

E-GOVERNANCE: APPLICATION AND CHALLENGES OF THE LOCAL GOVERNANCE INSTITUTIONS OF NORTHERN SRI LANKA

Vijayakumar, N.^{1*}, Velnampy, T.² and Nimalathasan, B.³

¹ Faculty of Graduates Studies, University of Jaffna (Student), Sri Lanka

^{2&3} Faculty of Management Studies and Commerce University of Jaffna, Sri Lanka.

Corresponding Author*

Abstract

This study aims to evaluate the level of application of e-Governance methods in the local governance institutions of Northern Sri Lanka and to comprehend the challenges faced by them in accommodating e-Governance methods. The focus of this study is Northern Sri Lanka, a province earlier affected by the civil war and currently engaged in the post-war socio-economic development phase. An integrated approach has been adopted to identify the e-Governance applications used by the local governance government institutions and the challenges in accommodating E-governance. Key Informant interviews were conducted with important officials of the Northern provincial council including the 34 Local Authorities of the Northern province. Secondary data was compiled via an analysis of the relevant secondary data sources. There are 22 standalone E-Systems used by various public institutions of the Northern Provincial Council. Out of 22 systems, twelve are government to citizen services, nine are government to government services and one is government to business services. Out of 34 local authorities in the Northern province, only 23 are using a minimum of one or more e-governance applications. Eleven Local Authorities are not using any of the e-governance applications. The most commonly used e-governance system is the payroll Management system; 21 Local Authorities are using the payroll management system. The local governance institutions in the northern province are experiencing multidimensional challenges related to relevant policies, legislation, resources and readiness in implementing the e- governance application. They are presently at an elementary stage in accommodating e-governance.

Keywords: e-Governance, Local Government, Local Governance, Sri Lanka.

Introduction

Sri Lanka is a unitary state with three levels of government such as central government, provincial councils, and local government. The government's first tier is the central government, the second is the provincial Councils and the third is the local authorities. There are nine Provincial Councils (PCs) and 341 Local Authorities (LAs) in Sri Lanka. The northern province of Sri Lanka consists of a sole Provincial Council (PC) and 34 Local Authorities (LA), which consist of Municipal Councils (MCs), Urban Councils (UCs) and rural local authorities, known as Pradeshiya Sabhas.

Provincial Councils were established in Sri Lanka through the 13th amendment of the constitution. The provincial councils exclusively are involved in 37 thematic subject matters. Another 36 subject matters are managed jointly by the provincial councils and the central government. The provincial councils have several public institutions to implement their mandate, i.e., provincial health departments.

Up to 1987, the local governance system was composed primarily of deconcentrated units of the central government, even though devolved Municipal Councils and Urban Councils existed. MCs refer to governments of the larger cities and first-tier municipalities under the Municipal Council Ordinance of 1947, and the UCs refer to governments of second-tier municipalities established under the Urban Councils Ordinance No. 61 of 1939. In 1987, the Pradeshiya Sabhas, or rural local authorities, had devolved functions under the *Pradeshiya Sabha Act No. 15 of 1987*. Provincial councils were established via the 13th Amendment to the 1978 Constitution and the subsequent Provincial Councils Act No. 42 of 1987. It culminated in the three types of local government authorities being brought under the regional council.

However, the roles and responsibilities of LAs continue to be defined by their respective Ordinances and Acts. The 13th Amendment to the constitution allows provincial councils to confer additional powers on LAs. The LAs have a broader development mandate, with powers to raise their own resources through local taxes and provide different services, including indigenous health services, preschool education, land and building permits, transportation of garbage, etc. (UNDP, 2019).

E-governance is an innovative approach for governments around the world to utilize improving service delivery performance and operational efficiency. However, adapting e-governance at the subnational level in Sri Lanka has yet to go the distance. The war-affected Northern province has to travel that extra distance to adopt e-governance applications fully. Hence, it is of paramount importance to understand the present levels of e-governance application in the local governance institutions of Northern Sri Lanka. This study intends to evaluate the current status of the application of e-governance in the institutions of the Northern Provincial Council (NPC) and the 34 Local Authorities of the Province.

