

Consolidation - From Southern Urbanism to Southern e-Governance

Case Studies from India

Mathews P Joseph
eGovernments Foundation, India
mathews.p@egovernments.org

ABSTRACT

Centralised service delivery has been a long-standing approach in urban areas, with historical scholarship advocating for its effectiveness and efficiency. However, here, in the global South, merging existing socio-technical systems and infrastructure is a more practical and feasible solution for improving public service delivery than building new centralised systems. In Southern Urban Theory, this phenomenon is referred to as Consolidation. This paper argues that much like Southern Urbanism, Southern e-governance also utilises this phenomenon of consolidation and develops a framework to understand this with various cases from India. This framework embodies the placeness approach, recognising that consolidation is a process shaped by the unique characteristics of the place in which it operates. This framework raises critical questions about the nature and preference for consolidation that can advance research and practice. Further, the paper highlights the intrinsically sustainable nature of e-governance consolidation and how this can be better manifested in design and implementation.

CCS CONCEPTS

- **Applied computing** → Computers in other domains; Computing in government; E-government; Law, social and behavioral sciences;
- **Human-centered computing** → Accessibility.

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1 INTRODUCTION

Since its inception, Information and Communication Technology (ICT) has been modifying how processes are carried out. This trend was evident in the governance of public service delivery, where the adoption of ICT has ushered in a new era of e-Governance. In India, even though e-governance was brought into the centre stage through the 2006 National e-governance Plan (NeGP), there were multiple islands of e-governance programs existing before this.

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Kerala, one such island, emerged as one of the pioneers in e-governance in the country. One of the critical milestones in this journey was the adoption of the e-payment system by the Kochi Municipal Corporation in 2005. This initiative was spearheaded by the Information Kerala Mission (IKM), an autonomous body established in 1999, under the state Department of Local Self Government, with a vision of “strengthening local self-governance through ICT applications.” [1] In the field of urban governance, over two decades, IKM has developed more than 15 e-governance software, covering Revenue and Licence Systems; Registration of Births, Deaths, and Marriages; Accounting; Financial Management; Cost estimation and Plan monitoring.

Nevertheless, as noted by the 11th Report by the Administrative Reforms Commission of Kerala (2021), “the state could not build on the initial advantage and keep up the momentum,” [2] and as of now, the urban e-governance system “is still using obsolete technology and applications. . . [All of them] are standalone applications, and IKM has not succeeded in integrating them or developing [a] new comprehensive application integrating all requirements.” [3] This situation was verified through the author’s field visits to 8 Urban Local Bodies (ULB) of Kerala in January 2023, where he observed the following:

1. For almost all the applications/functions carried out online in a Kerala ULB, a parallel offline paper-based trail is maintained.
2. Even though entries are made in an online system, data is not readily retrievable and coherent. This is due to a lack of standardised data entry and data storage in multiple software.
3. Citizens in Kerala are reported to be insistent on receiving physical certificates over digital ones. Many employees have mentioned that the citizens particularly ask for registered or stamp-paper-based certificates, which they consider as “original”.

Through conversations with various state employees, it was understood that IKM had repeatedly requested the state for resources to develop a better e-governance structure for service delivery. These requests were turned down or were caught up in the bureaucratic web, citing resource constraints.

In a recent development, Kerala has made significant progress in its digital governance efforts, bypassing the resource constraint impasse. Currently, IKM is developing an integrated solution for urban digital service delivery called the K-SMART, and it is being piloted in 8 ULBs. So, what catalysed this change that solved the resource cul-de-sac situation? In order to fully grasp this, it is necessary to take a brief diversion to gain insight into a particular aspect of public service provision that operates in urban environments of the global South called Consolidation.¹

¹In this paper, the terms “South” and “Southern” are being utilized as heuristic devices to refer to the people and their spaces which have been significantly impacted by the

1.1 Public Service Delivery, Southern Urbanism and Consolidation

Centralisation of service delivery has been experimented with from time immemorial, and evidence of this can be seen in many ancient cities around the world. For example, the Harappans (3300 - 1500 BC) had mostly centralised town planning and water and sanitation infrastructure. [6] For most of history, this system of service delivery – was followed or aspired for – centralised, gridded and top-down.

