Citizen Identity Management at the Bottom in Bangladesh: Some Learnings from a Piloting Project

Fouzia Nasreen Sultana[*]

Abstract

This article provides a comprehensive exploration of Citizen Identity Management in Bangladesh, concentrating on grassroots dynamics through the lens of a piloting project. In the context of Bangladesh's ambitious initiatives, such as the Smart National Identification Card programme and the National Identity Registration Act 2023, the paper critically assesses the challenges and opportunities inherent in these efforts. With an increasing shift toward digitalization, the article underscores the importance of secure and privacy-conscious management of citizen information. Drawing lessons from the piloting project, the study aims to contribute nuanced insights into Citizen Identity Management, offering valuable perspectives for policymakers and practitioners in the realms of digital governance and identity systems. Focusing on the grassroots level, particularly within the Union Parishad framework, the article navigates through the complexities of implementing national identity strategies. This article contributes significantly to the discourse on citizen identity management in decentralized governance in Bangladesh. It advocates for a holistic and integrated approach, emphasizing the strategic use of existing databases, the adoption of Information and Communication Technologies (ICTs), and active citizen engagement.

Introduction

In a significant effort to enhance citizen identification and registry processes, Bangladesh has recently launched three pivotal programmes. Foremost among these initiatives is the inauguration of the Smart National Identification Card (NID) programme in 2016, envisioning the distribution of these cards to a targeted 100 million Bangladeshi citizens. Concurrently, the government has embraced a civil registration system facilitated through an online platform, aligning with the global imperative to implement Civil Registration and Vital Statistics (CRVS). Notably, in 2023, the government enacted the 'National Identity Registration Act 2023,' a legislative milestone mandating the issuance of a Unique Identification Number to all citizens. Under this legislative mandate, every citizen is assigned a Unique Identification Number, serving as a linchpin for accessing a myriad of services requiring identification. Furthermore, the government established

[*] Joint Director, Bangladesh Academy for Rural Development (BARD), Cumilla

the Bangladesh National Digital Architecture (BNDA) authority that is working as the apex body for developing strategies and an interoperability framework for e-governance. The BNDA produces a data architecture framework for data creation and governance.

Globally, the issue of identification has become a prominent focus on the development agenda (Gelb & Metz, 2017). Transformative advancements in identification technologies and the widespread adoption of e-service processes are reshaping the global identification landscape (Sedaghat, Pieprzyk & Seltsikas, 2007; Lips, Taylor, & Organ, 2009). The World Bank's 2022 Annual Report on "Identity for Development (ID4D)" highlights that approximately 850 million individuals globally lack official identification. Furthermore, the report emphasizes that a significant portion of this population resides in lower-income (LIC) and lower middle-income (LMIC) economies, predominantly in Sub-Saharan Africa and South Asia. The absence of official identification has far-reaching consequences, affecting individuals' access to essential services like financial services, government financial support, employment opportunities, and the ability to participate in elections (World Bank, 2022).

Bangladesh has also initiated various activities for civil registration and providing national identification cards to all its citizens. According to ID4D Data, 98.28% of Bangladeshi citizens aged 25 and older possess an ID card. However, among citizens aged between 15 to 25 years, only 53% have an ID, possibly due to the government providing National ID cards only to citizens over 18 years old.

As Bangladesh advances in its digital identity initiatives, a critical challenge confronting the government is ensuring the security, privacy, and integrity of the extensive repository of citizen information. Moreover, users of such systems must establish trust and confidence in online services to mitigate potential issues related to phishing or identity theft (Sedaghat, Pieprzyk & Seltsikas, 2007). This underscores the multifaceted dimensions and importance of identity management in the evolving landscape of digital governance.

In this context, the article explores the nuances of Citizen Identity Management in the specific context of Bangladesh, drawing insights from a piloting project. By reflecting on the learnings from the piloting project, this article aims to provide a nuanced understanding of Citizen Identity Management at the grassroots level, shedding light on the practical implications and lessons derived from this specific context.

Identity Management: Concept and Issues

The technological advancement in 21st Century is redefining the way humans do things as well as it is redefining the relationship between the citizen and government (Lips, 2008). In this technological regime, identity management play a critical role in the field of e-Government and e-

Business. It constitute the basic building blocks enabling secure and reliable access to online services from all kinds of service providers (Fioravanti & Nardelli, 2008; Beynon-Davies, 2007; Lips, Taylor, & Organ, 2009). An identity in the e-government age, mostly recognized as 'digital identity', represents an entity (may be a person or a service provider) in an ICT system. In the context of citizenship, digital identity represent a physical person in the digital domain (Jensen, 2017).Digitized IdM systems are not just perceived as facilitating government modernization but are also viewed as enhancing citizen services by providing improved customer convenience, citizen mobility, empowerment, trust, public service efficiency, effectiveness, and safety, including law enforcement (Lips, Taylor, & Organ, 2009). Lips and her colleagues identify digital identity management by the government as a 'social contract' between the citizen and government. It can protect both citizen and government from misinformation or information distortion. It also related to citizen rights and government responsibilities toward citizen (Lips, Taylor, & Organ, 2009).The 2005 European Union Ministerial E-Government Declaration included that 'as our e-government services become more transactional, the need for secure electronic means of identification for use by people accessing public services is essential for citizen trust and in ensuring the effectiveness and efficiency of our public administrations' (EU Ministerial Declaration on E-Government,2005). Scholars argued that digitized IdM not only facilitate government modernization but are also perceived as enhancing citizen services through improved customer convenience, mobility, empowerment, trust, and the efficiency of public service provision (Lips, Taylor & Organ, 2009). Therefore, Identity management refers to a framework of policies and technologies for ensuring that only authorized individuals can access the associated resources in an organization (Liu, et. al., 2020).