The Northern Province of Sri Lanka has made significant progress toward post-war recovery. There has been substantial investment in infrastructure rehabilitation in the province, particularly in transportation, water supply, irrigation, energy, health, education, and other rural and urban infrastructure sectors (World Bank, 2018).

Between 2009 and 2022, the Northern Province has also seen the expansion of private sector investment, including private enterprises both from within the region and outside. The role of local governance institutions in the northern province is critical to facilitate local economic development and social service delivery. Good local governance is the base for local development (ILO, 2020).

The local governance institutions need to exercise integrative, strategic, and innovative approaches to play a positive role in the province's socioeconomic development. The practical application of e-

governance would entail developing a more collaborative form of governance, wherein state and non-state actors jointly engage in management and development activities with productive state-civil society relations. There are ample global and national examples that validate the efficient use of e-governance applications as positively impacting the local service delivery. Digital transformation should be seen beyond digitalization by including the whole organizational interventions. Digital transformation influenced the organizational culture and the bureaucratic dimensions. It has influenced the stakeholders' relationship as a whole. In a long-term digital transformation, meaningfully contributed to improving the organizational effectiveness and stakeholders' satisfaction (Ines *et al.*, 2019)

There is a widespread concern that the local governance institutions in the Northern province are not adequately using e- governance applications to improve public service delivery and stakeholder engagement. The local governance institutions in the Northern province lack adequate resources and capacity to accommodate the full e-governance framework. They are facing numerous challenges in implementing e- governance applications. In the digital world, the expectations of the citizens are indeed very high regarding the efficient service delivery of the local governance institutions. Failure to accommodate the digital means in service delivery will lead to the citizens' dissatisfaction. Based on the statement of the problem the following research questions are formulated (UNDP, 2019).

The research intended to respond to the following research questions: to what extent are the e-governance methods used in the local governance institutions of Northern Sri Lanka? and what are the challenges faced by the local governance institutions of Northern Sri Lanka in accommodating the e-governance methods?

In line with the research questions, the research objectives are formulated. The overall aim of this research is to obtain a broader understanding of the usage of various e- governance methods in the sub-national governance institutions in the Northern province of Sri Lanka. Specifically, to evaluate the level of application of e-Governance methods in the local governance institutions of Northern Sri Lanka and to understand the challenges faced by the local governance institutions of Northern Sri Lanka in accommodating e-Governance methods.

Literature review

The literature review of this study intends to provide an overview of e-governance, its importance, the application of e-governance at the local level globally, the local government system in Sri Lanka and the local government institutions functioning in Northern Sri Lanka.

Implementation of Digitization commenced in the 1990s. Subsequently, there has been a steady increase in the use of Information Communication Technology (ICT) in public institutions (Lofgren, 2007 and United Nations, 2012). E-Governance in the recent past played a critical role in public administration reform (Rose & Grant, 2010). Revolutionary digitalization development significantly impacted

governance, which was initially known as the new public governance and subsequently became e-governance (Dunleavy *et al.*, 2005).

E-Governance promotes the operational efficiency of the governance process through cost leadership and simplifying the process through business process reengineering. Arguments for e-governance are based on the ability to provide a “SMART” government. The acronym “SMART” stands for Simple, Moral, Accountable, Responsive, and Transparent (Prabhu, 2012).

The e-governance policies could be evaluated based on their influence on the public administration's capacity to impact the public value (Castelnovo, 2013; Castelnovo & Simonetta, 2008).

Some public institutions have already started utilizing Artificial Intelligence (AI) in facilitating public service delivery. However, in-depth research is essential to maximize the use of AI technologies in the public sector (Aggeliki *et al.*, 2019)

The digitalization is the way in which the citizens and the public institutions interact with each other. It changes the skills and ability of the citizens and public institutions on their engagements. There are some problematic areas of interaction through the digital means of communication, which needs to be further researched (Ida *et al.*, 2019).

