of J&K since 2015-16



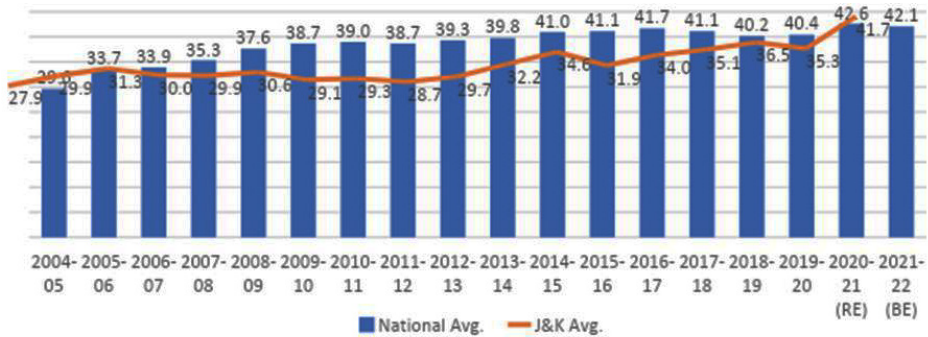
Note: Exchange rates used are averages of each year. Source: Directorate of Economics and Statistics

The review of the state's Gross Domestic Product during the previous six years demonstrates an incremental increase. The Ministry of Finance (GoI) presented the Budget after 2019 when the state was divided into two Union Territories following the repeal of Article 370. This rate of expansion reflects a shift in state policy goals and governance structures. The state budget has grown since then. However, due to the prolonged lockdown, which began after August 5, 5 and was followed by the worldwide covid epidemic, growth was mostly restrained in a few areas (Service sector). The state increased at an 8.51 per cent CAGR on average. The quality of infrastructure determines a large portion of the quality of living. Access to facilities, services, and programmes can result in greater job prospects, workforce engagement, and human capital. Social infrastructure entails much more than just providing basic public services like schools and hospitals. It comprises supplying and delivering the facilities and services required for a community to build facilities for Health, Education, Sports, Socio-cultural Activities, Recreation, and so on (ADB, 2012).

J&K is underdeveloped in terms of public service delivery (Ayog, 2021). Data indicate low public-infrastructure development in J&K, which is ascribed to poor governance and the absence of governance networks (Shroff, 2019). The territory's

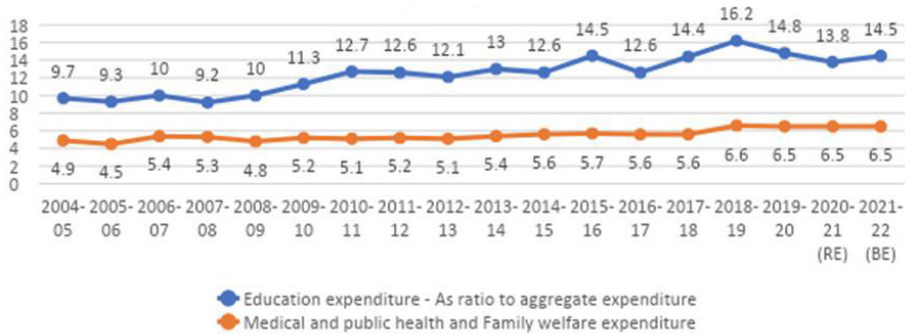
volatile political past has suffocated the development process and efforts (Zachary Jones, 2010). According to national data, infrastructure constraints are emerging as the major concern hurting productivity and quality of life in Jammu and Kashmir’s capital cities. The consequences of these tendencies are regarded as less desirable considering the rising urbanisation of major cities. In terms of average social sector spending (SSE) in J&K, the SSE has constantly been lower than the national average, falling from 27.9 per cent in 2 to 35.3 per cent in 2020-21. However, the repeal of Article 370 has boosted hopes for more SSE investment, which can be seen in 2021-22, where it has nearly equalled the national average with 41.7 per cent as opposed to the 42.1 per cent national average of SSE (Fig 3 to 5).