Identity management constitutes a crucial foundational element within the realm of information security (Akeem & Titilope, 2022). Scholars have expressed apprehensions regarding the growing reliance of organizations and service providers on electronic access mechanisms, as this trend concurrently amplifies the vulnerability to potential threats such as theft, fraud, and disruptions (Smith & McKeen, 2011). This heightened risk underscores the imperative for a comprehensive understanding and effective management of security measures to mitigate adversarial activities within the digital domain.

Moreover, scholarly discussions also accentuate the intricate relationship between citizen registration, record-keeping, and identity management with government sorting for societal benefit. However, in the context of digitized Identity Management (IdM) systems, especially those featuring central databases and biometric identifiers, scholar also shows concern for misuse of personal data, heightened government surveillance, and the potential for

discriminatory sorting of citizens based on factors such as ethnicity (Lips, Taylor, & Organ, 2009).

Therefore, an identity management, in digital age, defines a framework of organizational and technical standards and procedures for creating, storing, validating and using electronic attributes associated with the identity of a physical person. (Fioravanti1& Nardelli, 2008). According to International Telecommunication Union (ITU), relative to information systems, identity management (IdM) is the management of the identity life cycle of entities (subjects or objects) during which: the identity is established, the identity is described, and defined the identity is destroyed. This involves

- both technology and process

- managing unique IDs, attributes, credentials, entitlements

- the ability to enable enterprises to create manageable lifecycles

- the ability to scale from internally facing systems to externally facing applications and processes[1]

In summary, IDM in the digital age involves creating, storing, validating, and using electronic attributes associated with the identity of a physical person. It encompasses both technological and procedural aspects, managing unique IDs, attributes, credentials, and entitlements. Digital identity is all about personal information and setting up ways to confirm and check that info when using online services and doing transactions (Nyst, et.al., 2016). Scholars (Smedinghoff, 2015; Smith & McKeen, 2011; Nyst, et. al., 2016) Identified basic components of Identity Management (IdM):

a) *Registration or Identification:* These are processes that answer the question: —Who are you? It involves associating one or more attributes (e.g., name, height, birth date, social security number, employer, home address, passport number) with a person in order to identify and define that individual to the level sufficient for the contemplated purpose. It typically involves collection of personal information about the person to be identified, which often relies on government-issued documents from birth certificates and Social Security cards to driver's licenses and passports or directly collected from the person being identified.

b) *Authentication:* the process of determining and ensuring the identity of an individual, addressing the fundamental question of "How can I verify that it is indeed you?" Typically in the digitized world, this involves:

---

[1] ITU Recommendation X.1252 (04/21), Approved in 2021-04-30. https://www.itu.int/dms_pub/itu-t/oth/15/04/T15040000010001PDFE.pdf and https://www.itu.int/rec/T-REC-X.1252-202104-I (Accessed 24/07/2023)

- Something the person knows (e.g., a secret such as a PIN, password or other secret

  code);

- Something the person possesses (e.g., a cryptographic key, an ATM card, a smart card,

  drivers license, or other physical token); or

- Something the person is (e.g., a biometric characteristic, such as a fingerprint or

  retinal pattern).

c) *Authorization:* These processes answer the question: ―What are you allowed to do or see? After successful authentication, the authorization process decides the user's permissible access and activities. Authentication confirms that an individual claiming a specific identity with associated rights is indeed that person, commonly occurring during each transaction, especially in online environments.

Identity Management (IdM) is like taking care of a persons or entity's online identity from start to finish. It includes creating, using, updating, and sometimes stopping the use of digital identities, and there are rules (policies) for each of these actions. Different organizations do these steps in different ways, affecting how much trust we can have in a digital identity. Bad actors can take advantage of weak points in any step of this process, putting information safety at risk (Jensen, 2013).For instance, in the first step, creating an identity involves registering, defining credentials, and finally giving them to the user. According to Jensen (2013), attackers have many reasons to manipulate the identity creation process, like pretending to be someone else when setting up a digital identity. So, in this digital age, managing identities needs careful steps to address issues like identity theft, using identities properly, regular updates, and following rules.

Local Government, Citizen Identity and Data for Development

In identity management ecosystem, along with secure data management practices, is crucial for the context of local government, effective identity management emerges as a linchpin for the successful implementation of personalized, digitally enabled, and customer-centric services. KPMG (2021) identified five key points regarding local government and identity management are:

- *Robust Ecosystem and Secure Data Management:* This ensures not only the protection of sensitive information but also fosters confidence among customers engaging with government services digitally.

- *Empowering Personalization: Identity* management serves as the cornerstone for delivering personalized government services. It

enables end-to-end service capabilities that empower customers to securely design their own customized experiences, meeting the expectations of today's digitally savvy citizens.

- *Balancing Innovation and Best-Fit Approach:* Local governments are advised to balance innovation with a best-fit approach. The goal of going digital should prioritize meeting diverse customer needs and service requirements rather than adopting technology for its own sake.

- *Utilizing Customer Data, Analytics, and Insights:* Redesigning services using timely customer data, analytics, and insights is crucial for improving responsiveness and efficiency.

- *Addressing Diverse Systems Challenge:* Local authorities face challenges in managing diverse systems and databases. Organizing and linking data on people and organizations is vital for enhancing personalized services and overcoming obstacles to executing effective customer strategies in local government (KPMG)[2].

