Data for Policymaking in the Pandemic Period: The Bangladesh Experience

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A Forward-Looking Review**

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Acknowledgement

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Three specific objectives of the study

Reviewing and **documenting** the **process(es), tools, and partnerships** deployed for generating statistics in view of the pandemic

Assessing the **utilisation of data initiatives** for designing **policy response** during the pandemic and **identifying** the implications of the revealed **data gaps** for **required policy processes**

Identifying the **best practices** from **global and national experience** for **replication** and **adaptation** in **future policymaking**

❑ The study **mainly focuses** on **health-related data initiatives** in Bangladesh taken in view of COVID-19

❑ The study **also deals with** the **use of data** initiatives **for COVID-19 related public policy interventions** and the **effect of pandemic** on the **flows of mainstream economic data**

2.Conceptual Framework

❑ The conceptual framework has been designed around the specific objectives and is guided by six working hypotheses:

Objectives	Hypotheses
1. Reviewing and documenting the process(es), tools, and partnerships deployed for generating statistics in view of the pandemic	1.1. There are institutional mechanisms and systemic efforts currently in place in Bangladesh to generate basic statistics given COVID-19
	1.2. There is an institutional arrangement of integration, coordination and reconciliation within the data ecosystem
	1.3. There is a systematic process of documenting and archiving the generated statistics, and relevant stakeholders can access these statistics when required
2. Assessing the utilisation of data initiatives for designing policy response during the pandemic and identifying the implications of the revealed data gaps for required policy processes	2.1. The generated statistics enabled efficient delivery of the various policy measures taken to tackle COVID-19
	2.2. The generated statistics are adequate for policy design, policy implementation, and monitoring process of the policies
3. Identifying the best practices from global and national experience for replication and adaptation in future policymaking	3.1. The experience of international organisations and other countries will help Bangladesh to adopt the best practices and vice-versa

Summary Observations – Global Experience

Review of selected international organisations, e.g., UNWDF, UNStat, Eurostat, PARIS21 and GPSDD shows efforts to support the data ecosystem in two ways:

1. *Shifting priorities online*

- ❑ The **organisations** conducted **surveys** to assess the **state of NSOs** (e.g. UNStat & World Bank, Eurostat)

- ❑ Developed **online platforms** in the form of **websites and data dashboards** presenting relevant **COVID-19 statistics** (e.g. 'National Statistical Resilience' dashboard by PARIS21, 'COVID-19 Data Hub' by UNStat)

- ❑ **Developed new tools** to support the **continuity of NSO activities** (e.g. 'PARIS21 E-learning Academy' to support NSOs, curated emailing list of NSOs by GPSDD)

- ❑ **Facilitated peer-learning** among the **key stakeholders** of the **global data ecosystem** through **virtual sessions** (UNWDF virtual data forum in 2020)

2. *Leveraging partnerships*

- ❑ The organisations under review **leveraged old partnerships** and **formed new ones** to address **data gaps and related challenges** ('COVID-19 Task Force' by PARIS21 to engage NSO partners, 'Administrative Data Collaborative' by GPSDD)