**FIGURE 3:** Social Sector Expenditure in J&K as a comparison to National Average



Source – RBI - State finances: The Study of Budget

**FIGURE 4:** Education and Public Health expenditure: As a ratio to aggregate expenditure



Source – RBI - State finances: The Study of Budget (various years)

**FIGURE 5:**SSE Growth Rate comparison in J & K against National SSE Growth Rate



Figure 4 depicts the expenditure on the Education, Medical, Public Health, and Family Welfare departments in relation to the overall expenditure by the Government of Jammu and Kashmir during almost two decades. The graph depicts the stagnant trend in health spending patterns from 2006-07 to 2017- 18, but education spending has not improved significantly. However, there has been a small improvement in the spending spent in the Social Sector from 2019- 20 onwards due to central priority connected to the sector from 2018-19 onwards. In the preceding context, one can observe the lagged data of public services in the health and education sectors in the Jammu and Srinagar districts, which might provide a basic insight into J&K’s infrastructure development trend. There are 960 elementary schools, 300 middle schools, 108 high schools, and 62 upper secondary institutions in the Jammu district. The education sector has been allotted Rs 2392 crores as revenue expenditure in the Budget 2020-21. Srinagar has 21 government hospitals, 35 urban health centres, and 12 primary health care clinics. This capital city acts as a healthcare hub for the Kashmir valley. Furthermore, J&K has 31 district hospitals, 749 primary health centres, 2866 sub-centres, and 135 community health centres as of May 2020. More than 400 Health Infrastructure Projects/works totalling Rs. 7177 Crores are being undertaken in Jammu and Kashmir to boost the medical infrastructure. Two new AIIMS are being built at the cost of Rs 4000 Cr (Rs. 2000 Cr each), one in Jammu Division and one in Kashmir Division, while seven new Government Medical Colleges are being built at the cost of Rs. 1595 Cr. Ten new nursing colleges are being built at the cost of around Rs. 60 crores. In the Jammu and Kashmir Division, two State Cancer Institutes for Rs. 240 Cr would be developed. All these developmental initiatives have resulted in incremental improvements and positive changes in the Health Index of J&K. In the last three years, the neonatal mortality rate in Jammu and Kashmir has come down from 23.1 to 13.3 per 1000. The infant mortality rate has come down from 32.4 to 16.3 per 1000. The sex ratio at birth has increased from 923 to 976 per 1000. Institutional deliveries have increased from 7 per cent to 92.4 per cent (MoUD, 2018).

In comparison to other cities in Jammu and Kashmir, Jammu has the highest concentration of community amenities and services, such as education and health

care. The increased migration of people from the Kashmir Valley and rural areas has resulted in an expansion in private infrastructure in education and health care (Jammu Development Authority, 2017). Private hospitals and clinics have contributed to the region's enhanced service network. With top private educational coaching institutes, Old Jammu city has become the key educational centre. In order to keep up with the growing population, the Srinagar Metropolitan Region Master Plan 2035 proposed enhancements to social infrastructure and services. The healthcare services and infrastructure in the Kashmir valley are superior to those in the neighbouring metropolitan areas due to its central location (Town Planning Organisation, 2019).

### **Drinking water services in twin capital cities**

The paper attempts to study in detail the drinking water services in the two capital cities in J&K. The provision of safe drinking water took central stage in the global environment and development discussion with its inclusion in the Millennium Development Goals (MDG) and later in the Sustainable Development Goals (SDGs). The attainment of SDGs becomes central to the policy goals and the state government. Water supply in India is a state subject. Constitutional provisions enable the centre and the state to perform a crucial role in planning and managing water resources and financing water supply to municipalities in urban areas, called Urban Local Bodies (ULB) (NIUA, 2015). States generally plan, design, and execute water supply schemes (and often operate them) through state departments (Public Health Engineering) or state-owned corporations. The UT J&K, owing to its Geographic location, is endowed with ample surface and groundwater sources, mostly of Himalayan origin. Apart from rivers like Chenab, Jhelum and Indus River, the region is gifted with several water bodies, including tributaries, lakes, and wetlands (Ministry of Jal Shakti, 2014). The twin capital cities of Jammu and Srinagar are located at Tawi and Jhelum River banks, respectively.

The potable water supply distribution system was introduced in Jammu and Srinagar city at the beginning of the 20th Century (Jamwal, 2018). The drinking water services have been managed by the State Public Health Engineering Department (Renamed Jal Shakti Department). The erstwhile state government enacted the Jammu and Kashmir Water Resources (Regulation and Management) Act, of 2010. The act authorises the authority to regulate the water resources, ensuring the judicious, equitable, and sustainable management, allocation, and utilisation of water resources fixing the rate for water use and the subsequent matters attached herewith (GoJK, 2010). According to the US-based Global research organisation in its report on the updated *Aqueduct Water Risk Atlas*, published by the World Resource Institute (WRI) ranked, J&K is among the top 10 water-stressed states in India, while India is ranked at 13th position among the world's worst countries facing water problems (Pandey, 2019). The per capita water storage was 2.062 cu m/ person in 2018, much less than all Indian figures of 196.93 cu.m/ person in Jammu and Kashmir (Pir, 2018). The growing resource and service delivery pressure coupled with inadequate and ineffective governance practices calls for attention to improving the water governance and management of resources (Shah, 2019).