Governments, whether operating at the national or local level, play a critical role in the management of identities to ensure the delivery of effective services and the attainment of efficient development outcomes. International organizations identified some areas where IdM systems can have an impact:

a. Development Planning

- ➢ Provides opportunity for governments to segregate population by geography, income, gender, age, etc., to identify target population for each initiative.

- ➢ Helps to prioritize programmes through better estimation of impact.

- ➢ Acts as an easy-to-monitor mechanism to check the effectiveness of programmes and/or initiatives

b. Service Delivery and Governance

- ➢ Helps to build a reliable population register and better performance analytics thereby improving efficiencies of the government and public sector entities.

- ➢ Helps to eliminate duplicate or ghost beneficiaries thereby reducing wastage in government expenditure.

- ➢ Aids in checking leakages in benefits delivery system by acting as an apparatus for the direct transfer of welfare benefits.

- ➢ Enables efficient public service delivery

---

[2]KPMG (2021). The future of local government.
https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2021/07/the-future-of-local-government.pdf

c. Social Inclusion

➢ Lowers transaction costs for beneficiaries seeking toenter social security programmes and thus enables equalopportunities.

➢ Enables governments to create exhaustive and reliablebeneficiary databases.

➢ Provides mobility of identity across geography andservice domains.

➢ Enables new opportunities for improving delivery incritical sectors such as health care.

d. Financial Inclusion

➢ Helps financial institutions to easily perform Know Your Customer checks to establish identity.

➢ Empowers poor and underprivileged residents by enabling access to financial services.

➢ Aids in servicing residents in remote areas through services such as branchless and cardless banking.

➢ Helps to reduce cost of transactions through easy resident authentication process (ADB, 2016).

The effective management of citizen identity within the local government context is indispensable for delivering personalized, digitally enabled, and customer-centric services. As highlighted by KPMG, a robust identity management ecosystem, coupled with secure data management practices, serves as the linchpin for instilling confidence in customers engaging with government services digitally. In the broader spectrum, local governments play a pivotal role in contributing to the attainment of the "legal identity for all" by 2030, as envisioned by international initiatives. By leveraging IdM systems, local governments can efficiently target and prioritize initiatives, eliminate inefficiencies, ensure inclusive service delivery, and contribute to broader developmental goals.

Research Methodology

This article is based on a pilot project initiated to support the Union Parishadin realizing e-governance functions as stipulated in the Local Government Act (Union Parishad) 2009 (amended in 2011). The pilot project was launched leveraging the researcher's extensive training experience with Union Parishad functionaries and research background on local government institutes in Bangladesh and India. Initially, the researcher visited three Union Parishads in Sadar South Upazila, Cumilla District, Bangladesh, to assess the status of adoption of e-governance at the Union Parishad level.

The researcher conducted focus group discussions (FGDs) with Union Parishad Chairpersons and Members, held in-depth discussions with Union

Parishad Secretaries, and engaged with Village leaders. Additionally, a workshop was organized with the Chairpersons and Union Parishad Secretaries from 10 Union Parishads across five Upazilas in four Districts (Chattagram, Noakhali, Cumilla, and Brahmanbaria) in 2018, where the researcher presented the outcomes of the FGDs and observations.

In-depth discussions were also carried out with the Chairman of the Upazila Parishad and the Upazila Nirbahi Officer (UNO) of Sadar South Upazila, Cumilla. Furthermore, the researcher consulted with the Deputy Director, Local Government (DDLG), Cumilla, to gain insights into existing e-government initiatives for union parishad. These discussions provided an overview of the situation of e-governance at the local level.

Based on the findings, the project implemented a software solution, the 'Khana Profile Software,' to create Family Profiles and support the Union Parishad with a citizen database. Subsequently, the project collected family information from 60 villages in two unions, Bijoypur and Baropara Union, Sadar South Upazila, Cumilla District, spanning from November 2020 to May 2022. During this period, the researcher engaged with villagers in the village market/Bazar, roadside tea stalls, and individual villagers to understand their perspectives on providing personal and family information to the Union Parishad.

Villagers' comments on the issue were solicited, and they highlighted challenges related to National Identification Cards and Birth Registration. The findings from this participatory method offer insights into the online service process and the creation of digital identities for citizens in rural Bangladesh. These findings motivated the researcher to focus on citizen identity management and write this article to provide a first-hand idea for future research.

The Context: Local Government, and Identity Management in Bangladesh

The scenario of local government in Bangladesh is interesting. They are working as decentralized unit for administration, service delivery and development activities at the local level. However, they do not enjoy independence to work as it is mentioned in the Article 59 and 60 of the Constitution. The local activities including service delivery, development planning and budget is highly dependent on the national government. There are three types of local government institution in Bangladesh: urban, rural and hill local government institutions (LGIs). The urban LGIs include: 12 City Corporation and 329 Municipalities. The rural LGIs include: Zila Parishad (64), Upazila Parishad (492) and Union Parishad (4574). Among the three rural local government institutions, Upazila Parishad (UZP) and Union Parishad (UP) are more visible institutes in the service delivery and rural development context compare to Zila Parishad. Hill local government includes three zila parishads of three hill districts situated in the hilly eastern

part of the country. This research is related to rural local government institutions, particularly union parishad. Therefore, the following part will present a discussion on union parishad and it status in the data management in Bangladesh context.