The concept of “smart cities” is an evolving concept in e-governance. Communication Technology is extensively used to improve the quality of life of the constituents of smart cities. Digital technology is used in most service delivery dominos to improve operational efficiency, citizen participation, and satisfaction. (Elvira *et al.*, 2019).

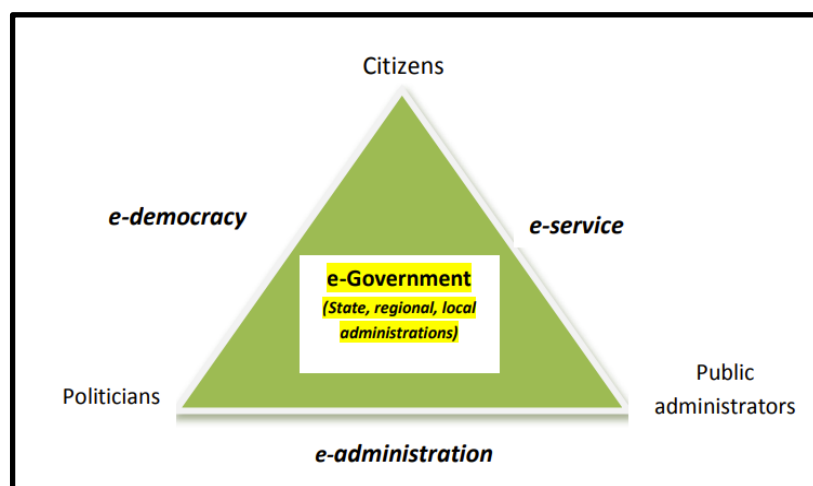


Figure 01: e-Government Model

Source: Adapted from Wihlborg (2005)

Wihlborg (2005) distinguishing the core components of e-governance also reflects the views of Gronlund (2005) and Giritli Nygren (2009). However, several other theorists exclude e-democracy in this regard

(Jansson, 2011). Almost all the theorists of e-governance paid particular attention to e-service delivery and e-administration.

Cost leadership and readily available and efficient service delivery are vital impacts of e- services. E - administration is used to improve the internal efficiency of public administration (Vintar, Mateja, Mitja & Bercic, 2003).

According to Yong (2005), the specific objectives of e-Governance are to improve public service delivery with increased efficiency and effectiveness, enhance the state -citizen relationships, and broaden stakeholders' engagement. Alexander (2003) highlighted that the efficient application of e-governance improved the relationship between the various governance institutions and citizens. Wheeler (2005), in his study clearly articulated the remarkable contribution of e- governance techniques in improving public service delivery. E-governance plays a vital role in bringing citizens closer to the government, and e-governance applications remarkably contribute in improving the operational efficiency of public institutions (Homburg, 2008).

Adopting technology in the governance process always has cost implications. However, introducing technology in the governance process increases the public value of e-governments. Hence, governments do not hesitate to invest in technology in the governance process (Bannister & Connolly, 2014). Cordella & Bonina (2012) strongly argued that adopting ICT in the governance process positively impacts addressing socio-political issues.

The citizen's expectation of the e-government is known as the public value of e-government. The success of e-governance could be measured through the measurement of public value on the e- Government (Jean & Annika, 2019).

Unexpected circumstances like the COVID-19 pandemic should not interrupt public service delivery. Digital technology is a powerful tool for delivering public services during unforeseen circumstances. Online service delivery enables the environment to approach a wide range of audiences (Deborah *et al.*, 2020)

According to the United Nations, “Over 40 percent of the world's population does not have the opportunity to learn how to use a computer. This is the hardest issue to address, as it implies changes in both education and mentality, as well as investments in e-services. E-governance should play the leading role in creating usable e-government tools, regardless of the level of education. Some governmental websites are very complicated and unfriendly both in access and content” (Andreea, 2022).