Historical scholarship around this approach advocates that centralisation promotes effectiveness, efficiency, equality, innovation, and morale. [7] Hence, such a centralised service delivery mechanism is often promoted for adoption, especially for concentrations of populations. [8]

Here, it is often forgotten that the intrinsic characteristic of these centralised systems is their acute dependence on physical infrastructures, such as sewerage channels, water pipes, solid waste compressors, fire hydrants and waste treatment plants. These infrastructures require a lot of resources to establish, and operational maturity is only achieved over the years, if not decades. Due to this historical and resource-intense nature, the infrastructure that facilitates centralised service delivery mechanisms is predominantly limited to the global North.

Conversely, in the global South, “massive infrastructure backlogs have stacked up amidst decades of poor planning, uneven attempts at privatisation, underinvestment and limited financial resources due to a small tax base.” [9] Hence, retrofitting a centralised service delivery mechanism on this infrastructure-deficient system will lead mostly to failure.

The logical way to go here is to first build the infrastructure and then operationalise the delivery system. Nevertheless, this logic fails to answer the financial constraints and temporal urgency fronted in the southern cities. For example, the prescribed capital expenditure necessary for realising these infrastructures is often bizarre, considering the macroeconomic fundamentals of the economies in question. As per certain estimates, to provide “*basic*” infrastructure and services to its urban population, India needs to invest from \$840 billion to \$1.2 trillion in the next 15 to 20 years. [10] [11]

That is, the solutions that orient for centralised service delivery are air-dropped into the South – from elsewhere – and are not rooted in the place that they propose to serve.

From this Southern reality, Bhan (2019) wrote about the existence of an alternate approach – Consolidation. He explains that, here, in the South, it is more practical and feasible to consolidate the existing socio-technical systems and infrastructures for better public services delivery, than building or engineering new infrastructures. [12] He takes two examples – one, the national urban sanitation delivery system:

“[Taking the case of the cycle of sanitation for urban Indian households], “network” (here, effective and safe disposal through a piped sewer system) processes [only] 12 per cent of human waste. The reality of sanitation in India is a range of socio-technical systems,

a complex delivery configuration rather than a [centralised] network. Different modes – soak pits, septic tanks, pit latrines, and open defecation – spatially and structurally match different kinds of households, often because of their socioeconomic status.” [13]

Two, the dry waste collection and sorting centres in Bengaluru:

“[In 180 of 198 wards in Bengaluru, dry waste collection is] now regulated to be managed and run by workers identified as waste pickers in the informal sector. . . . The establishment of the centres is a form of consolidation. The land and physical structure are provided by the municipal corporation, Bruhat Bengaluru Mahanagara Palike (BBMP). The BBMP pays for the door-to-door collection of waste, but not for the running and management of the waste collection centre. Instead, the centre has the right to retain profits from the sale of all waste that is brought to it.” [14]

Jaglin (2014) is very clear in pointing out that consolidation is not solely an imperative of developmental delay, underinvestment and poor public management that exists in the South – it is also due to the urban heterogeneity and socio-technical diversity, which is an “integral part of the material fabric of Southern Cities.” [15] That is, service delivery through consolidation is not an anomaly in the system. It is a place-driven solution responding to urban complexities – primarily historical and political – associated with the South.

The intention of this section was to highlight the existence of alternate forms of service delivery in Southern cities –based on the consolidation of existing socio-technical systems and infrastructures. It is a place-driven solution that addresses the historical and political complexities of the South.

2 CONSOLIDATION: FROM SOUTHERN URBANISM TO SOUTHERN E-GOVERNANCE

Returning to the case of Kerala, their upturn from being resource-constrained to building a better digital governance structure was driven by the brilliant alignment of existing infrastructure and resources, that were available or made available. That is, they consolidated.

This consolidation was a process that involved bringing together: one, legacy systems and functions, like the databases on property, household and facilities, and methods of calculating payments, fines and rebates; two, the human infrastructure of Information Kerala Mission; three, a reference platform UPYOG² of the National Urban Digital Mission (NUDM); and four, funds from a national scheme – Smart Cities Mission. This consolidation was monumental in the government’s attempt towards better digital urban public service delivery, as without this, K-SMART would not be a reality.

