Data for Development in Nepal

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Connecting local data ecosystems

Diagnostic of municipality data management in Nepal and evaluating Integrated Data Management Systems as a solution

Report

Contents

Acknowledgements

Open Knowledge Nepal

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Executive summary

Through its work OKN identified two significant gaps in local level data ecosystems in Nepal:

- The connectivity and interoperability between the different management information systems (MISs) in use in municipalities
- Public access to municipal data

To overcome these gaps, OKN has developed a proposal for an integrated data management system (IDMS), which would be implemented and managed by individual municipalities. This report fully evaluates the **justification** and **feasibility** of an IDMS.

Key findings

Justification

- Nepal's federal government has laid a legislative and policy foundation that justifies local governments implementing a system such as an IDMS:
  a. National Information and Communication Technology Policy (2015)
  b. Local Government Operation Act (2017)
  c. The Fifteenth Plan 2019/20–2023/24 (2020)
  d. Statistics Act (2022).
- Government and non-government stakeholders agree that there is a need to implement a system (like an IDMS) to overcome siloed data systems in municipalities and to provide easier access to data for interested citizens, CSOs, NGOs and businesses.
- An IDMS is differentiated from other data-related digital interventions in a number of critical ways:
  o It operates at the local level whereas other comparable systems work at the national level
  o It can be implemented and maintained by local staff and is therefore not reliant on numerous foreign consultants
  o The scope of an IDMS is multisectoral whereas other systems tend to focus on one sector
  o An IDMS will publish large quantities of data in machine-readable and standardised formats, unlike comparable platforms
  o An IDMS will use application programming interfaces (APIs) to pull data from sources semi-automatically or automatically, whereas for comparable systems officials have to manually upload files.

Feasibility

- Most municipalities have the basic technical capability to operate an IDMS, however inequalities between them would mean some perform better than others.
- Data for an IDMS is readily available because data systems are widely implemented in municipalities.
- Transparency of municipalities will vary depending on the attitudes of decision-makers and will be a key consideration during implementation.
- Municipal offices working in departmental silos could stifle the development of an IDMS.
- Some intended users are able to utilise an IDMS whereas others are not. National government and development partners are best placed, whereas the data literacy of local governments and citizens will need to be strengthened for them to fully utilise an IDMS.
- To enhance the sustainability of an IDMS, stakeholders need to successfully convey to officials the long term purpose of the IDMS within the context of local development by:
    - Creating a clear plan that covers policy, guidelines and training materials on how to operate the IDMS
    - Generating relationships with key user groups to boost their demand for and use of data published by the IDMS.

Chapter 1: Introduction

Open Knowledge Nepal (OKN) is a member of the Data for Development (D4D) programme which is coordinated by The Asia Foundation. As a part of D4D, OKN launched the 'Data Unit Strengthening Program' in Tulsipur Sub-Metropolitan City with the aim of strengthening municipal data management. Through this programme OKN identified significant gaps in:

A. The connectivity and interoperability between the different management information systems (MISs) in use
B. Public access to municipal data.

In response to these gaps, OKN developed a concept for an **Integrated Data Management System** (IDMS) **to be implemented by each municipality**. An IDMS is an integrated database with a publicly accessible interactive dashboard that has capabilities for semi-automated and automated data retrieval, the latter via APIs. It facilitates improved data sharing, storage and accessibility.

The implementation of these systems by municipalities would be a first step towards full interoperability. The working assumption of OKN is that increased use of data via IDMSs will eventually lead to municipalities demanding full automation and standardisation between the various MISs from which data is retrieved. [1]

1.1 Objective and scope of the study

The purpose of this study is to fully evaluate the **justification** and **feasibility** of IDMSs. It does this by assessing:

- Relevant policy and legislation
- Stakeholder needs
- Other relevant interventions
- Stakeholders' capacities
- The availability of data
- The attitudes of stakeholders towards digital data, open data and evidence-informed decision-making
- The abilities of potential users
- The enabling environment.

1.2 Key questions

The key questions this study answers are:

- What justifies the implementation of an IDMS?
- Do local governments currently have the capacity to implement an IDMS?
- What opportunities can be leveraged to support the implementation of an IDMS?
- What challenges are associated with the implementation of an IDMS?