The union parishad (UP) is the lowest tier of local government in Bangladesh and it is directly related to the day-to-day lives of the citizen. The existing Local Government (Union Parishad) Act of 2009, as delineated in Article 47, enumerates four principal functions (based on which detailed functions are included in the Second Schedule in the Act) designated for Union Parishad:

    (a) Administer the activities of government officials at that level;

    (b) Maintain public order and discipline;

    (c) Provide services for public welfare;

    (d) Plan and implement programmemes for economic and social development.

The second schedule of the Local Government Act 2009 has identified 39 works for the Union Parishad including introduction of e-governance at the local level. These functions can be divided into 12 sectors such as administrative and finance, maintenance of law and order, infrastructure development, rural development, agriculture, education, health, water supply and sanitation, social welfare, environment and forestry, trade and commerce, and culture, youth and sports (JICA, 2015, p. 9).

The Local Government Act of 2009 has introduced a system of open meetings, commonly referred to as Ward Sabha, which convenes twice a year. The primary objective is to involve the local populace in the decision-making processes and enhance the participatory nature of the Union Parishad (UP). These meetings are presided over by the elected representatives responsible for their respective wards. In accordance with the UP Act of 2009, the Ward Sabha is mandated to perform 21 distinct functions such as:

- collecting, organizing, and analyzing data about the ward to assist the Union Parishad.

- prioritize and implement various schemes and development projects.

- raise awareness about environmental and anti-social issues, violence against women and children, smuggling, early marriage, and inspire locals for self-employment.

- Reviewing/assessing the beneficiaries list for different government projects/programmes.

In summary, the significance of Union Parishad (UP) in local governance within the context of Bangladesh is pivotal, as it constitutes a direct nexus to

the daily experiences of citizens and assumes a crucial function in the facilitation of service delivery and rural development. The Local Government Act of 2009 delineates explicit responsibilities for Union Parishad, and the integration of Information and Communication Technologies (ICTs) emerges as a transformative avenue, specifically in the domain of identity management. This application proves instrumental for data-driven development planning, thereby ensuring judicious decision-making and fostering inclusive initiatives at the grassroots level.

Union Parishad, Adoption of ICTs and Digital ID Management in Bangladesh

This section offers a succinct overview of the incorporation of Information and Communication Technologies (ICTs) in Bangladesh, specifically pertaining to digital identity management. Drawing from the researcher's firsthand experiences as a scholar and trainer specializing in e-governance and local government affairs in Bangladesh, the narrative is supplemented by an exhaustive desk review of diverse government websites and pertinent publications from key agencies such as A2i and the Bangladesh Computer Council (BCC). Additionally, on-site visits to various union parishad further enriched this comprehensive evaluation, contributing to an enhanced comprehension of the contemporary status of ICT adoption in service delivery and the management of citizen identities.

National Information Portal

In regards to adoption of Information and Communication Technologies (ICTs) or introduction of e-governance, the country followed a top-down approach. Means the national government initiated a "Digital Bangladesh" movement in 2009 to encourage government agencies and citizen to accept and adopt ICT aided service system. The government of Bangladesh (GoB) introduced National Portal for providing information regarding the public services, policies and activities of the government to citizen. As per the rules of the national portal, every public agency at every administrative level have a page. From upper level to lower level, such as follows:

Division > District > Upazila > Union > Department/Agency

Union as administrative tier have a web page in this portalwhere union parishad as agency have their page. This is a static web-page which only provides information such as brief information of the union, village wise population, communication system, history and tradition, Information of Union Parisahd includes its organogram, information about the Chairman, Members and UP secretary (designation, mobile no, email address), Information on Social Security Programmes (SSP) and more. In regard to social security programme, the portal only published the final list of the beneficiaries for SSP. Unfortunately, the existing beneficiary selection processis criticized being politically biased and corrupt (Rahman Rizvi, 2020). Currently beneficiary selection process used perception of elected

representatives and village elites about a villager income, age and other relevant issues. In this case, IdM can increase the efficiency of selection process.

Online Services via Union Digital Center

The Government also introduced tele-center or one-stop service delivery outlet at every union to provide information and services to the rural people. They are popularly known as Union Digital Center (UDC), which is situated in the union parishad office building. The Government also established similar digital center (DC) in Pourashabha (Municipality) known as PDC and City Corporations known as CDC. According to the Digital Center Management website[3] (as of January 2024) currently 5275 UDCs, PDCs and CDCs are actively providing services to the citizen.

Digital centers provide 106 type of services to the citizen including birth-death registration, passport application and payment for passport, telemedicine, application for citizenship certificate, Land Record (Porcha), online registration for potential migrant worker as well as application to various other government services and private services (mobile financial services, insurance etc.) (A2i, 2016; A2i, 2018). These services can be divided in the following ways:

a. Government services such as government information services, passport application and payment for passport, land record, interactive services received include overseas job application, education services, and consultation with doctors through phone or video call (telemedicine), Government Forms etc.

b. Local government services or certificates i.e., include certificates (birth), computer compose and photocopying, and

c. Commercial Services i.e., include email/internet browsing, education services (admission/registration/result check), photoshoot, job search/application, computer training, phone call/projector rent/song load and others (flexi load (mobile top-up system for Grameen Phone), data entry, laminating, mobile servicing, laminating, video conference, etc.) (Faroqi and Siddiqui, 2017).

Online Service Platform from the District Administration

In another research, this author found that union parishad uses one online platform or web portal to provide services to the citizen (Sultana, et.al., 2023). Union citizen can apply for at least 19 types of certificates such as citizenship certificate, family certificate, inheritance certificate, trade license, etc. The following picture is a screen shot of the mentioned portal.