At present, the government system in Sri Lanka comprises three tiers now; Until 1987, the local governance system was composed primarily of deconcentrated units of the central government, and Municipal Councils and Urban Councils existed in the form of local government. Municipal Councils are established under the Municipal Council Ordinance of 1947, targeting the major cities, and the

Urban Councils are created under the Urban Councils Ordinance No. 61 of 1939, targeting small cities. Pradeshiya Sabhas were created under the Pradeshiya Sabha Act No. 15 of 1987, targeting rural areas. The Provincial Councils in the country are created through the 13th Amendment to the Constitution and the subsequent Provincial Councils Act No. 42 of 1987. The Northern Province, the Northern provincial council is the devolved sub-national governance institution established through the 13th Amendment to the constitution. There are 34 Local authorities functioning in the Northern province which includes the Municipal council (Jaffna), five urban councils and 28 Pradeshiya Sabhas (rural local authorities)

As per UN e-Government Development Index, Sri Lanka is in the 85th place 2020. (United Nations, 2020) However, the progress made in the war affected Northern Sri Lanka is not significant.

Methodology

In applied research, case studies are extensively used to get an in-depth understanding of complex issues (Zaidah Zainal 2007). The case study method is used to understand the current level of E-governance application in the local government institutions of Northern Sri Lanka. The Northern provincial council and all 34 local government authorities of the northern province are considered for this study. There is no local authority in the North *ern Province left out from this study.

Various research methods are used to understand the E-governance used in the local governance institutions. Special attention is paid to capturing the best practices, limitations, and challenges. The process is intended to understand the level of usage of various E-Systems for efficient public service delivery and the key challenges faced by the sub-national public authorities in accommodating digital solutions. Secondary data also played an important role in understanding the gaps in the E-governance implementations, best practices, implementation, and policies related to E-Governance. Available E-System mapping is done through primary data collection at the local governance institutional level. Key informant interviews are extensively used to collect the primary data. Mainly qualitative methods are used in this study.

The researchers have adapted an integrated approach combining different research methods to identify the e-governance applications used by the local governance institutions and their challenge in accommodating the e-governance methods. Accordingly, the following tools were used for garnering the primary data. Chief Executives (33 secretaries and 1 commissioner) of all 34 Local Authorities were interviewed. There are 34 local authorities in the Northern Province, all 34 Local Authorities were included in the research.

Key Informant Interviews with the key officials of Northern provincial council and Commissioners/ secretaries of the 34 Local authorities of the Northern province. Chief Executives (33 Secretaries and 1 commissioner) of all 34 Local Authorities were interviewed. As there 34 Local authorities in the Northern province of Sri Lanka, the senior most appointed officers of all 34 local authorities were interviewed with a structured questionnaire.

Role	Functions	# of officers interviewed
Secretary of Urban council or Pradeshiya Sabhas	The secretary is the senior most appointed officer of the Urban council or Pradeshiya Sabha. He or she is leading the implementation of the council decisions of the respective local authorities	33
Commissioner of Municipal Council	The Commissioner is the senior most appointed officer of the Municipal Council. He or she is leading the implementation of the council decisions of the respective local authorities	1

Key informant interviews with the relevant officers of the local government institutions were the prominent method used to collect the primary data. Secondary data was also gathered through analyzing the relevant secondary data sources. The report of Government Process Re-Engineering e-Local Government of Information and Communication Technology Agency, Sri Lanka and the Study on Sub-national governance e-System mapping in the provincial and local government institutions in Sri Lanka of United Nations Development Programme and several other secondary data sources are critically evaluated (ICTA, 2009 and EML Consultants, 2022).

E-Governance applications in the Northern province.

The recovery and development approach in the post-war settings is based on efficient public service delivery and elimination of poverty through economic integration in Northern Sri Lanka. The post-war socio-economic development of the Northern province is much dependent on an efficient public service delivery of the local governance institution of the province. To increase the efficiency of citizen -friendly public service delivery, it is important to foster e-governance applications in the local governance institutions in the province.