Chapter 2: Methodology

The research team used a qualitative approach, consisting of a desk-based literature review, key informant interviews (KIIs) and observations. The study focuses on the local governments that D4D works in: Simta Rural Municipality, Tulsipur Sub-Metropolitan City and Birgunj Metropolitan City.

2.1 Literature review

The literature review was focused on the following key areas:

- Identifying and understanding relevant legislation and policies related to data
- Identifying and understanding digital interventions and data management systems that would intersect with an IDMS
- Identifying key people and offices to participate in KIIs and observations.

Searches for legislation and grey literature were carried out through Google and the governments' online resource repositories such as the Law Commission's website. Searches for digital platforms and data systems were carried out on the websites of local governments, national ministries and relevant programmes such as the Provincial and Local Governance Support Program (PLGSP). An example of a key search term is municipality AND "data platform" AND interoperable OR "open data".

2.2 Field visits

Fieldwork was conducted in Simta, Birgunj, and Tulsipur following the literature review. The objectives for primary data collection were:

- To understand the municipal governments' knowledge of, attitudes towards and practices in the publication and use of municipal data
- To understand their perceptions of, interest in and capabilities to develop and implement an IDMS
- To understand the existing digital infrastructure that would serve as the foundation for an IDMS
- To identify and assess the opportunities to implement an IDMS as well as the challenges associated with it
- To validate the information gathered during the desk research.

The team conducted:

Key informant interviews (KIIs) with municipal representatives, administrators and other stakeholders, following a checklist and other guidelines that were prepared prior to the field visits.

Observations of MISs in use at the municipal level with the help of MIS operators and the heads of department. This included documenting how information is presented and how users interact with the system.

A list of KII participants is available in the Annex, and a copy of key questionnaires will be made available on request.

2.3 Limitations of the study

- The study team did not have direct access to most of the MISs (including their broader frameworks, interfaces, and the data they generate), instead the information presented in this paper is based on secondary information gathered during observations and KIIs.
- Fieldwork was only conducted in 3 municipalities out of a total of 753. This is a small sample. However, all local governments have very similar (if not entirely uniform) administrative procedures and digital systems. There is also some variation between the three municipalities studied, as they are in different provinces and are a mixture of urban and rural.

Chapter 3: Local level data management in Nepal and the feasibility of an IDMS

This chapter outlines findings from the study, including those on actors' needs and capacities relating to IDMSs and stakeholders' attitudes towards data, its availability and use.

3.1 Policy and legislative justification

Nepal's federal government has laid a legislative and policy foundation that justifies local governments implementing a system like an IDMS.

The National Information and Communication Technology Policy (2015) made ICT for governance an explicit goal at the national level and promoted the idea of open data. In the Fifteenth Plan 2019/20–2023/24 (2020) the worlds of ICT and data were brought closer still as the federal government confirmed its aim to:

> **"[adopt] the prevailing best practices and technologies [in statistical activities] including Open Data [to maximise] communication, publication, and dissemination of data in a user-friendly manner"**

The Fifteenth Plan, 2020.

These sentiments were expressed again in the newly passed Statistics Act (2022) which highlights the need for "certain norms and contemporary methods" to be utilised whilst storing data to make it widely accessible to all users.

The desire to integrate data systems is also put forward in the Statistics Act (2022), which established integration as a major concept within the national statistical system. In relation to integration at the local level specifically, the Local Government Operation Act (2017) specifies that local governments should create and manage their own centralised databases, while the Fifteenth Plan (2020) says "[governments should] streamline the administrative records of all public bodies".