Here, multiple words can be used to describe this phenomenon, such as integration, amalgamation and unification. However, the choice of the term e-Governance Consolidation in this study is

historical legacies of colonialism and the current processes of capitalist globalization. For more refer to [4] and [5].

²UPYOG is India’s national reference platform created for the delivery of municipal services online, which utilises the National Urban Innovation Stack principles. For more information refer <https://niua.in/cdg/UPYOG>

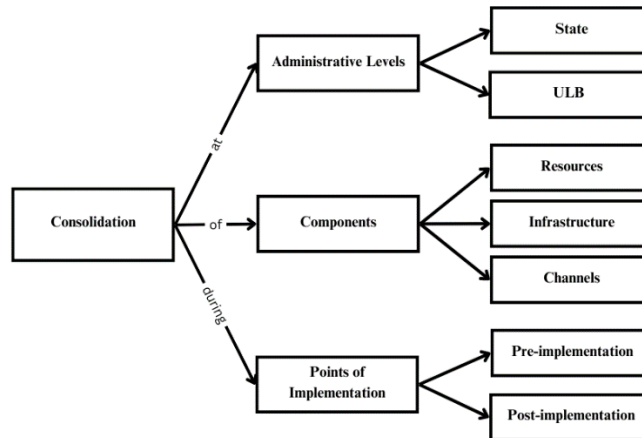


Figure 1: A Framework to understand e-governance consolidation.

intended – to signify the Southernness associated with it. Similar to the Southern Urban Consolidation discussed in the previous section, Southern e-Governance Consolidation is a phenomenon rooted in place. The specific historical and political scenario that marks the place has resulted in such a consolidation.

In the case of K-SMART, these historical and political factors can be:

One, the failure of the 74th Amendment³ in achieving its vision of transferring political and financial powers to cities. In the words of Shivakumar, the constitution has failed to “visualise the dynamics of large complex urban formations” and hence cities have inevitably become “creatures of state governments with neither the necessary strategic flexibility nor political legitimacy.” [16] It is well visible in the urban e-governance in Kerala, where the state government had to take the mandate of urban digital service delivery (through IKM) by developing software that various city governments could use. This mandate was extended into the e-governance consolidation for K-SMART, where IKM is the central point that holds other components together.

Two, governmental resource constraints, a result of the historical legacy of colonialism and subsequent unequal globalisation. [17] For years, the state government was cognisant of the necessity for an improved urban e-governance solution, but it failed to materialise, primarily due to financial constraints. Here, consolidation became inevitable for the necessity of improved urban e-governance.

The argument thus far is based on a case that happened in Kerala. This only serves the function of writing about a place, which can be construed as an injustice to the Southern urban scholarship in which this paper is rooted. Hence, rather than writing about the place, the paper chooses to write from the place. In doing so, the following section will discuss e-governance consolidation through

a framework based on multiple cases from India – all rooted in the place where they take shape.

3 E-GOVERNANCE CONSOLIDATION: A FRAMEWORK FROM PLACE

While building this enquiry, multiple cases of e-governance consolidations were identified; at various administrative levels: State and ULB; of different components: Resources, Infrastructures and Channels; and during different points of program implementation: pre-implementation and post-implementation. This demarcation in itself takes the form of a framework (Figure 1) that can help understand the Southern e-governance consolidation.

3.1 Consolidation at Administrative Levels

Like K-SMART from Kerala, a similar state-level example is the Punjab Municipal Infrastructure Development Commission (PMIDC) which established an in-house IT wing through consolidation. PMIDC is a Section 25⁴ company established under the Department of Local Self Government, Government of Punjab, with the primary aim of improving the living standards of urban populations in Punjab. Here, various missions for which PMIDC is a state nodal agency – such as JNNURM, AMRUT, Smart Cities Mission, and Swachh Bharat Mission – have the flexibility to laterally incorporate experts into their program from the market on a contract basis. The remuneration for these consultants is drawn from the mission fund. PMIDC deputed some of these consultants with excellent IT

³The 74th Amendment of the Indian Constitution, was enacted in 1993 to establish a constitutional framework for urban local self-governance and to transfer powers to Urban Local Bodies (ULBs).