---

[3]http://dcms.e-service.gov.bd. Accessed 26/01/2024
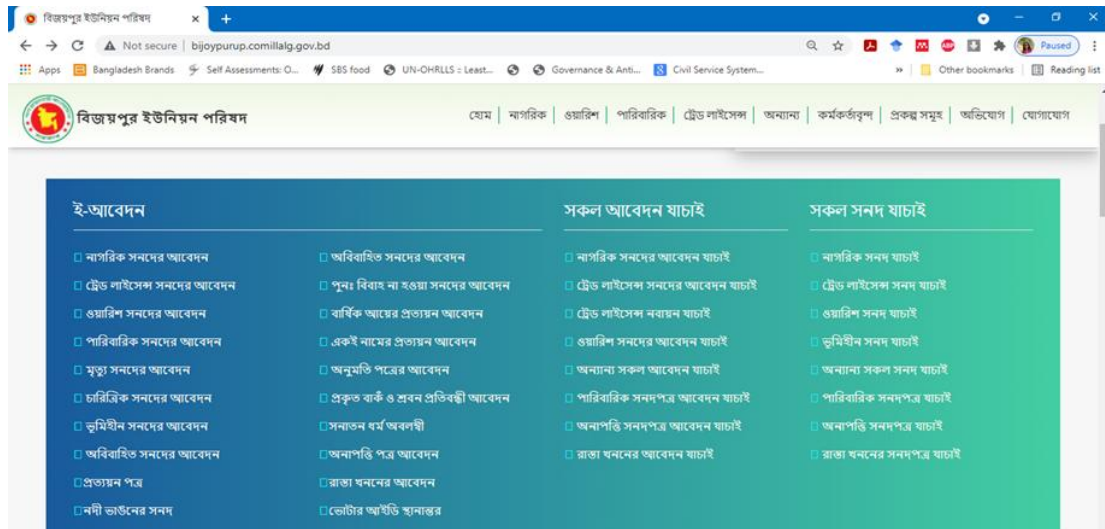
This platform reduced number of visits to union parishad (UP) for the citizen. In this way, it has also reduced cost of visits for the citizen. This research found that the reduction of citizen visit to union parishad is supportive for the office environment for the UP office bearers. Union Parishad office is now quitter compare to before 2018. This online platform has worked well in the Covid-19 pandemic situation. According to the UP Chairman and Secretary, less people in the office means less threat from covid-19. However, there are following challenges also:

➢ This is an online platform and UP officials can only work online. No scope for offline work. The UP officials said that they use mobile data because broadband line is not working in the union. Therefore, they need to buy mobile phone data, which is costly for Union Parishad. There is no financial allocation for buying mobile data.

➢ Another problem with this platform is that it cannot support the load of online entry of all the 193 Union Parishad of Cumilla District. Mobile data network is slow.

➢ However, they are trying their best to provide services to the citizen via this online platform. The slow connection of mobile data made them to start working in the early morning like 3 am or 4 am. This increases their working hours.

➢ Server down is another problem for them. The server for birth-death and marriage registration is maintained by the Office of the Registrar General, which is located in the Capital city, far from union parishad office.

The researcher reviewed this online platform and found that:

- The online application process via this platform is creating a citizen database, but not the full population database.

- The database stores limited data of individual citizen, not their full family data. This database is storing information of those who apply for a service.

- People apply for particular certificate or licenses, which have customized format based on each certificate or license's requirement.

- This means it is creating a citizen database but not the profile data of a citizen. Means it does not clarify the family relationship. Full family profile data is important for union parishad to provide inheritance certificate and land record system.

- Nor it is creating any database of resources of the union. Both information regarding household and union resources are important for union development planning and budget.

- A complete citizen database with family information and wealth or income information could support the union parishad to identify the vulnerable citizen for social security programmes.

- Though this platform is creating one big database, but there is no scope for re-use the data for different purposes. Union Parishad does not have access to this database for reuse as it is controlled by the office of the District Administrator, i.e., Deputy Commissioner's office in Bangladesh context.

Civil Registration and Vital Statistics (CRVS)

Registering citizen or Civil Registration at birth is an essential activity of a country and it is a right of a citizen. Acknowledging international commitment of citizen registration 'Make Every Life Count', the Government of Bangladesh renewed its commitment for civil registration and make the process efficient and easy for citizen. Though Bangladesh's journey towards birth-death-marriage registration started under the British rule in 1873, the country renewed its focus towards CRVS by enacting the Birth and Deaths Registration Act in 2004, which came into force in 2006 (Bangladesh Implementation Working Group, 2018). This act made birth and death registration compulsory within 45 days of the vital event, and made registration of all vital event of all citizen is a matter of law and an individual legal right. Bangladesh renewed its commitment towards CRVS in 2010 that support the vision of international community. Therefore, the Government of Bangladesh established a central online digital system for birth and death registration, which is known as Birth Registration Information System (BRIS), which is now active in all 64 districts since 2013.

In the CRVS system, local government institutes plays vital role. In rural areas, union parishad is responsible for compliance with the registration process and creation of relevant data records and documentation. This research found:

- Birth registration as a one of the everyday activity of the UP Chairman, Secretary and the UDC.

- UP officials are busy with birth registration, but they do not upload birth certificates in the BRIS immediately.

- Another gap is lack of integration of CRVS with UP service delivery process. Therefore, UP cannot re-use the personal information for service delivery purposes.