Some stakeholders believe that aspects of these acts and policies could still be improved and their implementation strengthened further. For example, a spokesperson for the Provincial Program Implementation Unit (PPIU, a unit of PLGSP) stated that "laws are not formed well and the public is not aware of those laws". This rings true for a small number

of clauses in the Statistics Act (2022) which are causing alarm among some civil society organisations (CSOs) who are interested in open data. Most prominent among these contested clauses is:

> **"The data producers while producing and publishing the data and the users while using data shall act in such a way that may not disrupt the social and cultural harmony as well as peace and order."**

Statistics Act, 2022·

CSOs argue that this gives the government the ability to block data from being made publicly accessible relatively indiscriminately. Conversely, other non-government stakeholders insist the clause is more or less consistent with the old act, that such a clause was never acted on before and therefore there is no precedent to believe it will be in the future.[2] However, irrespective of whether or not the clause will be acted on, it can still create uncertainty among local officials about the legalities surrounding data. For instance, officials in Birgunj are already hesitant about sharing some types of data due to their uncertainty around the law. This could and does lead to delays in sharing data, or data not being shared at all.

In addition, stakeholders told us that the national government needs to strengthen its guidance on open data, and that this could be encouraged by continued advocacy and guidance based on the principles of Findability, Accessibility, Interoperability, and Reuse (FAIR).[3]

3.2 Needs-based justification

Government and non-government stakeholders agree that there is a need to implement a system like IDMS.

In Tulsipur, Simta and Birgunj officials all agree that a system like IDMS would solve a number of the problems they face.[4] For example in Birgunj, the lack of a centralised database about public workers complicates the work of the General Administration Office. The disconnection of health data systems means Public Health Inspectors must visit different offices to collect all the data they need. Duplication of health data – a problem exacerbated by the information systems operating in silos – means the Public Health Department cannot fully trust the data. In essence, the problems municipalities face are rooted in the mismanagement of data; specifically, how data is stored and shared. An IDMS would correct a great deal of these management issues.

> **"The participants all agreed they need better data sharing between the sectors, as they could learn different things by having a better picture of**

what data is available cross sectorally, and from knowing how another sector is using data."

Summary of data ecosystem self assessment completed by officials in Tulsipur - D4D, 2022. Internal document.

Members of civil society groups explained that their activities, including advocacy campaigns and planning programmes, rely on local government data, but this is made difficult because it is not easily accessible to them. A prominent representative of the Dalit community summarised:

"I am interested in advocacy based on data. It is essential to highlight exclusion from many government services. Some government data is made available by government offices on request, but the processes we have to go through are not easy and are inefficient."

Member of civil society group, 2022.

Similarly, representatives of private sector businesses that we spoke to stated that the government data they need is either not available publicly or is scattered across a range of sources, and that it being made available on one platform would greatly benefit them.

3.3 Unique strengths of IDMSs

An IDMS is differentiated from other data-related digital interventions in a number of critical ways.

In Nepal, improving the interoperability of data systems has been the objective of various projects funded by German Agency for International Cooperation (GIZ), the Foreign, Commonwealth & Development Office (FCDO) and United Nations Children's Fund (UNICEF) among others. GIZ have worked to link civil registration and vital statistics (CRVS) systems, and FCDO and UNICEF have worked to create a social registry that pulls data together from four or five MISs. An IDMS is differentiated from these types of projects in three critical ways.

1. An IDMS will operate at the local level whereas the other projects worked at the national level.
2. An IDMS is placed at the lower end of the spectrum in terms of technical difficulty which means it is not reliant on numerous foreign consultants and can be implemented using local staff.
3. The scope of an IDMS is multisectoral whereas the other projects focused on one sector.

Municipal governments all have dedicated websites that are used to disseminate information. However, IDMS is differentiated from these in two ways:[5]

1. An IDMS will publish large quantities of data in machine readable and standardised formats, whereas the government websites are mostly used to publish non-standardised reports in formats which are not machine readable.
2. An IDMS would pull data from sources semi-automatically or automatically using APIs, whereas officials have to manually upload files to municipal websites. As such an IDMS will increase efficiency and keep publicly available information up-to-date.

3.4 Technical capacities of municipalities

Municipalities have the basic technical capability to operate an IDMS, however inequalities between them would mean some perform better than others.

An IDMS is not technically complicated and, on the whole, municipalities have shown that they possess the minimum level of technical capabilities and capacities needed to implement it, not least because they already operate numerous other data-related digital systems (see Table 1 in the Annex).[6, 7]

However, some municipalities – mostly urban ones – have developed their level of ICT infrastructure, ICT literacy and data literacy more than others. For example, Tulsipur has a dedicated data unit in the municipality office, which has sufficient technical capacity, handles data-related enquiries and already publishes municipal data to some extent. Tulsipur also benefits from a Mayor who is a strong advocate of data-informed decision-making, and who believes that data is a vital tool for development.