⁴Section 25 Company as per the Companies Act 1956 of India is a limited not-for-profit company formed for the sole object of promoting commerce, art, science, religion, charity, or any other useful object.

skills to form an in-house IT cell. Here, it should be noted that if PMIDC had moved through the direct recruitment track, it would have had to expend limited financial and temporal resources, to form this IT cell. This consolidated IT cell is the spoke on which PMIDC implemented its urban digital service delivery platform – mSeva.⁵

To understand consolidation at the ULB level, the case of a particular Municipal Corporation in Punjab can be a good example.⁶ In Punjab, there are three levels of ULBs – Municipal Corporations, Municipal Councils and Nagar Panchayats. Based on the size and density of the population, revenue generated, non-agricultural activities and economic importance, the state administration can declare an area to be one of the above. [18] Due to the vague nature of the last factor (economic importance), the ULBs that fall within a particular category are not always of the same size and financial capacity.

Compared to the larger corporations in the state, the particular Municipal Corporation mentioned above has acute resource constraints, which are duly manifested in the physical infrastructure of its main office. While the main office of large corporations like SAS Nagar and Jalandhar are housed in six-storied buildings, this ULB is housed in an incrementally constructed two-storied building. These resource constraints further extend to the functional capabilities of the ULB, such as the absence of a dedicated IT department, which is standard for larger corporations.

In this situation, one employee who had some previous experience with an IT company was being called around to deal with computer-related problems faced by the employees. As this ad-hoc work increased, he decided to take the problem head-on. He took a dysfunctional computer from the store room and got them fixed with his money. Then he pooled in two other employees with some IT skills, cleaned a room and installed an ad-hoc IT cell in it. This new IT cell started fulfilling some of the functions that the IT departments of large corporations handle. After a few months, this employee, with the help of the Junior Superintendent, issued an order naming him the “IT-in-charge” of the ULB. This consolidated IT cell of the ULB has improved the functioning of mSeva in the ULB, especially by helping the employees use the programme without much hassle.

While enquiring about instances of e-governance consolidation for the study, it became evident that most of it occurred at the state level within the administrative pyramid. This can be a result of sampling biases, as the data collection was primarily based on snowball sampling. Nevertheless, this also may be pointing towards a particular niche where consolidation is most fertile.

Let us consider India’s three rungs of government – the Union Government, the State Government and the Local government. It is a given fact that the level of financial ability decreases – substantially – as we move from the union to the local level. That is, the central government has the highest financial capability, which decreases as we move to the state and local governments. Through the previous cases of consolidation that were discussed here, it was iterated that financial constraint is a primary driver for consolidation. Hence, this driving force for consolidation – financial

constraint – should be more present at the local level than the state level and least at the central level.

Further, if we consider these levels of government as hierarchical nodes in a social network, the central government has more degree centrality⁷ than the state government, and the local government will have the least. Consequently, the accessibility that each node has to the various parts of the network decreases in this hierarchy.

This accessibility to the network is a critical aspect that can facilitate consolidation, as it can provide information on the existence of various components that can be consolidated. That is, the more extensive the network, the greater the scope of getting different components that can be consolidated and bring out the needed product. In this argument, the ability to consolidate is more with the centre, then with the state and least with the local government.

Both the above-discussed facets that can influence consolidation (financial constraint and network accessibility) pull in opposite directions of the administrative hierarchy (Figure 2). This opposite pull can be the reason why we see more consolidation at the state level, which has a balance of both financial constraints and network accessibility.

3.2 Consolidation of Components

The components consolidated to provide digital public delivery solutions in urban are not uniform. Here, we can try to understand the diversity of these components by three types – Resources, Infrastructure and Channels. The resources that are consolidated can be both financial and human, like in the case of K-SMART, where the consolidation of financial resources (funds from Smart Cities Mission) and human resources (Information Kerala Mission) took place. In the case of PMIDC, only human resources were consolidated, which were once scattered around various programs.