Jammu city is the second highest urban area (50 per cent) after Srinagar, which has 95 per cent of its population living under municipal limits. The present demand of drinking water in Jammu city is around 246 million litres of water per day. From the total water supply in the city, some 86 million litres per day is shifted from Tawi

and the rest from the groundwater via 262 tube wells sunk across the city. Tawi river is the prime source of surface water in the city. Various reports suggest that although the Tawi river is perennial, the flow in the river is lean except during monsoon. It flows from J&K to Punjab in Pakistan, where it joins the Chenab. The water supply network in Jammu city is divided into seven water supply zones which are governed and managed by the State Jal Shakti Department. The seven water supply zones are further divided into subzones for water supply management: about 59 and 49 isolated sub-zones in the West and East of Jammu (ADB, 2012). Around 80 per cent of the population of Jammu receives water at the rate of 97 lpcd compared to the service level benchmark of 135 lpcd. Srinagar City historically evolved along the bank of river Jhelum. Subsequently, the city developed around the peripheries of some water bodies like Dal lake, Nigeen lake, Khusalsar, and Brari Number. It is divided into Five water supply zones with different water supply systems, which contain seven subsystems. The water supplied is lifted from the river Sindh, Jhelum, Dal Lake, Doodhganga and Sukhnag Nallah (Town Planning Organisation, 2019).

**Table 4:** Existing Zone wise water supply system in Srinagar city.

<i>Water Supply Zone Plant</i>	<i>Location of Water Treatment (MGD)</i>	<i>Installed Capacity Units</i>	<i>No. of Water Treatment</i>	<i>Sources of Raw Water</i>
W/s Zone 1 (Rangil)	Rangil	30	2	Sindh Nalla
	Alusteng	6.80	2	Sindh Nallah
	Pokhribalh	4	1	Nigeen Lake
W/s Zone 2 (Nishat)	Nishat	19	5	Dal Lake and Sharab Khul
W/s Zone 3 Doodhganga	Doodhganga	10	1	Doodhganga Nallah
W/s Zone 4 Sukhnag	Parthan	10	1	Sukhnag Nallah
W/s Zone 5 (Tangmar)	Padshahibagh	11.12	1	Sukhnag Nallah
	(1.12)		1	River Jhelum
	Sempora (10.00)			
Total: 90.92 MGD				

Source: Town Planning Organisation, 2019.

According to the Jal Shakti department Kashmir, the city has an installed capacity of 90.25 MGD (million gallons daily), while the present generation is 68.55 MGD. Although the city has surplus availability, the drinking water services face a severe water crisis due to micro-level distribution issues. The average daily hour supply of drinking water in the city is 90 minutes. The drinking water distribution network in Srinagar city is divided into 5 water supply zones. These are Rangil, Nishat, Doodhganga, Sukhnag, and Tangmar, with a total of 14 water treatment units installed to provide drinking water to an amount of 90.92 million gallons daily (Town Planning Organisation, 2019).

The urban centres of J&K, like other cities of India, have been under increasing pressure for decades to modernise their Infrastructure to keep pace with the growth

and meet the ageing system's maintenance needs. The growing demand for public water services combined with the depletion of water resources and deterioration of state-provided water infrastructure, and pressured government budgets, all combine to create a strain on water delivery services. The drinking water's production capacity has increased in both Jammu and Srinagar city; about 43 per cent of the water produced is lost through leakages and wastage and a substantial number of illegal connections. The antiquity of the water supply projects, mainly constructed during the period the 1950s and 1970s, have exceeded the original design life and have leaking distribution networks.

The old pumps and tube wells are unable to operate at their rated capacity due to the problem of low voltage and frequent cuts in the power supply. Much of the shortages of drinking water services are due to the inefficient water treatment plant, which filters water at half its rated capacity. The three-water treatment plant in Jammu city has a filtration capacity of 103.50 MLD. With negligible domestic water metering, the extent and measurement of actual water losses are not possible, which directly impacts water management and thus has led to excessive non-Revenue water.