Summary Observations – Country Experience

Five countries were selected for cross-country comparison based on per capita income:
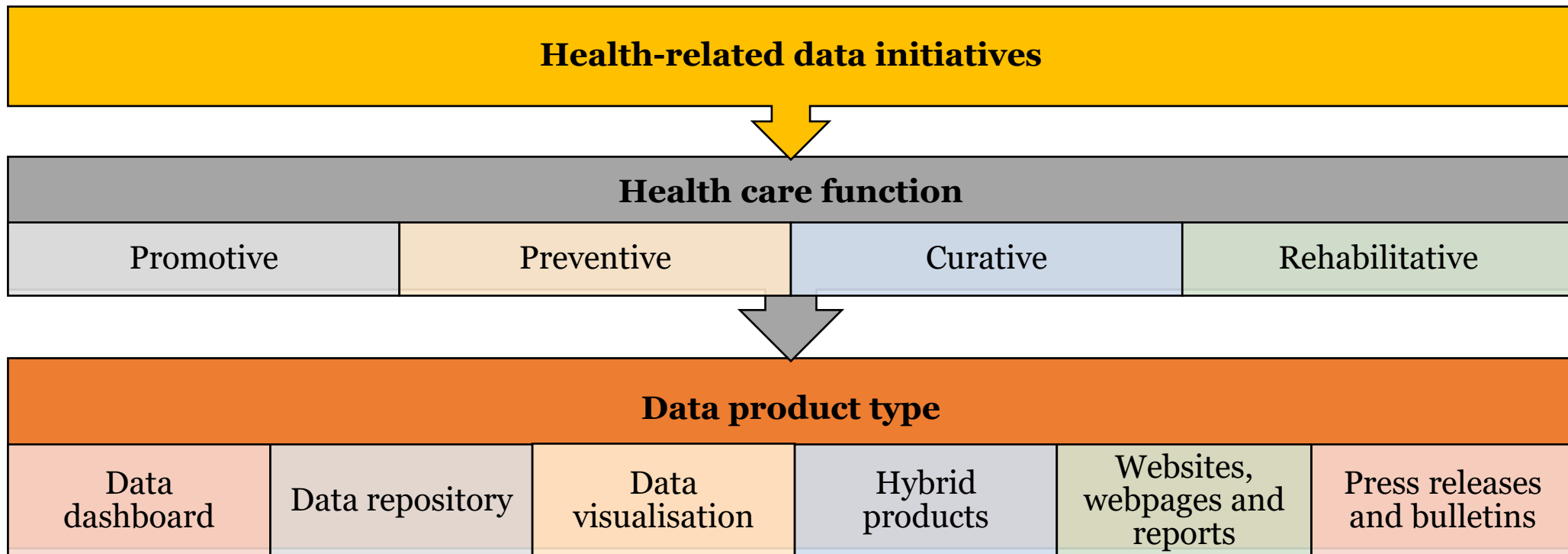
Ghana, Vietnam, Estonia, South Korea and Switzerland

❑ COVID-19 targeted data initiatives by these countries, predictably, placed greater emphasis on health

- There was greater concentration on contact tracing through online based surveys and Bluetooth tracking

❑ The surveys and Bluetooth tracking of **Vietnam, Estonia and Switzerland** were often criticised for data privacy concerns. **South Korea** chose to **coordinate** with **relevant agencies** to obtain **credit card data, location data** to **track movements** of individuals which is even more invasive

❑ **Ghana**, however, **used alternative sources** of data for monitoring the effectiveness of enforcing lockdowns through **obtaining call detail records from telecom operators**

- **Ghana's focus**, additionally, has **also been** on establishing COVID-19 data initiatives that address the **pandemic's impact on the country's local business, employment and households**

❑ **Majority** of the aforementioned countries **favoured digital solutions** to the rising data challenges, **Ghana** pursued **telephone-based methods**

4.1 Taxonomy of health-related data initiatives in view of COVID-19

❑ The national data initiatives have been reviewed from the vantage points of four primary health care functions

Classification of the health-related COVID-19 data initiatives

Health-related data initiatives			

↓

Health care function			
Promotive	Preventive	Curative	Rehabilitative

↓

Data product type					
Data dashboard	Data repository	Data visualisation	Hybrid products	Websites, webpages and reports	Press releases and bulletins

Source: Collated and consolidated by the authors (Bhattacharya *et al.*, 2021).

4.1 Taxonomy of health-related data initiatives in view of COVID-19 (contd.)

Classification of COVID-19 health data initiatives with respective data sources

Data Products	Promotive Health Care	Preventive Health Care	Curative Health Care
Data dashboard	COVID-19 Dynamic Dashboard for Bangladesh, **DGHS**	COVID-19 Dynamic Dashboard for Bangladesh, **DGHS** Shonkhay Corona Virus, **WHO, CDC, ACDC, Rapid API, DXY, and Worldometer**	COVID-19 Dynamic Dashboard for Bangladesh, **DGHS** COVID-19 Commodities Dashboard, **DGHS** Coronavirus COVID-19 Dashboard, 2020, **DGHS**
Data repository	N/A	N/A	N/A
Hybrid products	Corona Info, **DGHS, IEDCR**	COVID-19 Impact and Recovery Management System, **DGHS, IEDCR** COVID-19 Tracker, **ICT Division and Bangladesh Computer Council (BCC) of Government of Bangladesh**	N/A

Source: Collated and consolidated by the authors (Bhattacharya *et al.*, 2021).