> **"Municipality offices need to have interaction with every citizen of any age, and this is an iterative process from birth to death. It starts with birth registration, vaccination, schooling, providing national identity cards, taxation, social security benefits, to the death registration. Data is generated in each of these interactions, and if we have an effective system to manage this data, there is no need to invest additional resources in data collection. Additionally, municipalities can use these data to stay connected with the citizens and strengthen public service delivery using digital systems."**

Mayor of Tulsipur, 2022.

In contrast, other municipalities – mostly rural ones – have not been as successful in developing their levels of ICT infrastructure, ICT literacy and data literacy. For example, despite Simta's government displaying a willingness to adopt digital methods – it has recently constructed a new office building complete with networking and internet facilities, including a smart hall designed to function in case of disasters – it has struggled to extend internet infrastructure to all of its ward offices.[8]

> **"The municipality has been discussing a couple of projects in digital data production and management but they have not yet come to a conclusion. The first priority of the municipality is the electrification of all of its households and connecting all ward offices to the internet."**

Chairperson of Simta Municipality, 2022

These inequities mean that some municipalities are prepared for a nationwide initiative such as an IDMS, but others are not. To combat worsening inequality, the federal and provincial governments should provide extra support to those that are likely to be left behind. Efforts similar to the Ministry of Federal Affairs and General Administration's PLGSP could be used to level-up inequalities in local ICT infrastructure and digital and data literacy.[9] For any programme like this to be fully effective, it would not only have to tackle technical inadequacies but also sell the philosophy of open data in some places.

3.5 Availability of data

Data for an IDMS is readily available because data systems are widely implemented in municipalities.

Most of the key MISs (see Table 2 in the Annex) that would supply data for the IDMSs are already in operation in all municipalities.[10] The data they produce in large quantities is granular, disaggregated, generally up-to-date, and is largely of interest to the public. Improving the completeness and quality of data the MISs collect is an ongoing process. An IDMS that encourages the use of data will contribute to improvements, because increased use of data will also cause a rise in demand for its quality to improve.

During the initial stages of IDMS implementation, stakeholders need to conduct an extensive mapping of the MISs in order to identify links between them.[11] This allows data published through IDMS to be formatted in a way in which allows different datasets to be easily used in conjunction with each other, and to establish the basis of fuller interoperability in the future.

3.6 Openness of an IDMS

It is very likely that the transparency of different municipalities' data will vary.

The degree of openness will depend on the attitudes of implementing officials. In Tulsipur the Mayor and Heads of Departments are enthusiastic about the prospect of the principles of open data being applied in their municipality, therefore, it is likely that their IDMS will publish a broad array of data. In contrast, the Chairperson of Simta Municipality does not think it is necessary for the municipality to permit open access to all of the data it collects and would rather opt for a level of institutional confidentiality.[12] If other high-

ranking officials share this view it is likely that the IDMS in Simta will publish a more restricted range of data.

It is also likely that there will be disagreement among officials about the extent of openness an IDMS should have. For example, in Birgunj the Head of the Education Department thinks that the open publication of data is not always good for the relationship between local governments and citizens, whereas officials from other departments think that government data should be open to public scrutiny, especially if it relates to marginalised populations. Officials reaching agreements on what data should and should not be published will be an ongoing part of the implementation of IDMS.

3.7 Departmental silos

Municipal offices working in departmental silos could stifle the development of an IDMS.

For the implementation of an IDMS to flourish there must be a sufficient level of interdepartmental cooperation. Currently, general working relationships between departments are characterised by disconnect. For example, in Tulsipur officials explained that the working culture sees staff concentrate on their departmental duties without giving much thought to interdepartmental collaboration. This tendency is repeated when it comes to managing data. Different departments must make requests to each other for access, usually by physically visiting different offices, and if they are granted access receive it as printed copies, on a USB drive, or sometimes via email. An IDMS will rely on more open and integrated data management between departments.