However, the application of e-governance methods in the local governance institutions at present is rather at a very basic level. Nineteen standalone E-Systems are used by different public institutions of the Northern provincial council, where the E-Systems are not integrated. Out of 34 local authorities, 23 are utilizing at least one e-governance application and there are 11 local authorities that are not using any of the e-governance applications. The common application used by most local authorities is the payroll management system, with 21 local authorities using the system. This information is gathered through the key informant interview of the local authorities.

Governance applications used by the public institutions of the Northern Provincial Council (NPC).

There are 22 standalone E-Systems used by various public institutions of the Northern provincial council. Out of 22 systems, twelve are government to citizen services (G2C), nine are government to government

services (G2G) and one is government to business services (G2B). Fifteen institutions of the Northern provincial council are use at least one or more of the e-governance systems; These establishments include the office of the Chief Secretary, office of the Deputy Chief Secretary (planning), office of the Deputy chief Secretary (administration), office of the Deputy Chief Secretary (training), provincial Ministry of women's affairs, Department of Education, Provincial ministry of Animal production and Health, Provincial Transport Authority, Department of Rural Development, Department of Health, Road Development department, Department of Probation, Department of Social Services, Office of the Provincial Land Commissioner and Department of Cooperatives. Most of the E-Systems used by the provincial institutions are standalone systems; they are not integrated with one another. The most commonly used Government to Government services (G2G) systems in the provincial institutions are the payroll system and Computerized Integrated Government Accounting Systems (CIGAS).

The E-Revenue Licenses system, land information management system (e-SLIMS) and CIGAS Accounting system are integrated to a certain extent, and all other systems in use are by nature standalone. Although almost all the Government to Citizen services (G2C) E-Systems of the Northern provincial public institutions are standalone; they are fit for their intended purposes. However, if they are integrated, the complementarity and synergy of the systems can be improved,

It has been noted that the E-Systems of the Provincial Education ministry played a critical role in providing distance education during the Covid-19 lockdown. The Education Management Information System (EMIS) with the mobile applications is functioning very satisfactorily well and it is important to note that this is an in-house developed system which has been developed in-house.

The E-Revenue license system is not an in-house developed system, which is developed by the Information and Communication Technology Agency (ICTA) and effectively utilized in all nine provinces of Sri Lanka.

The Land Information Management system (e-SLIMS) is yet another popular application used in the Northern province which is a national system used in all provinces.

E-Governance applications used by Local Authorities (LAs)

Out of 34 local authorities in the Northern province, only 23 are using a minimum of one or more e-governance applications. Eleven Local Authorities are not using any of the e-governance applications. The most commonly used e-governance system is the payroll Management system; 21 Local Authorities are using the payroll management system. A fundamental human resource management system is used by four Local Authorities. Another popular system used by the Local Authorities is the E-Library system which is used by four Local Authorities. 3 three local Authorities are using the Attendance management system and asset management system.

Table 01: List of e-Governance applications used by the NPC

#	Description	Status
01	Data Management system for persons with disability (Ministry of Women's affairs)	Active
02	Learning Management System (Ministry of Education)	Initiated
03	Incident Reporting system (Transport Authority)	Active
04	Animal -ear (QR) tag System (Animal production and Health)	Active
05	Provincial Planning Management System (Office of the Deputy Chief Secretary - planning)	Active
06	Provincial Human Resource Management system	Active
07	Provincial Knowledge Management System	Initiated
08	System for Managing Rural Development Societies	Active
09	Asset Management System (Provincial Health Ministry and Road t Department)	Active
10	Probation and Child Care Management system	Active
11	Complaint Management system (Transport Authority)	Active
12	Provincial Revenue Management system	Active
13	Training Management system	Initiated
14	Disability profile management system (Provincial Department of Health services)	Active
15	Information Kiosk system	Active
16	CIGAS Accounting system	Active
17	Payroll system	Active
18	Social Service Information Management system	Active
19	Education Information Management system	Active
20	Land information Management system (e-SLIMS)	Active
21	E-Business system (Department of cooperatives)	Active

22	E-Revenue Licenses system	Active
----	---------------------------	--------

It has been noted that the use of e-governance is at a very minimum level among the LAs in the Northern province. It is rather difficult to find an innovative e-governance application being used by the LAs. For example, almost all the systems used in the LAs are Government to Government services (G2G), Payroll management systems.