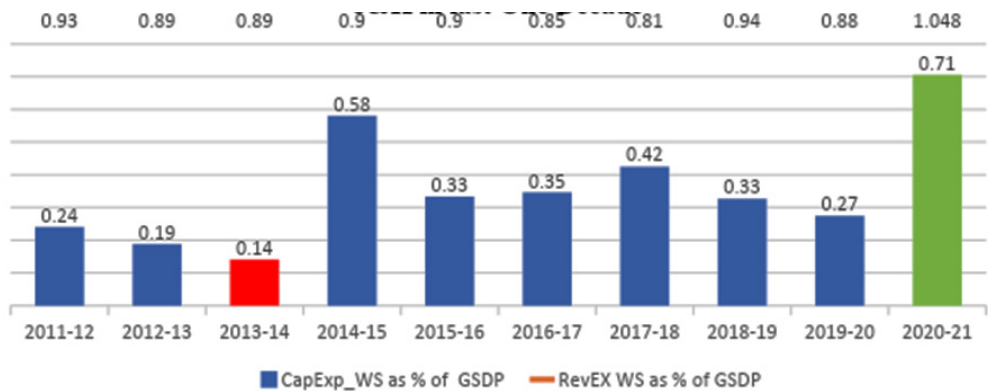
The sewerage coverage is also dismal in the capital cities of J&K. Data suggests that the average sewerage coverage in Jammu city is around 30 per cent, while it is around 3 per cent in Srinagar city. The poor situation of the sewerage coverage is aggravated by the low percentage of the drainage facility. Around 40 per cent of the Jammu city household does not have a drainage facility, whereas 55 per cent of Srinagar city households do not have a drainage facility. The situation has adversely impacted the surface water and water bodies in the twin cities of J&K. Inadequate staffing and capacity building have been significant sources of poor performance of the state in drinking water governance. The field staff have been primarily hired on a daily-wages basis, which has led to inter-departmental conflicts at times. The high operation and maintenance costs and Low recovery rate have been a hurdle toward the sustainability of the existing water management practices. As the water supplies in Jammu city and parts of areas in Srinagar city are ground water-based, proper wellhead protection measures need to be taken to avoid bacteriological contamination like coliform bacteria and E-coli, there is a lack of proper sewage and sanitation all over the state resulting into groundwater and surface water contaminations.

J&K, in post abrogation, has taken many administrative decisions about the devolution of powers mentioned under the 74th constitutional amendment act to the ULBs. In its official order dated, the UT administration has approved transfers of functions and functionaries of several Jal Shakti division departments to ULBs. The amendment aims at strengthening democracy at the grass root level in urban areas through local bodies. Likewise, around 140 water supply schemes along with allied Infrastructure have also been transferred to Jammu Municipal Corporation (JMC) and Srinagar Municipal Corporation (SMC) for their operation and maintenance, besides the transfer of 3,222 kilometres of distribution networks of various schemes falling within the jurisdiction of 19 municipal councils along with regular staff, and casual workers and daily rated workers to the ULBs (Government of Jammu and Kashmir, 2011).

As regards overall expenditures in the WatSan sector (Water and Sanitation Sector), fewer priorities have been attached when we compare it with the overall

economy. In most cases, the capital expenditure has remained less than <1 per cent of the GSDP; the same can also be observed when we look at the revenue expenditures in proportion to GSDP (Fig.6). This shows that the sector has always been a less priority sector in the region because the region is going to hit water stress for the burgeoning urban population shortly.

**FIGURE 6.**Expenditure category (Rev.& Cap.)in WatSan sector in J&K in last Decade



Source: RBI: A study of State Finances

The Government of J&K in 2010 enacted the Jammu and Kashmir Water Resources (Regulation and Management) Act. The J&K state water policy and plan were also adopted under the water resources regulatory authority section 4, which provides a regulatory framework related to the water resources and drinking water supply system. The state water policy calls attention to the wide range of issues and management dimensions. It puts forward a comprehensive framework dealing with the multiple sectors and the involvement of multiple stakeholders.

### The Study of Reforms

Reforms is a possible solution to reinvigorate social sectors' programmatic implementation while maintaining fiscal prudence. In 1969-70 when J&K had become a unique category state, the state's tax and non-tax revenues together amounted to 41 per cent of its total revenue. Half of its revenue came from the central grants, and only 9 per cent from its share of union taxes. By 2010-11, the share of central grants in total receipts increased to 66 per cent, with the share of its revenue reduced to 21 per cent. 57 per cent of its aggregate disbursements were met from the total central transfers. These situations of gross dependency on the central grants have been subjected to the subsequent mis-governance and terror-infused conflict in the state. However, the last decade's study of the state's finances shows upward mobility in revenue generation.

The policy planning and administrative reforms in the UT of J&K post abrogation of Article 370 have been coupled with a series of reforms in terms of political decentralisation, paving the way for more robust local governance. Jammu and Srinagar, the twin capital cities of Jammu and Kashmir, are among the Government of India's urban reforms agenda, having been placed in the AMRUT schemes



beneficiaries and Smart Cities List. These have led to various reform measures. These reforms can be studied in the following ways: First is the speedy adoption of e-governance programmes. The municipal corporations of the twin cities have initiated specific reform measures in digital governance indicators. Functional websites and the online delivery of essential services have been initiated. The Municipal Corporations have also made the water facilities, like water billing and application for new connections, available online.