Digitization of National Identification in Bangladesh

The National Identification (NID) Card, which was introduced as Voter ID Card, has created another citizen database. The Smart NID Card system was installed in 2016 which included biometric (finger and eye) for authentication. This is a big database, which can be re-use for different services. Government already using this system many services and also given permission to private sectors such as banking system, and SIM card registration for biometrically verify the customers. However, the union parishad is not integrated with the NID database for the services from Union Parishad.

This analysis highlights the existence of three identifiable databases within reach of the union parishad for potential reuse. Despite this, the exploration of this domain is notably limited in the context of Bangladesh. This article endeavors to offer a foundational rationale for bottom-up identity management.

The Piloting Project on E-parishad for Better Service Delivery

Recognizing the transformative potential of ICTs and to develop a replicable e-government model for union parishad, in 2020this researcher initiated on piloting/experimental project titled as "E-Parishad for better service delivery at the village level"with the funding from Bangladesh Academy for Rural Development (BARD). The general objective of the piloting is to improve the citizen personal information management system and e-governance in union parishad. The specific objectives are:

- Create Union Khana Profile database to improve service delivery process of the Union parishad

- Support union parisahd with necessary data for yearly and five yearly planning

- Help the union parishad with Identity Management (IdM) at the local level

To achieve the objective, we adopted two component for improving the service delivery process of the union parishad. In the first year, we dedicated our project activities in making a 'Khana Profile Software" to register all the citizen based on the *khana*or family and create a Union *Khana* Profile Database. The Academy allocated minimum funding for the project, therefore, at first we tried to develop the software and conduct the survey in 10 Villages in October 2020 to January, 2021. At the beginning

we recruited 10 youth from the 10 villages considering the Covid-19 movement restriction, but finally we use 15 data collector from two project area. However, in the next two financial year we completed information collection of 13000 family information from all 60 villages of two project area, i.e., Bijoypur and Baropara Union, Sadar South Upazila, Cumilla. The following part will provide learnings from the implementation of this component and try to discuss the necessity of identity management at the lowest administrative tier in Bangladesh.

Learnings of the Piloting Project

Learnings from the Interviews, Discussion and Visits to Union Parishad and Villages Prior to Information Collection Survey

In the piloting phase, we dedicated project activities towards establishing the Khana Profile Database, aimed at facilitating identity management within the Union Parishad. Throughout this process, significant insights into the concepts and challenges associated with Identity Management (IdM) in Bangladesh, particularly at the local government level, have been garnered, which are as follows:

- The Union Parishad requires comprehensive information about its citizens and their households to facilitate service provision, conduct household tax assessments, engage in development planning, design projects, furnish pertinent data to higher administrative authorities, and identify vulnerable populations for inclusion in social security programmes.

- The Union Parishad diligently upholds a Ward-based household register book designed for the purpose of tax assessment. The ensuing illustration encapsulates the conclusive manifestation of this register book.

ইউনিয়ন পরিষদ আদর্শ কর তফসিল, ২০১৩ অনুযায়ী বিজয়পুর ইউনিয়ন পরিষদের ওয়ার্ড ভিত্তিক এসেসমেন্ট তালিকাঃ

ক্রম নং	মালিকের নাম	পিতা/স্বামীর নাম	পেশা	ক্রমিক নং ২	আমূল্য	বসত ভিটা	চিহ্নে, হল হ্যাঁ/না	নাগরিক হ্যাঁ/না	২৫ বছর পুরিদ ২৫ বছর	৪৫ বছর পুরিদ ২৫ বছর	৪৫-৫ ঃ ২৫ ঃ ২ ভোটার তালিকা	৪৫-৫ ঃ ২৫ ঃ ২ ভোটার তালিকা	পাকা	আধা পাকা	ক্রমিক ২	বাড়ীর আনুমানিক মূল্য	মাসিক ভাড়া	বিত্ত গণিত ৭ এর ২ টাকা ভাড়া	বিত্ত গণিত টাকা	কর নির্ধারিত টাকা
০১	মোঃ মানিক মিয়া	মৃত্যুঃআঃ হাকিম	ব্যবঃ	০১	নাই	৪শ	হ্যাঁ	হ্যাঁ	১	১	১	১	৪			৬,০০০০০	১৮০০০	৬০০	৫০০
০২	এরশাদ	ঐ	প্রবাঃ	০২	নাই	৮	হ্যাঁ	হ্যাঁ	১	১	১	১	৩			৪,০০০০০	১২০০০	৪০০	৪০০
০৩	জসিম	ঐ	প্রবাঃ	০৩	নাই	৮	হ্যাঁ	হ্যাঁ	১	২		১		৫		২২,০০০০০	৬৬০০০	২২০০	৫০০
০৪	আবুল হোঃ	মোঃ ফজর আলী	কৃষি	০৪	২০শ	১৪	হ্যাঁ	হ্যাঁ	১	১	১	২	৩			৪,০০০০০	১২০০০	৪০০	৩০০
০৫	মিজান	আবুল হাসেম	কৃষি	০৫	১২	৮০	হ্যাঁ	হ্যাঁ	২	২	৩	১			২	১,০০০০০	৩০০০	১০০	১০০
০৬	শাহজাহান	মৃতঃ মোহর আলী	দিনমঃ	০৬	নাই	৪	না	হ্যাঁ	১	১					১	৭০০০০	১৫০০	১০০	১০০
০৭	মোছ্তফা কামাল	মোসোবাহান	চালক	০৭	নাই	২০	হ্যাঁ	হ্যাঁ	২	১					১	৭০০০০	১৫০০	১০০	১০০
০৮	সাইদ মিয়া	মৃতঃ কাজীপুরন	চালক	০৮	নাই	৭	না	না	১	১	২	১			১	১২০০০	১৫০০	১০০	১০০
০৯	সোবাহান মোল্লা	মৃতঃ আঃ মজিদ		০৯	নাই	১২শ	না	হ্যাঁ	২	২	২				১	৪৮০০০	১৫০০	১০০	১০০
১০	শরিফ হোসেন	মোঃমজিদুল ইস লাম	চাকুরী	১০	নাই	১৪	না	হ্যাঁ	১	১	১		১		১	১০০০০	৩০০	১০০	১০০
১১	সুজন মিয়া	আলী আশ্রাফ	ব্যবঃ	১১	নাই		হ্যাঁ	হ্যাঁ							১	১০০০০	৩০০	১০০	১০০
১২	মতিন	মৃতঃ জব্বার মিয়া	ব্যবঃ	১২	৮২	৫০	হ্যাঁ	হ্যাঁ	৩	৪	২	১	৪		১	৫,০০০০০	১৫০০০	৪০০	৪০০
১৩	আনোয়ার হোঃ	মৃতঃ কলা মিয়া	ব্যবঃ	১৩	নাই		না	না	১	১	১	২			১	১০০০০০	৩০০০	১০০	১০০
১৪	আলী আশ্রাফ	মৃতঃ সোনা মিয়া	কৃষি	১৪	নাই	২	না	না	১	১	২	১			১	৭০০০০	২১০০	১০০	১০০
১৫	মোঃ করিম	আলী আশ্রাফ	দিনমঃ	১৫	নাই		না	না	১	১		২	১			২০০০০	৬০০	১০০	১০০