The E-Library System is the only Government to Citizen services (G2C) system used by four LAs. As the LAs are delivering a number of services to the citizens at the local level, there is a tremendous potential to accommodate e-solutions in delivering services effectively and engaging the citizens meaningfully. However, the application of e-solutions among the LAs in the Northern province is at a very, minimum level. Point Pedro Urban Council, Valikamam South Pradeshiya Sabha, and Pachchilaipalli Pradeshiya Sabha are the only LAs using at least four E-Systems. Almost all the LAs expressed their willingness to accommodate e-solution to improve their efficiency.

Issues and challenges in accommodating E-Governance applications

The benefits of e-governance are very well understood, and the local governance institutions in the Northern province are willing to accommodate e-governance applications in their day-to-day activities. However, they are experiencing numerous challenges in adapting such e-governance applications. The challenges are resources, policies and legislation, architecture, attitude and capacity.

As the Northern provincial council and the local authorities in the province have limited revenue, they always depend on the central government to implement any project, including e-governance projects. Inadequate financial capacity is the critical challenge in implementing e-solutions.

The last three decades of war in Sri Lanka, have negatively impacted the infrastructure development of the province. Considerable investments were made in other infrastructures as part of the post-war development initiative. However, less attention was paid to the information communication infrastructure and equipment to support the implementation of e-Governance.

The availability of qualified IT professionals is critical to plan and implement e-governance systems. As the government institutions have a very rigid approach to recruiting and retaining personnel, there are no specific Information Technology (IT) related cadre positions in the local governance institutions in the Northern province. The local governance institutions should have human resources to manage and maintain the system. At the initial time to design and establish the system, the support of a third-party service provider could be obtained.

The Information and Communication Technology Agency (ICTA) of Sri Lanka has a broader policy on the country's digitalization. There are no provincial-specific or local authority-specific policies or standard operating procedures to plan and implement e-governance projects in the Northern province.

Further, it has been noted that there is no specific statute on the implementation of e-Governance in the province.

Table 02: List of E-Governance applications used by Local Authorities (LAs)

#	Description of the e-system	Number of LAs using
01	Attendance Management System	03
02	Inventory Management System	01
03	Training Management System	01
04	Procurement Management system	01
05	Payroll Management system	21
06	Front office Management system	01
07	Human Resource Management system	04
08	GIS Application system	01
09	Fleet Management system	02
10	Asset management system	03
11	E-Library System	04

It has been noted that little attention is paid to Information security. There is no standard operating procedure for Information Security. Most of the E-Systems used by the provincial local governance institutions are developed using open-source software. Most of these institutions do not have Cloud facilities and depend on the free space provided by Google and other providers and uploading the institutional data where data security and privacy are in question. The roles and responsibilities of the officers handling the E-Systems need to be clearly defined. (EML, 2022)

The limited awareness among citizens of e-governance applications is also considered a critical challenge. The E-Library system is the only Government to Citizen services system used by the four local authorities. However, a minimal number of citizens are using this system. Institutions of the provincial council use 12 Government to Citizen services; however, these are not popular among ordinary citizens. Weak internet connectivity is another challenge in effectively implementing the E-Systems in the province. Specifically, minimal internet connectivity in rural areas limits the ability of the local authorities to implement e-governance projects. Some of the local authorities' Secretaries, noted that they are

struggling to obtain approval from the elected Chairman and the Council of the local authority. The Mayor or Chairman is the local authority's chief executive; his or her support is crucial to implementing the e-governance systems.