The second reform requires the building capacities of the staff associated with essential service delivery. Capacity-building programmes for employees have been undertaken in the Municipal Corporation (funded by ADB) under ERA's guidance at regular intervals. The Jal Shakti department in J&K has a dedicated Communication and Capacity Development Unit for capacity development and Information and communication services.

Third, without the participation of the beneficiaries, bottom-up planning and program implementation will remain a pipe dream. The Municipal corporation has initiated a series of reform measures to engage citizens in planning urban services and provide space for their engagement in policy discussion. The government has initiated the MyGov platform for citizen engagement, along with the mobile applicationbased user interface.

Fourth, there requires a multi-prong approach for strengthening the implementation of the Monitoring and Evaluation (M&E) component in the programme. There is a need for digital tools to strengthen the M&E components, such as the use of SMS/ WhatsApp, specially customised mobile applications etc., can be extensively adopted for monitoring the punctuality and efficiency of sanitation and field workers. Further, the introduction of JK BEAMS (Budget Estimation Allocation and Monitoring System) has been helpful in the planning of development and monitoring of expenditure outcomes. BEAMS is an application for online budgeting and flow of resources. It is designed to capture the flow of funds to each project under execution on a realtime basis. Citizens can view projects being funded in their area so they can actively participate in the development process. The government of J&K has launched the EMPOWERMENT initiative to enable people's participation during the execution of projects.

Fifth, all these can be streamlined if the decentralisation takes place adequately at the local level. Decentralisation is regarded as an essential component of water governance reforms. The JK Government has devolved the drinking water and allied services to the Municipal Corporation as mandated by the 74th constitutional amendment act. The spread of militancy has affected the elections process in ULBs and RLBs, which have been kick-started recently in the post-abrogation phase with the success of local elections in the region. It is expected that this process will help the reform forwards.

Finally, there is a need to adhere to Service Level Benchmarking (SLB) in essential social sector programmatic implementations. The Govt. of J&K has recently released its first District Good Governance Index (DGGI), 2022. This index has been prepared by the Department of Administrative Reforms and Public Grievances (DARPG). The DGGI is a framework document comprising performance under ten governance sectors with 58 indicators with 116 data points. The DGGI 2022 further indicated that J&K had registered an increase of 3.7 per cent in good governance indicators

over the 2019 to 2021 period. Srinagar district has topped in the public infrastructure and utility sector. The reform measures have led to an increased service level benchmarking in the drinking water sector from 85 lpcd in 2013 to 97 lpcd in 2016. Moreover, non-revenue water, which underlines leakages in various service parameters, has decreased from 46 per cent in 2013 to 43 per cent in 2016 and an increase in average daily hourly supply from 45 minutes in 2013 to 90 minutes in 2016 (MoUD, 2018). Though J&K has undertaken various reform measures, there is much to be desired.

### **Conclusion**

To conclude, the governance network, as implemented through measurable governance indicators, is a significant advancement in policy formulation for organising and mobilising stakeholder participation, with inherent advantages over the current status quo of bureaucratic administration and hierarchical governance. However, urgent challenges must be addressed in order to ensure that network governance is responsible and in accordance with democratic norms. Because of the overlapping roles of multiple government agencies and the acknowledgement of a complete and holistic approach to government, networks are being employed in policy formation, issue resolution, and the delivery of products and services. The basic service delivery in J&K has not performed well in past years and is undergoing a changing post August 5, 2019. However, the fundamental values of good governance, openness, and accountability must be represented in all policy decisions to guarantee that the public's interests are protected. There should be fair representation in policy networks to ensure that people who will be impacted are involved or have a say.

So far for the water utilities, the service delivery agencies need certain upgrades. With zero domestic meterings, it is difficult to accurately assess the water losses. In general, there is less emphasis in these utilities on assessing and reducing the physical leakages and non-revenue water (NRW). The water supply authority does not recover its operating costs and thus lacks financial viability. Based on the service inefficiencies and after a thorough review of the best practices in water governance and management, specific reform measures and policy changes can be recommended at the administrative and governance levels. The administration and the ULBs at all levels should bridge the gaps in infrastructure and service delivery with regular performance measurement and evaluation of ongoing projects along with the general principles of service level benchmarks. Besides, lasting lessons from the ongoing global pandemic on crisis preparedness and resiliency of staff, systems and equipment could lead to increased investment in digital solutions.