3.8 Data use

Some intended users are able to utilise an IDMS whereas others are not.

The intended users of the IDMSs include government officials, members of the public, private businesses, non-governmental organisations, CSOs, researchers, journalists and development partners. For an IDMS to be successful it needs to contain data that users need, and users must have a basic level of data literacy.

Of the various stakeholders, development partners – especially large international organisations such as UN agencies, INGOs and country donors (such as USAID and FCDO) – are best placed to make effective use of an IDMS. Their staff generally have the highest levels of digital and data literacy and a working culture in which data is demanded and regularly used. A similar situation is also found in national-level government ministries and the programmes that they implement.

At other levels of the administrative structure things are different. In many local governments the digital and data literacy of officials and elected representatives is below the ideal level. In Birgunj, one interviewee estimated that a small percentage of the municipality's leadership considers data to be an important component of governance. This situation is illustrated by the fact that, in many municipalities, MISs are

predominantly used for upward-reporting purposes. For example, while the Education Department in Simta updates the Integrated Educational Management Information System (IEMIS) regularly, and understands how the system works, it is aware that locally the data is underused and the use of it needs to be strengthened.

Among the general public, demand for data is low. This is exacerbated in rural areas that have generally low levels of development. For example, the team leader of the PLGSP's PPIU in Karnali thinks that digital competence in the province is significantly lower than what would be required to fully utilise digital interventions. However, the public's interaction with digital technology has increased markedly over recent years; by the end of 2021 internet broadband subscriptions reached 119% of the total population.[13] This signals that demand for digital services, and by extension information, is likely to rise in the future. For an IDMS to be successful, implementing organisations should allocate some resources towards increasing the data literacy of the general population.

3.9 Sustainability

For the sake of sustainability it is essential that municipal governments assume ownership of their IDMS, because D4D will not be able to support the system beyond the lifecycle of the project. Three important conditions need to be met by the D4D programme to increase the chances of this happening:

1. Successfully conveying to officials the long-term purpose of an IDMS within the context of local development
2. Creating a clear plan that covers policy, guidelines and training materials on how to operate the IDMS
3. Locating software on equipment owned by the municipality and not on project partners' equipment.

If officials believe in the importance of IDMS for local development, their governments will be incentivised to work on its continual maintenance and development. This necessitates a plan for how to run the IDMS after the staff who were initially trained by D4D move on, and if the software is stored on municipal-owned equipment.

Open Data Watch (2022) also provides some useful lessons on how to create user demand for the data supplied through an IDMS, which, in turn, will contribute to the system's long term sustainability (i.e. managers will be more incentivised to sustain it if people use it).[14] They include:

- Identifying key user groups; developing and maintaining relationships with them as the basis for feedback loops.
- Identifying the data demanded by key user groups and prioritising its publication.
- Creating opportunities for key user groups to increase their data literacy. This can be done through targeted data literacy training.
- Hosting events where topical issues are debated by key users and publishing data through the IDMS that will be the foundation of the discussions.

In addition, an important characteristic of an IDMS that will promote its long-term sustainability is its cost efficiency. This will prevent local officials from seeing the IDMS as an additional burden on top of the many other data-related digital interventions they already manage (e.g. the MISs themselves).

Chapter 4: Recommendations on how to implement and maintain an IDMS

The plan put forward in this chapter deals with the initial steps involved with implementing and maintaining an IDMS. This is because – in the municipalities focused on in this study – very little activity has been undertaken to connect data systems and the concept of open data is emerging but not fully institutionalised.