As there is yet to be a clear roadmap or vision for the e-governance implementation at the sub-national level, the application of standalone smaller E-Systems is not producing a more significant impact on service delivery efficiency. An integrated approach should be adopted in planning and implementing e-governance in the province to improve synergies and complementarities. Lack of coordination among the national and subnational e-governance stakeholders is also challenging. The sub-national institutions have minimal interaction with ICTA and other central government institutions. Most local authorities need a better understanding of the Information and Communication Technology Agency and its mandate. Immediate attention is needed to overcome the challenges in planning and implementing e-governance applications effectively and efficiently at the sub-national level. The study reconfirms the importance of E-governance and its impact on public service delivery.

Conclusion

ICT enables public institutions to deliver better services and improve operational efficiency through digital solutions. The integration of digital technology assists to enhance and expand public service delivery. E-solutions support streamlining and optimize the internal operating processes. Furthermore, the digitalization approach enables an environment for efficient state citizens engagement.

Local governments worldwide are effectively using digital technologies to deliver their mandates. Local governance institutions use ICT to improve operational efficiency, disseminate public information, public outreach activity, and creative marketing initiatives, including promotion of local tourism and broader stakeholder engagement.

ICT facilitates community consultations, multi-stakeholder engagement, and large-scale citizen participation. It provides excellent opportunities for many stakeholders to be meaningfully engaged in the local governance process.

The local governance institutions in the Northern province of Sri Lanka are under pressure to introduce e-governance. They understand the importance and positive impact of incorporating e-governance at the sub-national level. Institutions of the Northern Provincial Council have slowly begun the e-governance application. Fifteen institutions of the Northern Provincial Council are currently using at least one e-system. There are 22 active E-Systems in use in those institutions, which predominantly cover two broader categories of services; Twelve of them are Government Citizen services (G2C), 9 are Government to Government services (G2G), and one is Government to Business services (G2B). Considering the range of services delivered by the local government institution of the Northern Provincial Council, the level of e-governance applications is minimal.

The use of ICT by the LAs in the Northern province is at an elementary level. Thirty-four local authorities in the Northern province provide a wide range of services at the local level. Only 23 LAs use at least one e-system in their daily activities. Eleven local authorities do not use any of the E-Systems. Most of the E-Systems used by the local authorities are Government to Government services (G2G). Only four local authorities use one Government to Citizen service (E-Library System).

The local authorities in the Northern province are at an elementary level in accommodating e-governance; they need to travel that extra mile to be on par. The local governance institutions in the province are experiencing multidimensional challenges in implementing the e-governance application. It is crucial to develop a comprehensive road map to plan and implement e-governance at the sub-national level with the active participation of central and sub-national government institutions.

The national e-government policy must adequately cover the PCs and LAs. National guidelines on e-governance implementation should be revised in consultation with the sub-national governance institutions. The Information and Communication Technology Agency (ICTA) should play a critical role in empowering the sub-national governance institutions (ICTA, 2009). Further, the Northern Provincial Council and the LAs should develop their operational plans to implement e-governance and adopt legislation to implement e-governance initiatives.

As a shortage of qualified ICT professionals is a critical issue, recruiting, training, and retaining relevant ICT professionals in consultation with the central government is vital to e-governance implementation at the sub-national level. Availability of the ICT infrastructure is the prerequisite for the effective implementation of e-governance, and mobilizing resources is critical in this regard. A holistic approach should be adopted in developing the future e-system for the provincial local governance institutions; such systems should be integrated and have adequate information security and privacy features. The staff members at all levels should be trained to implement e-governance at the local level fully. Furthermore, a comprehensive civic education program should be implemented to fully empower citizens to utilize e-governance applications.

References

- Aggeliki, A., Nikos, K., Euripidis, L., & Yannis, C. (2019) Transforming Communication between citizens and governments through AI-guided chatbots. *Government Information Quarterly*.
- Alexander, D. (2003) *Communications in Governance*. London: Sage Publications, London.
- Andreea, S. (2022), *The Role of e-Governance in Bridging the Digital Divide*, United Nations, New York, available at: <https://www.un.org/en/chronicle/article/role-e-governance-bridging-digital-divide> (accessed 24 May 2023)
- Bannister, C. (2014). ICT, public values and transformative government: A framework and programme for research. *Government Information Quarterly*, 31 (1) (2014), pp. 119-128.