The demarcation between financial and human resources can be argued as unnecessary if the consolidation of human resources is understood as a way to reduce the financial burden. However, the availability of financial resources will not wholly cover for the lack of human resources. Even if PMIDC had enough funds to hire individual consultants for different roles, hiring in itself is a long process and will not provide immediate results. Hence, the gestation period will be reduced by consolidating human resources who are already in some form of contact with the consolidating entity. Further, compared to fresh market hires, these consolidated human resources will be better embedded in the government – spatially and structurally. Here, space denotes the languages, culture and nuances of the government, and structure refers to the processes, hierarchy, workarounds, and credibility integral to the government.

Consolidation can also incorporate already existing infrastructures. The UPYOG platform of the National Urban Digital Mission (NUDM) is an excellent example. As an open-source reference platform developed with reusable and extendable⁸ components, UPYOG can act as a foundation for different stakeholders to build desired products. This is why 27 states are already committed to developing

⁵mSeva is the digital solution developed by PMIDC for urban service delivery in Punjab ULBs.

⁶Based on the author’s field research in Punjab.

⁷Degree Centrality of a node is the measure of the total amount of direct links that it has with the other nodes.

⁸Reusable and extendable components of an open source platform refer to software modules or components that can be reused and extended across various applications and systems.

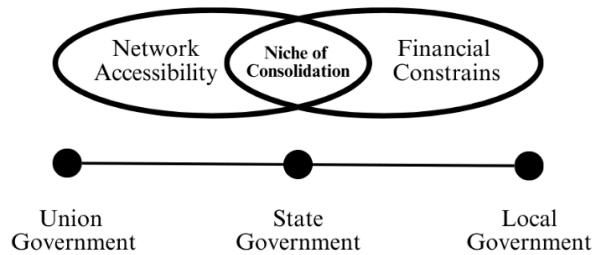


Figure 2: Niche of Consolidation

urban service delivery mechanisms using the UPYOG infrastructure.

Further, in another case, during the implementation of eChawani – the digital service delivery mechanism for the cantonment boards in India – intra-cantonment WhatsApp groups were utilised to conduct Information, Education and Communication (IEC) campaigns. These groups link prominent citizens, political leaders, cooperative societies and essential others. Usage of this existing infrastructure improved program adoption even without spending on traditional IEC campaigns involving advertisements, posters and hoardings.

Channels are another type of component that is usually consolidated. While developing SUJOG, the e-governance platform for ULBs in Odisha, the state’s Housing and Urban Development Department was aware of an existing channel that was functioning well– the mobile Point of Service (mPoS) systems of digital tax collection. The mPoS was a very successful Property Tax payment channel of the previous system in Odisha, with very high adoption rates among citizens and employees. Hence, the mPoS channel was directly incorporated into the new SUJOG program.

Similarly, mSeva, Punjab’s digital urban service delivery platform, consolidated an existing channel. The Public Grievance Redressal (PGR) module of mSeva has different channels through which citizens can register complaints, such as WhatsApp, mSeva App, Webpage, and Interactive Voice Response (IVR) calls. The integration of IVR into the system is an example of channel consolidation, where the implementation team, with an understanding that the citizens prefer calls over digital methods for logging complaints, incorporated IVR into mSeva. This proved to be a monumental move as, over the past four years post-consolidation, IVR has been the leading channel through which complaints are received (Figure 3).

3.3 Consolidation at different points of implementation

In this paper, for this demarcation, implementation can be understood as the point in time from when the e-governance application is available for citizen usage. Consolidation happened pre-implementation for Kerala’s K-SMART and, in the case of IT cell consolidation from Punjab. Here, it is only through consolidation that these implementations happened, as both cases existed in a resource-constrained situation. Hence, it can be argued that pre-implementation consolidation usually solves for a resource-constrained situation.