Managing the activities surrounding an IDMS is a key part of its implementation and ongoing maintenance. Ideally, the municipality would establish and coordinate specialist working groups consisting of government and non-government stakeholders to undertake specific activities. These activities should include:

- Developing funding pipelines, preferably through public institutions, and producing budget documents.
- Preparing a step-by-step timeline that sets out when specific MISs should be connected with the IDMS and deciding what data from each MIS will be retrieved and published.
- Ensuring the IDMS complies with any regulations relating to data protection set out by the Government of Nepal.
- For example, article 29 of the Constitution ensures the right to privacy and the protection of personal information and is given effect by the Individual Privacy Act (2075), the Muluki Criminal Code (2076) and the Individual Privacy Regulation (2077).[15]
- Overseeing the development and implementation of a business continuity plan to make sure the IDMS continues to operate at a minimum standard throughout disruptive events and can recover post-event.
- Developing a monitoring and evaluation framework to track the progress of IDMS implementation and its ongoing operation.
- Sharing learning about the IDMS with other municipalities, provincial and federal governments.
- Promoting the use of IDMS through the steps outlined in subsection 3.9.

Outside the specialist working groups the municipality more broadly should use policy to institutionalise the IDMS in the day-to-day activities of officials and develop a human resource policy with the objective of ensuring there are enough staff with the technical skills needed to run the IDMS on a day-to-day basis. This includes implementation, maintenance, repairs and continued development. This could include redrafting job specifications, creating new roles, and providing training. The team should make full use of the technical blueprint OKN has prepared.

As discussed in Chapter 3, municipalities have different technical capacities and attitudes towards data (i.e. on importance, openness, etc.). With a relatively small amount of infrastructure (e.g., hardware), financial resources and human resources they will not be able to implement the full plan as laid out above. This means a reduced programme will be needed. The following are essential:

- An IDMS working group that:
    - Ensures the IDMS is compliant with data protection protocol
    - Shares learning about the IDMS with other municipalities, provincial government and federal government.
- The municipality to:
    - Develop a step-by-step timeline on MIS connectivity and to decide on what data to retrieve
    - Develop a human resource policy to determine who will implement and maintain the IDMS.

Annex

Table 1.

Name	Description	Link
Official Portal of the Government of Nepal	A gateway to the digital resources of all federal, provincial and local government entities. Includes archives of legal and administrative documents, services, information, forms and applications. Also links to the pages of different governmental bodies.	http://nepal.gov.np/
Local government websites	All local governments have their own websites to facilitate communication with citizens. Mostly reports are shared via these platforms but some data is also. They are a mechanism for citizens to provide feedback to governments about specific policies or services.	https://www.mofaga.gov.np/local-contact
Hello Sarkar	ICT-based grievance handling mechanism. Citizens can raise questions, comments, and complaints about their everyday experiences with government services. The system produces and publishes a large amount of data about public service delivery.	https://gunaso.opmcm.gov.np/home
E-Attendance System	Biometric system that helps to manage employees' attendance, leave and payroll. Some of the data produced by this system could be of public interest. Most government institutions and offices including municipalities use this system.	https://doit.gov.np/en/spage/e-attendance
Darta Chalani	Used to manage digital records of document transactions and mail correspondence. It is commonly used in most of the municipalities.	No link
Integrated Property Tax	Digital system to facilitate tax collection. This system is also implemented independently by most local governments.	No link
SmartPalika	The Enterprise Resource Planning system provides municipalities with an integrated governance system, mobile apps and a digital profile. The data collected can also be easily shared with others via API.	No link

Table 2.

Name of MIS	Name of actor that manages MIS	Sector	Currently open to public (yes/no)
Sub-National Treasury Regulatory Application (SUTRA)	Financial Comptroller General Office (Ministry of Finance)	Public Financial Management	No
Integrated Educational Management Information System (IEMIS)	Ministry of Education, Science, and Technology	Primary and secondary education	No
Integrated Health Management Information Section (HMIS)	Ministry of Health and Population	Health	No
Health Logistics Management Information System (HLMIS)	Ministry of Health and Population	Health	No
PM Employment Authority Job Management System (EMIS)	Ministry of Labour, Employment and Social Security (MOLESS)	Economy	Under construction
Cooperative and Poverty-related Management Information System (COPOMIS)	Ministry of Land Management, cooperatives, and poverty alleviation (MOCPA)	Economy	No
Vital Registration & Social Security Distribution & Management	Ministry of Home Affairs	Civil Registration	Yes
Capacity Development Management Information System (CDMIS)	MoFAGA	LG	Yes
Building Management Information System (BMIS)	Ministry of Urban Development	Infrastructure	Under construction