- Castelnovo, W. & Simonetta, M. (2008). A Public Value Evaluation of e-Government Policies. *The Electronic Journal Information Systems Evaluation*, 11 (2) (2008), pp. 61-72
- Castelnovo, W. (2013). A stakeholder-based approach to public value. Paper presented at the 13th European Conference on e-Government (2013): ECEG 2013. Como, Italy
- Cordella, A. & Bonina, M. (2012). A public value perspective for ICT enabled public sector reforms: A theoretical reflection. *Government Information Quarterly*, 29 (4) (2012), pp. 512-520
- Deborah, A. Michela, A. & Melisa, D. (2020) New Development: COVID-19 as an accelerator of digital transformation in public service delivery. *Public Money & Management Vol 41, Issue 1*, pp 69-72
- Dunleavy, P., Margetts, H., Bastow, S. & Tinkler, J. (2005). *New Public Management Is Dead long live digital era Governance*. Oxford: Oxford University Press.
- Elvira, I., Laurie, H., Yogesh K., & Ravi R. (2019). Smart cities: Advances in research -An Information System perspective. *International Journal of Information Management*. Volume 47. Pp 88-100
- EML Consultants. (2022). Study on Sub-national governance e-System mapping in the provincial and local government institutions in Sri Lanka. Colombo: United Nations Development Programme.
- Giritli, K. (2009). e-Governmentality- on Electronic Administration in Local Government: *Electronic Journal of e-Government*.
- Gronlund, Å. (2005). What's in a Field – Exploring the E-Government Domain: *Social Science Computer Review*.
- Homburg, V. (2008). *Understanding e-government. Information Systems in Public Administration*. London: Routledge.
- ICTA. (2009) *Government Process Re-Engineering e-Local Government*. Colombo: Information and Communication Technology Agency, Sri Lanka
- Ida, L., Christin, O., Sara, H., & Ulf, M. (2019) Close encounters of the digital kind: A research agenda for the digitization of public services. *Government Information Quarterly*, 36 (3) (2019), pp. 417-4136
- ILO. (2020). *Assessment of the key Bottlenecks for Private Sector Investments in the Northern Province*. ILO Sri Lanka.
- Ines, M., Noella, E., & Nathalie, H. (2019) Defining digital transformation: Result from expert interviews. *Government Information Quarterly*, 36 (4) (2019)

- Jansson, G. (2011). *Local Values and e-Government Continuity and Change in Public Administration*. Linkoping: Linkoping University Press.
- Jean, D., & Annika, A. (2019) *The Public value of e-Government, A literature review*. Government Information Quarterly. The Netherlands and Poland
- Lofgren, K. (2007). *The Governance of e-Government*. Sweden. Public Policy and Administration Publication.
- Prabhu, C, (2012) *e-governance concepts and case studies*: PHI Learning Private Limited. New Delhi.
- Rose, R., & Grant, G. (2010). *Critical issues pertaining to the planning and implementation of e-Government initiatives*. Sweden: Government Information Quarterly.
- UNDP. (2019) *Capacity Development of Local Governments*. Colombo: UNDP Sri Lanka
- United Nations. (2012). *e-Government survey 2012*. New York: United Nations
- United Nations (2020) *e-Government Survey 2020*. New York: United Nations
- Vintar, M., Mateja, K., Mitja, D., & Bercic, B. (2003). *Development of e-government in Slovenia*. Slovenia: Information Polity.
- Wheeler, S. (2005) *Improving Public Service Delivery through E-Governance*. London: Longman.
- Wihlborg, E. (2005). *Public e-services serving the citizens*. Stockholm: legationen for 24
- World Bank. (2018). *Socio-Economic Assessment of the Conflict Affected Northern and Eastern Provinces*. World Bank.
- Yong, A. (2005). *Towards excellence in e-Governance*. Singapore: Times Media Publications.