The depicted union household register books serve as repositories for essential information pertaining to households. This archival system meticulously captures details including the name of the Household

Owner (HO), the paternal or marital nomenclature of the HO, the HO's profession, household number, land ownership particulars, tube well and sanitary latrine possession, household demographic information based on age, house description, selling price of the house, yearly tax assessment, and the determined tax amount predicated on the assessment. These register books assume a pivotal role within the Union Parishad. Regular utilization of this register is observed, primarily by the Secretary, who relies on its contents to furnish household numbers to service recipients. Notably, oversight or forgetfulness on the part of applicants regarding their household number is mitigated through the use of this register.

- The introduction of the online Union Parishad (UP) platform for service applications is a commendable initiative directed by higher authorities. The online application process contributes to the establishment of a citizen identity database, albeit limited in scope. Tailored to specific certificates or licenses, the application process lacks clarity on family relationships, hindering holistic development planning and budgeting for the Union Parishad. While the platform consolidates data, its restricted accessibility by the office of the District Administrator limits its potential for diverse applications or reuse by the Union Parishad.

- In Bangladesh, both the Civil Registration and Vital Statistics (CRVS) and the National Identity Card (NID) database are active. The Union Parishad plays a pivotal role in registering births and deaths but lacks direct access to these databases, remaining non-integrated with them.

- Discussions with villagers reveal challenges with the National Identification Card, particularly the 2008 "Voter ID Card." Villagers provided personal information without understanding its future applications, leading to challenges like inaccurate birth dates. Informal practices and discrepancies pose challenges for obtaining the Warisan certificate, exacerbated by the absence of a formalized mechanism for identifying family members.

- While traditionally, UP representatives were believed to possess intimate knowledge of villagers, this understanding is becoming vague. Families residing outside the union face challenges obtaining certificates, highlighting evolving dynamics in local governance.

- The adoption of online services increases working time for UP staff, but slow internet connectivity poses challenges for prompt service delivery. In Cumilla's UP, mobile phone networks are commonly used, with staff occasionally uploading certificates in the middle of the night due to slow internet.

- The challenge in utilizing information and communication technologies to enhance service delivery at the local level stems from

a lack of comprehension among UP representatives and UP Secretaries regarding e-governance, the utilization of digitally created citizen identity databases, and pertinent policies and strategies.

Learning from the Survey for Khana Profile Database

Enhancing Service Delivery through Integration: Horizontal and Vertical Integration

The Khana Profile Database has the potential to significantly improve service demand and delivery by integrating horizontally and vertically with databases or software of other local government and public organizations. This collaborative approach can enhance coordination processes in Bangladesh.

Contribution to SDGs

Integration with upazila and district level organizations would empower the Khana Profile Database to contribute valuable data for Sustainable Development Goals (SDGs), supporting broader regional development initiatives.

Addressing Connectivity Challenges: Offline Databases for Local Government

In areas with slow or unreliable internet connectivity, the implementation of offline databases is essential to facilitate internal service processes within local government institutions.

Overcoming Information Hesitancy: Importance of Identity Management

Individuals may hesitate to provide information due to a lack of understanding regarding the significance of identity management by Union Parishads or public organizations. Awareness-raising activities, such as organizing ward or village meetings, are crucial for overcoming this issue.

Supporting National Systems: Role in Inheritance and National ID System

The Khana Profile Database can play a supportive role in addressing inheritance issues and contributing to the effectiveness of the national ID system.

Mobilizing for Data Collection: Youth Engagement

Involving youth from the local community in data collection processes can enhance efficiency and reliability, tapping into their familiarity with the area.

Elected Representatives as Advocates

Engaging elected representatives is key to persuading citizens to share information. Training them on digital Bangladesh, e-government, and

technology use in local government is crucial, as many representatives may be unaware of the associated benefits and risks.