As mandated by the J&K State water policy, the Water Users association should be established with due recognition in the planning process. The outcomes of the drinking water services largely depend on how the stakeholders act concerning the rules and the roles that have been taken and assigned to them. The focus should therefore be made to accommodate all the stakeholders in the decision-making process and governance of public services. Further, an approach towards an integrated 'Whole of Government' approach for governing the water sector should be prepared that would accommodate and apply collaborative policy-making, involving the coordination of different policies and programmes areas that are all expected to contribute in some way to the same outcome. Apart from Public Investment, the Public Private Partnership model should be incorporated effectively

to re-establish public institutions and reorganise public administration for better service delivery.

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### References:

- ADB. (2010). *Improving health and education service delivery in India through public private partnerships*. ADB, GoI.
- Agranoff, R. & McGuire, M. (2001). Big Questions in Public Network Management Research. *Journal of Public Administration Research and Theory*. 11, 295-326.
- Ahmad, Raza. (2006). *The Role of Public Administration in Building a Harmonious Society*. Asian Development Bank. <http://hdl.handle.net/11540/2950>.
- Akbar, M. J. (2000). *India: The siege within, challenges to a nation's unity*. Penguin Books
- Ayog, N. (2021). *Reforms in Urban Planning capacity in India*. New Delhi: NITI Ayog, GoI.
- Baba, N. A. (2012). *Democracy and Governance in Kashmir*. In N. A. Khan, *The Parchment of Kashmir* (pp. 103-124). Palgrave Macmillan
- Batley, R., & McLoughlin, C. (2015). The Politics of Public Services: A Service Characteristics Approach. *World Development*. 74, 275-285.
- Bell, A. H. (Ed.), (2009). *Rethinking governance: The centrality of the state in modern society* (pp. 1-19). Cambridge University Press.
- Bell, S. R & Hindmoor, A. M. (2009). *Rethinking Governance*. Cambridge University Press.
- Berry, C; Forder, A; Sultan, S.& Moreno-Torres, M. (2004). *Approaches To Improving the Delivery of Social Services In Difficult Environments*. PRDE Working Papers 12823, Department for International Development (DFID) (UK).
- Bhattacharya, S., Rathi, S., & Anusree, S. (2015). *Reconceptualizing Smart Cities: A reference framework for India*. Mumbai: Centre for Study of Science, Technology and Policy.
- Blanco, I; Lowndes, V. & Pratchett, L. (2011). Policy Networks and Governance Networks: Towards Greater Conceptual Clarity. *Political Studies Review*. 9.297 - 308. 10.1111/j.1478-9302.2011.00239.
- Bose, S. (1997). The Challenge in Kashmir. Democracy, self-determination and just peace. *British Journal of sociology*. 43, 173-205.
- CAG. (2017). *Annual technical Inspection report on certain urban local bodies for the year ended 31 March, 2015*. New Delhi: CAG.
- Census Data. (2011). *2011 Census Data*. New Delhi: Office of Registrar general and census commissioner, MHA, GoI.
- DFID. (2004). *Approaches to Improving the delivery of social service in difficult environment*. UK: DFID.
- DGGI. (2022). *District Good Governance Index*. DAPRG Retrieved from [https://darpg.gov.in/sites/default/files/GGI\\_Report\\_22.12.2021.pdf](https://darpg.gov.in/sites/default/files/GGI_Report_22.12.2021.pdf)
- Directorate of Planning and Statistics. (2017). *JK Economic Survey*. Jammu: GoJK.
- Dua, B.D. and Singh, M.P (eds.) (2003). *Indian Federalism in the new millennium*. Manohar Publishers.
- Dubini, P & Howard,A.(1991). Personal and Extended Networks are Central to the