Post-implementation consolidation also tries to solve resource constraints, where the cases of mSeva and SUJOG are good examples. Here the aim is to bring more people within the ambit of the service delivery, without having to take a resource-intensive change management route. Added to this, such consolidations can also help save time by realising service delivery goals faster. For example, in the case of mSeva, increasing the digital literacy of its citizens is the logical change management program to improve the adoption of digital channels of the PGR module (like WhatsApp, Web, and App). Nevertheless, the overall adoption of the PGR module was increased faster by incorporating IVR into mSeva, saving both time and resources.

Further, this temporal demarcation, with implementation as the point of difference, is an excellent locale to understand the existence of e-governance consolidation in two planes. One, where consolidation is inevitable, and implementation will not happen if not consolidated and – two, where consolidation is an informed choice for better service delivery and is not linked to the existence of the specific service delivery in question. That is, e-governance consolidation can result in both building, and bettering service delivery.

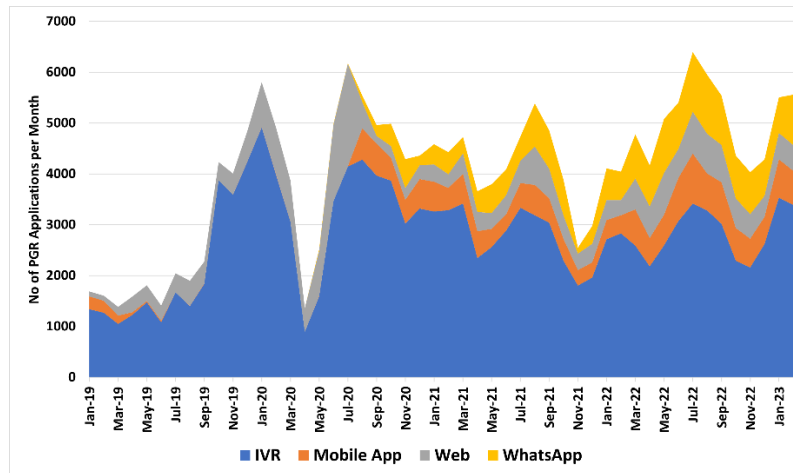


Figure 3: Channel-wise distribution of PGR applications on mSeva, via PMIDC.

Table 1: Various cases of e-governance consolidations in India plotted against the proposed framework

Case	Level of Consolidation	Components Consolidated	Point of Consolidation	Impact or Expected Impact
K-SMART (Kerala)	State	Resource (Financial) Resource (Human) Infrastructure	Pre-implementation	Building an Integrated and updated digital urban service delivery mechanism
PMIDC (Punjab)	State	Resource (Human)	Pre-implementation	Created an in-house IT department, which drives programs like mSeva
SUJOG (Odisha)	State	Channel	Post-implementation	Integrating a successfully running channel into the new system, reducing the need for change management.
IVR in mSeva (Punjab)	State	Channel	Post-implementation	Integrating a successfully running channel into the new system, reducing the need for change management.
eChhawani (Cantonments)	ULB	Infrastructure	Post-implementation	Usage of already existing infrastructure to drive adoption.
A Municipal Corporation in Punjab	ULB	Resource (Human) Resource (Financial)	Pre-implementation	Streamlined the IT operations within the Municipal Corporation, reducing effort and time spent by employees.

This section discussed a framework to understand governance consolidation in digital public service delivery. Effectively it can be summarised as in Table 1.

4 CONCLUSION

This paper tried to understand e-governance in India – through the Southern urban concept of consolidation – utilising six case studies. As observed in all the cases, e-governance consolidation has facilitated better digital service delivery in resource-constrained situations.

Further, even though based on a statistically limited sample, the paper tried to put a place-inspired framework to understand e-governance consolidation. This framework aims to inform relevant stakeholders about the various possibilities of consolidation and make an informed decision. It can be a policymaker encouraging consolidation in service governance structures, or a bureaucrat considering consolidation a viable option for improving urban service delivery in resource-constrained situations. Further, the questions that were discussed around this framework – When does consolidation take place? What are the various elements that are

consolidated? Is there an administrative hierarchical preference for consolidation and why? Is there a difference in the nature of consolidation that takes place at different levels? — intend to give directions in this thought and further practice. This paper will find its purpose if even one implementation takes place in the global South through e-governance consolidation, from the perspectives and vocabulary developed here and the possibilities discussed in the framework.