Ensuring Data Integrity: Frequent Software Updates and Backup

Frequent updates to the database software are essential for maintaining data integrity. Establishing a robust backup database is equally crucial to minimize corruption within local government institutions, as highlighted by instances of multiple issuances of birth certificates despite an integrated system in place.

Conclusion

In conclusion, this journal article thoroughly explores citizen identity management at the grassroots level in Bangladesh, specifically focusing on the crucial role of Union Parishad in local governance. The insights presented result from a comprehensive analysis encompassing the legal framework, local government structure, and the integration of Information and Communication Technologies (ICTs) in service delivery. A key emphasis is placed on the management of Khana/Family profiles as a vital element in local-level digital identity management.

Highlighting the significant role of Union Parishad as the lowest administrative tier in Bangladesh, the article underscores the transformative potential of ICT adoption, particularly through online services and the National Information Portal. While these initiatives create databases on citizen identity, their untapped potential for enhancing grassroots-level service delivery is discussed. Challenges related to data integration, accessibility, and reusability currently hinder the efficient utilization of these databases by Union Parishads. The article critically examines the existing identity databases, emphasizing their limited use and advocating for their untapped potential in improving service delivery processes and reducing information collection costs. It reinforces the pivotal role of local government institutions in effective digital identity management.

Moreover, the article sheds light on challenges such as citizen reluctance to share personal information, discrepancies in existing databases, and the dynamic nature of local governance. Overall, it contributes to the discourse on citizen identity management within the framework of decentralized governance in Bangladesh. The need for a holistic and integrated approach is emphasized, urging the strategic utilization of existing databases, thoughtful adoption of ICTs, and citizen engagement. The article also underscores the importance of capacity building and improved networking at the local level for full ICT utilization, aiming to enhance identity management from the bottom up. The presented piloting project serves as a valuable case study, offering insights that can guide future endeavors focused on improving service delivery and governance processes at the grassroots level in Bangladesh.

References

ADB (2016). Identity for development in Asia and the Pacific. Mandaluyong City, Philippines: Asian Development Bank. https://www.adb.org/publications/identity-development-asia-and-pacific

Akeem, A., & Titilope, E. (2022). E-Identity and Security: Study of the Role of Identity Management in Sustainable Development. Advances in Social Sciences Research Journal, 9(7), 45-53.

Bangladesh Implementation Working Group (2018). Bangladesh: A successful journey towards CRVS system improvement. CRVS country reports. Melbourne, Australia: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Improvement, The University of Melbourne.

Faroqi, M. G., & Siddiquee, N. A. (2017). Impacts of Telecentre on Users: the Experience of the Union Digital Centre in Bangladesh. ICEGOV '17. New Delhi.

Gelb, A., & Metz, A. D. (2018). Identification revolution: Can digital ID be harnessed for development?. Brookings Institution Press.

Jensen, J. (2013, March). Identity management lifecycle-exemplifying the need for holistic identity assurance frameworks. In Information and Communication Technology-EurAsia Conference (pp. 343-352). Berlin, Heidelberg: Springer Berlin Heidelberg.

JICA. (2015). The Study of the Upazila Governance and Development Project in the People's Republic of Bangladesh. Ministry of LGRD&C and International Development Center of Japan Inc.

KPMG (2021). The future of local government. https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2021/07/the-future-of-local-government.pdf

Lips, A. M. B., Taylor, J. A., & Organ, J. (2009). Identity management, administrative sorting and citizenship in new modes of government. Information, Communication & Society, 12(5), 715-734.

Liu, Y., He, D., Obaidat, M. S., Kumar, N., Khan, M. K., & Choo, K. K. R. (2020). Blockchain-based identity management systems: A review. Journal of Network and Computer Applications, 166, 102731.

Rahman Rezvi, M. (2021). Exploring Politics of Social Safety Net in Bangladesh through Political Settlement: The Case of Rajakhali Union in Cox's Bazar District. Journal of Asian and African Studies, 56(7), 1441-1456. https://doi.org/10.1177/0021909620970581

Sedaghat, S., Pieprzyk, J., & Seltsikas, P. (2007). The management of citizen identity in electronic government. In Procedings of the 7th

European conference on e-Government (ECEG 2007): ECEG (p. 469). Academic Conferences Limited.

Siddiqui, K., & Ahmed, J. (2016). Local Government in Bangladesh (Revised Fifth Edition ed.). Academic Press and Publisher Library, Dhaka.

Smedinghoff, T. J. (2008). Introduction to online identity management. https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/smedinghoff_paper_introduction_to_identity_management.pdf

Smedinghoff, T. J. (2015). Introduction to online identity management. Available at SSRN: https://ssrn.com/abstract=3591790 or http://dx.doi.org/10.2139/ssrn.3591790

Smith, H. A. & McKeen, J. D. (2011) "The Identity Management Challenge, "Communications of the Association for Information Systems: Vol. 28, Article 11. Available at: https://aisel.aisnet.org/cais/vol28/iss1/11

Sultana, F. N., Rahman, S. & Shahria, S. (2023). Adoption of Information and Communication Technologies in Local Government Institutions in Bangladesh. Bangladesh Academy for Rural Development (BARD). Cumilla, Bangladesh.

Van der Straaten, J. (2020). Identification for Development It Is Not: 'Inclusive and Trusted Digital ID Can Unlock Opportunities for the World's Most Vulnerable.'-a Review. Available at SSRN 3742736