- Entrepreneurial Process. *Journal of Business Venturing*.6(5),305-374.
- European Commission. (2018). *Indicators for sustainable cities*. Bristol: European Commission.
- Fulda, A., Li, Y., & Song, Q. (2012). New Strategies of Civil Society in China: a case study of the network governance approach. *Journal of Contemporary China*, 21, 675 - 693.
- Ganguli, S., Bajpai, K. (1994). India and the crisis in Kashmir. *Asian Survey*. 4(5), 403–404.
- Ganguly, S. (1996). Explaining the Kashmir insurgency: Political mobilization and institutional decay. *International Security*, 21(2), 76–107.
- Ganguly, S. (1997). *The Crisis in Kashmir- Pretents of War and Hopes of Peace*. Woodrow: Wilson Centre Press and Cambridge University Press.
- Ganguly, S. (2003). *The Kashmir Question- Retrospect and Prospect*. Fran Cass and Company Limited.
- Ginty, R. M. (2013). *Hybrid Governance: The Case of Georgia*. Georgia: Global Governance.
- GoI. (2012). *Group of Interlocutors for JK. A new Compact with the people of Jammu and Kashmir*. New Delhi: GOI.
- GoI,(2019). *The Gazette of India*. Retrieved from The Gazette of India: <https://eci.gov.in/files/file/13189-the-jammu-and-kashmir-reorganisation-act-2019/>
- GoJK. (2010). *Jammu and Kashmir Water Resources (Regulation and Management) Act 2010*. Retrieved from <http://jkswrra.nic.in/Acts%20&%20Rules/JKSWRRA%20Act,%202010.pdf>
- Goldstone, Jack A, (2008). Pathways to State Failure. *Conflict Management and Peace Science*. 25 (4), 285–96. <http://www.jstor.org/stable/26275148>.
- Guy Peters, B. (2019). Governance: ten thoughts about five propositions. *International Social Science Journal*,68 (227-228), 5-14.
- Hage, J & Alter, C. (1993). *Organizations Working Together*. SAGE Publications.
- Hall, R. E., & Jones, C. I. (1999). Why do some countries produce so much more output per workers than others. National Bureau of Economic Research. *The Quarterly Journal of Economics*.114(1), 83-116
- Hussain, S. (2018). *Decentralisation, Autonomy and Effective Governance: Policy Options for Resolving the Kashmir Imbroglia*. IDSA. Retrieved from <https://policycommons.net/artifacts/1963128/decentralisation-autonomy-and-effective-governance/2714893/> on 01 Jul 2022. CID: 20.500.12592/rk2xdx.
- Jammu Development Authority. (2017). *Jammu Master Plan 2032*. Jammu: JDA. Kashmir, G. o. (n.d.). General Administration Department, Government of Jammu and Kashmir. Retrieved from JKGAD: <https://www.jkgad.nic.in/gadDynamic/jKSG.aspx>
- Jamwal, N. (2018). *Centre Approves Diversion of Chenab's Water to Jammu but Plan May Not Be Feasible*. Retrieved from The Wire: <https://thewire.in/environment/centre-approves-diversion-of-chenabs-water-to-jammu-but-plan-may-not-be-feasible>
- Jones, C., Hesterly, W. S., & Borgatti, S. P. (1997). A General Theory of Network Governance: Exchange Conditions and Social Mechanisms. *The Academy of Management Review*. 22(4), 911–945. <https://doi.org/10.2307/259249>
- Khalaf, R. (2015). *Governance without government in Syria. Civil society and state building conflicts*. Syria: Centre for Syrian Studies.
- Khan, K. A. & Mondal, N. (2018). The Growth of Cities and Towns in Jammu and Kashmir: A Special Focus on Urban Primacy of Srinagar City. *Nagarlok*. L(3). 1-13.
- Kohli, A.(1997), 'India: Federalism and the Accommodation of Ethnic Nationalism', in Ugo M. Amoretti and Nancy Gina Bermeo (eds), *Federalism and Territorial Cleavages*.

- Baltimore: The John Hopkins University Press, pp. 281–300.
- Kooiman, J. (2003). *Governing as Governance*. London: SAGE.
- Kreiner, K., & Schultz, M. (1993). Informal collaboration in R&D: The formation of networks across organizations. *Organization Studies*. 14(2), 189–209. <https://doi.org/10.1177/017084069301400202>
- Marcus, R. (2004). *Basic Services and Social Protection*. London: Save the Children.
- Mcloughlin, C., & Scott, Z. (2004). *Service Delivery in fragile and conflict affected States*. University of Birmingham: Applied Knowledge Source.
- Mehta, D. K. (2005). *Public institutions in India: Performance and Design*. Oxford University Press.
- Miles, R. E., & Snow, C. C. (1992). Causes of Failure in Network Organizations. *California Management Review*. 34(4), 53–72. <https://doi.org/10.2307/41166703>
- Ministry of Finance. (2020). *The Fifteenth Finance Commission Report*. New Delhi: GoI.
- Ministry of Jal Shakti. (2014). *Ground Water Scenario of Himalayan Region*. Central Ground Water Board.
- Ministry of Law and Justice. (2019). *The Jammu and Kashmir Reorganisation Act, 2019*. New Delhi: GoI.
- MoUD. (2018). *The Smart City Challenge Stage 2*. Srinagar: MoUD.
- NIUA. (2015). *A study of qualitative assess the capacity of building needs of urban local bodies*. New Delhi: NIUA.
- OECD. (2017). *Getting governments organised to deliver on the sustainable development goals*. New York: UN.
- Pandey, K. (2019). *India world's 13th most water-stressed country*: WRI.
- Pant, H. V. (2020). *Critics complain about reform delay in post-370 Kashmir. But India's foes already rattled*. Retrieved from The Print: <https://theprint.in/opinion/critics-complain-about-reform-delay-in-post-370-kashmir-but-indias-foes-already-rattled/480224/>
- Pir, R. A. (2018). *Ground Water Year book 2016-17*. Jammu: North western Himalayan region.
- Powell, W. M. (1990). Neither Market nor Hierarchy; Network Forms of Organization. In B. M. Staw, & L. L. Cummings (Eds.), *Research in Organizational Behavior* (Vol. 12, pp. 295-336). Greenwich, CT: JAI Press.
- Price, R. (2017). *Local Governance in Conflict Affected Countries*. Institute of Development Studies: Knowledge, Evidence and Learning for development.
- RBI, (2022). *State Finances: A Study of Budgets*. Various issues. Retrieved from <https://rbi.org.in/Scripts/AnnualPublications.aspx?head=State%20Finances%20:%20A%20Study%20of%20Budgets>.
- Rhodes, R.A.W. (1997). *Understanding Governance: Policy Networks, Governance, Reflexivity and Accountability*. Buckingham: Open University Press.
- Rondinelli, D. A., (2007). *The Challenges of Restoring Governance in Crisis and Post-Conflict Countries*. New York: United Nations.
- Rose, N., & Miller, P. (1992). Political power beyond the state: problematics of government. *The British Journal of Sociology*. 43(2), 173-205.
- Sangitha, S. N. (2002). Administrative Reforms for good Governance. *Indian Journal of Political Science*. 63(4), 325-350.
- Saxena, A. (2008). Reflections on Democratic Decentralisation in J & K. *Economic and Political Weekly*, 21-23
- Saxena, R. (2020). *New Dimensions in Federal discourses in India*. Taylor & Francis.