While it may be premature to provide concrete recommendations for control at this early stage of observation, measurement, and analysis, a direction in the digital service delivery design can be proposed. Designing a digital public service delivery system is not a one-time investment but a continuous process to answer to the ever-changing social, political, economic and cultural landscape it operates in. Hence, service delivery design should not be bound by the “*best*” solution that we have at a point in time; instead, it needs to make space for incremental consolidation. For example, if a service delivery mechanism is built around the best available solution at that point, the service quality can only be the best until the solution remains the best. Once a better solution arrives, there will be an inevitable call for redesigning the delivery based on the new best. Over time, this will lead to a situation of change management fatigue and loss of credibility among the users of the system, especially employees and citizens.

To a great extent, this is what designing for consolidation can solve. If we design digital service delivery systems that account for future incremental consolidations, we can — one, save the limited resources and, two, reduce change management fatigue. At this point, the shift to a design that leaves enough for incremental consolidation seems the most appropriate.

REFERENCES

- [1] Information Kerala Mission. (n.d.). About. (Retrieved May 20, 2023, from <https://ikm.gov.in/en/mission>).
- [2] Administrative Reforms Commission, Government of Kerala. (2021). 11th Report: e-Governance (pp. 5). Retrieved from <https://arc.kerala.gov.in/sites/default/files/inline-files/11th%20Report%20-e-Governance-Part%201%262-For%20printing.pdf>
- [3] Administrative Reforms Commission, Government of Kerala. (2021). 11th Report: e-Governance (pp. 13). Retrieved from <https://arc.kerala.gov.in/sites/default/files/inline-files/11th%20Report%20-e-Governance-Part%201%262-For%20printing.pdf>
- [4] Kloß, S. T. (2017). The Global South as subversive practice: Challenges and potentials of a heuristic concept. *Global South*, 11(2), 1-17.
- [5] Sheppard, E., Leitner, H., & Maringanti, A. (2013). Provincialising global urbanism: A manifesto. *Urban Geography*, 34(7), 893-900.
- [6] Angelakis, A. N., & Rose, J. B. (Eds.). (2014). *Evolution of sanitation and wastewater technologies through the centuries*. IWA Publishing.
- [7] Hollingsworth, J. R., & Hanneman, R. (2012). *Centralisation and power in social service delivery systems: the cases of England, Wales, and the United States* (Vol. 3). Springer Science & Business Media.
- [8] Jaglin, S. (2014). Regulating service delivery in Southern cities: rethinking urban heterogeneity. In *The Routledge Handbook on Cities of the Global South*, Routledge, London, (pp. 434).
- [9] Pieterse, E., & Hyman, K. (2014). Disjunctures between urban infrastructure, finance and affordability. In *The Routledge Handbook on Cities of the Global South*. Routledge, London.
- [10] McKinsey Global Institute. (2010). *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*.
- [11] Athar, S., White, R., & Goyal, H. (2021). Financing India's urban infrastructure needs: Constraints to commercial financing and prospects for policy action (English).
- [12] Bhan, G. (2019). Notes on a Southern urban practice. *Environment and Urbanisation*, 31(2), 639–654.
- [13] Bhan, G. (2019). Notes on a Southern urban practice. *Environment and Urbanisation*, 31(2), 639–654, (pp. 649)
- [14] Bhan, G. (2019). Notes on a Southern urban practice. *Environment and Urbanisation*, 31(2), 639–654, (pp. 650)
- [15] Jaglin, S. (2014). Regulating service delivery in Southern cities: rethinking urban heterogeneity. In *The Routledge Handbook on Cities of the Global South*, Routledge, London, (pp. 435).
- [16] Sivaramakrishnan, K. C. (2013). Revisiting the 74th Constitutional Amendment for better metropolitan governance. *Economic and Political Weekly*, 86-94, (p. 86).
- [17] Litonjua, M. D. (2012). Third world/global south: From modernisation, to dependency/liberation, to postdevelopment. *Journal of Third World Studies*, 29(1), 25-56.
- [18] Punjab Municipal Corporation Act, 1976. Act No. 42 of 1976. India.