4.1 Taxonomy of health-related data initiatives in view of COVID-19 (contd.)

Classification of COVID-19 health data initiatives with respective data sources

Data Products	Promotive Health Care	Preventive Health Care	Curative Health Care
Websites, webpages and reports	Live Corona Risk Test, **DGHS** COVID-19 Telehealth Centre Daily Report, **DGHS**	Surokkha, **DGHS**	Information Including Empty Beds in Corona Hospital, **DGHS** COVID -19 Telehealth Centre Daily Report, **DGHS**
Press releases and bulletins	COVID-19 Situation Related Health Bulletin, **DGHS**	Vaccination Press Release, **DGHS** Novel Coronavirus (COVID -19) Press Release, **DGHS** COVID-19 Daily Press Release, **IEDCR** COVID-19 Situation Related Health Bulletin, **DGHS**	COVID-19 Situation Related Health Bulletin, **DGHS**
Other products	Corona tracer BD, **DGHS, IEDCR**	N/A	N/A

Source: Collated and consolidated by the authors (Bhattacharya *et al.*, 2021).

4.1 Taxonomy of health-related data initiatives in view of COVID-19 (contd.)

Summary observations

❑ *First*, the **sheer number of data initiatives** can be quite **overwhelming** for the uninitiated

- **Lack of a central data repository** is a major shortcoming of these initiatives

❑ *Second*, **majority** of the health data initiatives **focused** on **preventive** and **curative** aspect of health care

- The data initiatives **did not reflect** the **rehabilitative** aspect of health care

❑ *Third*, overwhelming **majority** of data initiatives utilise data from **DGHS** and **its various wings**

❑ *Fourth*, **same data points** from **same sources** are often **reported** in **different initiatives**

- The **difference** in **reporting time** and **frequency** often **creates confusion** as regards their interpretation

4.1 Taxonomy of health-related data initiatives in view of COVID-19 (contd.)

❑ *Fifth*, in terms of **regularly providing up-to-date status** of key variables of interest, the COVID-19 targeted **health data initiatives** exhibited **considerable improvement** compared to the pre-pandemic scenario

> ❑ The **online availability** of the data resources was **very encouraging** in the backdrop of the pandemic. However, this also creates some **concern of a 'digital divide'**, where people without internet access could not reap the benefits of the various data initiatives

❑ *Sixth*, **data dissemination** also took a **more multipronged** approach compared to the pre COVID-19 situation

4.2 Data initiatives for designing policy response – Two case studies

❑ Experience of using data have been reviewed in the case of two public policy interventions during COVID times

| ✓BDT 2,500 Cash Support Programme | ✓ Vaccination Programme |

BDT 2,500 cash support programme

❑At the **early stage** of the BDT 2,500 cash support programme, the list of beneficiaries was prepared, verified, and modified by a **number of government entities** including **BBS, district administrations, local administrations and local government representatives**

4.2 Data initiatives for designing policy response (contd.)

❑ In the **second stage**, the list was **verified** and **cross-checked** with **other databases** through Finance Division and Ministry of Disaster Management and Relief

- a2i has contributed to data cleaning process by **checking duplication** using **mobile numbers**, and by **cross-checking** the list with **other databases**
- Beneficiaries of **other allowances** were **removed** from the list
- **Government service holders** were **removed** by cross-checking the list with integrated Budget Accounting System **(iBAS)**
- **After a2i**, the list was sent to National Telecommunication Monitoring Centre **(NTMC)** where it was **matched** with the **NID/mobile phone number** and **shortened further**

❑ In the **third stage**, the money was distributed among the beneficiaries either though **Mobile Financial Services (MFSs)** or through **bank accounts**

- **Verification** took place following the compliance guidelines of Bangladesh Telecommunication Regulatory Commission (BTRC)

4.2 Data initiatives for designing policy response (contd.)

Observations regarding the BDT 2,500 cash support programme

❑ A number of factors disrupted the listing and consequently the distribution process of the BDT 2.500 cash support programme:

- Absence of registered mobile number against NID

- Mismatch between the registered mobile number with NID

- Mismatch between the date of birth in NID and the database provided by the election commission