Public Asset Management System (PAMS)	Ministry of Finance	Finance	No
Municipal Taxation and Revenue Management System	Ministry of Finance	Finance	No
GIS-Based Municipal Platform	MoFAGA	LG	Under construction

Table 3: List of interviewees

Position	Institution Name
Department Head, Education & Information Officer	Birgunj Metropolitan
IT Head, Department of IT	Birgunj Metropolitan
Department Head, Legal	Birgunj Metropolitan
Chief Administrative Officer, Administrative Office	Birgunj Metropolitan
Department Head, Women & Children	Birgunj Metropolitan
Public Health Inspector	Birgunj Metropolitan
Ward 10 President	Birgunj Metropolitan
Ward 10 Secretary	Birgunj Metropolitan
Ward 13 Assistant Secretary	Birgunj Metropolitan
Ward 13 President	Birgunj Metropolitan
Districts Head	Nepal Red Cross Society

Province Head	Nepal Red Cross Society
Team Leader	PCGG - Karnali Province
IT Officer	PLGSP
Team Leader	PPIU - Karnali Province
MIS Operator, Education	Simta RM
IT Officer	Simta RM
Deputy Mayor	Simta RM
Mayor	Simta RM
Journalist	Ukeraa, Mero Report
Mayor	Tulsipur Sub-metropolitan City

Notes

1 Another assumption is that local governments will be able to influence the national government offices that manage the MISs. I.e., If they demand interoperability, the national government will respond positively.

2 Interviewees informed us that there has been significant backlash caused by the new Statistics Act moving the Central Bureau of Statistics from under the National Planning Commission to the Prime Minister's Office, to the extent that there is a fairly significant chance that this portion of the Act will be redrafted. However, it is very unlikely any redraft would have any impact on the clause referenced in this paper.

3 GoFAIR, FAIR Principles, ND. Available online: https://www.go-fair.org/fair-principles/ (Accessed 01/03/2023)

4 IDMS will also satisfy the need the Central Bureau of Statistics has to access line Ministries' administrative data. A key development in the overall development of the national statistical system.

5 The websites of local governments do, however, provide some important lessons for an IDMS. They show that uniform domain names and standardised content navigation systems make interfaces more easily accessible for users.

6 One interviewee told the study team that obtaining API access to MISs is not an overly technical challenge, and that it would be made easier still if the purpose of IDMS is clearly articulated and complies with governmental needs and interests.

7 The standardisation of MIS data and metadata across systems would make linking them easier. However, this is currently not the case and needs to be improved. Correcting this is a federal level exercise as federal level institutions manage the MISs.

8 In Karnali, one of Nepal's least developed provinces, 14 out of 54 local government units do not have specialist ICT officers. This low rate is not because of a lack of resources, as all local governments have the resources to hire ICT officers and buy basic infrastructure, instead it is driven partly by local officials not prioritising ICT.

9 The PLGSP is a flagship program of the Government of Nepal which has been implemented since July 2019 that aims to build institutional, organisational and individual capacity with a special focus on provincial and local levels. The ultimate goal of the program is to attain functional, sustainable, inclusive, and accountable provincial and local governance. ICT is one of its priorities.

10 In some cases data is input straight into the digital system at facility level, whereas, in others, data is collected on paper forms and sent to another office to be inputted into the digital system.

11 Development Initiatives has developed tools for this specific purpose that can be utilised during this task.

12 They did not outline what data should remain outside of the public domain.

13 MIS report, Feb 2022 NTC

14 Open Data Watch, Overcoming Data Graveyards in Official Statistics, 2022. Available online: https://opendatawatch.com/publications/overcoming-data-graveyards-in-official-statistics/#:~:text=Data%20Graveyards%20are%20places%20where,large%20repositories%20of%20unused%20data.&text=The%20leading%20statistical%20agency%20within,system%20(OECD%2C%202002)

15 Imperial Law Associates, Data Protection and Privacy Legislation in Nepal, 2021. Available online: https://www.lawimperial.com/data-protection-and-privacy-legislation-in-nepal/#:~:text=Article%2029%20of%20the%20Constitution,a%20matter%20of%20fundamental%20right.