- Shah, M. (2019). *Water needs trans disciplinary governance*. Retrieved from Business Standard: <https://www.business-standard.com/article/opinion/water-needs-trans-disciplinary-governance>.
- Shroff, K. (2019). *The lack of public investment deterred private industry in Kashmir, not Article 35A*. Retrieved from The Caravan: <https://caravanmagazine.in/economy/kashmir-public-investment-private-industry>
- Skelcher, C; Klijn, E H; Kübler, D; Sorensen, E & Sullivan, H. (2011). Explaining the Democratic Anchorage of Governance Networks. *Administrative Theory and Praxis*, 33(1),7-38.
- SLRC. (2017). *How to support state building, service delivery and recovery in fragile and conflict affected situations*. UK: Secure Livelihood Research Consortium.
- Sørensen, E. (2006). Meta governance: The Changing Role of Politicians in Processes of Democratic Governance. *American Review of Public Administration* 36(1), 79-97.
- Sørensen, E. & Torfing, J. (2005) .The Democratic Anchorage of Governance Networks. *Scandinavian Political Studies*. 28(3), 195-218.
- Sørensen, E. & Torfing, J. (eds) (2007). *Theories of Democratic Network Governance*. Basingstoke: Palgrave Macmillan.
- Sørensen, E., & Torfing, J. (2014). Assessing the democratic anchorage of governance networks. In S. Griggs, A. Norval, & H. Wagenaar (Eds.), *Practices of Freedom: Decentered governance, conflict and democratic participation* (pp. 108-136). Cambridge University Press.
- Torfing, J. (2005). Governance Network Theory: Towards a Second Generation, *European Political Science*. 4(3), 305-15.
- Torfing, J., Sørensen, E., & Fotel, T. (2009). Democratic Anchorage of Infrastructural Governance Networks: the Case of the Femern Belt Forum. *Planning Theory*. 8(3), 282–308. <https://doi.org/10.1177/1473095209104827>
- Town Planning Organisation. (2019). *Srinagar Metropolitan Region Master Plan 2035*. Srinagar: Town Planning Organisation, J&K.
- UNDP. (2007). *How- to guide a local governance in fragile and conflict affected setting. Building a resilient foundation for peace and development*. New York: UNDP.
- Wani, A. (2018). *The Kashmir Conflict: Managing perception and building bridges to peace*. Delhi: Observer Research Foundation. <https://www.orfonline.org/research/the-kashmir-conflict-managing-perceptions-and-building-bridges-to-peace-44801/>
- Wani, A. A. (2019). *What happened to governance in Kashmir*. Oxford University Press.
- Wani, A. A., & Yaqoob, M. (2021). Governance and Democracy in Jammu and Kashmir: Measuring Public Trust in Formal Institutions. *Studies in Indian Politics*, 9(2), 192–207. <https://doi.org/10.1177/23210230211043080>
- Zachary Jones, C. S. (2010). *Economic development as a tool to reduce secessionism in Jammu and Kashmir*. University of Wisconsin-Madison.