- Mobile number written in the wrong format

- Lack of detailed occupation-related information

❑ There were complaints from the local level government functionaries as regards finding very limited time for preparing the initial beneficiary list

❑ Lack of clarity among the service providers on how to execute the BDT 2,500 cash support programme has constrained the delivery of this programme (Rahman *et al.*, 2021)

4.2 Data initiatives for designing policy response (contd.)

Vaccination programme

❑ The use of data can be divided into two separate stages which relate to the following:

- ✓ Supply chain management of vaccines
- ✓ Vaccinating the citizens

❑ In case of supply chain management,

- ▪ The distribution was primarily determined by four major factors:
  - **Total availability of vaccines, administering capacity of certain regions and vaccination centres, estimated daily coverage,** and **estimated daily coverage for prioritised groups**
  - **Infection rate** (test positivity rate to be precise) of certain locations was considered, but not as strongly
- ▪ Two sources of data have been used:
  - Sources **other than 'Surokkha' portal** such as **administrative data** on **availability of vaccines and logistics**, **infection rate** etc.
  - **'Surokkha' portal** itself which generates data for **number of doses administered till date** and **number of doses required further etc**.

4.2 Data initiatives for designing policy response (contd.)

❑ In case of supply chain management,

- Ensuring maximum coverage was one of the highest priorities of the authorities

  - The **frontliners** and **migrant workers** have been prioritised

- The calculation of vaccine wastage is made in the **Expanded programme on immunization (EPI)** headquarter

  - Calculation uses the information on **number and type of distributed vaccine** to a certain centre and **number of people receiving vaccine** in that centre

  - Vaccines with **multi-dose vials** require a **certain number of people** to be present and ready for vaccination before being unpacked

  - In case, the required number of people are not present, **ten to twenty per cent doses** of each vial **might get wasted** as there is **instruction to provide vaccine** regardless of the presence of optimum number of people required to unpack the **multi-dose vials**

- In general, the **line manager of EPI** analyses all relevant information related to vaccination and **takes decision** about the **quantity and type of vaccine** to be distributed to each division and centre

4.2 Data initiatives for designing policy response (contd.)

❑ For vaccination of citizens,

- **Real time data** is generated as soon as **registration is completed** in the **'Surokkha' portal**
  - Based on this data citizens receive **vaccination card** and **registration number**

- The data generated from the **'Surokkha' portal** help the authorities to **estimate the demand** for vaccine and enable them to **make a coverage plan** given the **cold chain** and **logistics capacity** of a certain centre
  - An estimation is made for the **percentage of population** of **certain category** (e.g., medical students, general students, migrant workers) who can be covered given the capacity of the centre
  - **Based on this estimation**, SMS is sent to individuals and **sequence of coverage** is maintained
    - ✓ **Age-based sequencing** is **not feasible yet** due to **technical reasons**
    - ✓ **Sequence of coverage** is conducted only based on **occupational categorisation**

4.2 Data initiatives for designing policy response (contd.)

Observations regarding the vaccination programme

❑ The use of the online based system ensures transparency to a large extent

❑ The data generated by the portal also helps estimate the demand for vaccines

❑ The facility of getting the vaccination certificate through the online system helped easy access

❑ The requirement of internet facility to register for vaccines left out a large number of eligible people

❑ The requirement of NID to register creates problems for the younger population or for those who do not have a NID due to prior circumstances. Transgender people also faced difficulties

❑ The Surokkha portal could not handle the pressure of the volume of registration when demand increased, resulting in frequent downtimes

4.3 Implications for mainstream economic data flows

❑ The ongoing pandemic has adversely impacted the regular data related activities in Bangladesh, starting from data collection to dissemination

❑ According to KIIs, the pandemic has forced a number of large-scale surveys to be rescheduled because they require face-to-face interaction. For instance:

- ✓ The **Population and Housing Census** has been rescheduled

- ✓ The **Household Income and Expenditure Survey (HIES)** had to be postponed

  - The pilot survey for this round of HIES has been conducted

- ✓ The **Labour Force Survey (LFS)** has also been delayed

  - However, BBS has started doing the background works for which are expected to be finished by 2021

  - Accordingly, the main LFS is expected to start from January 2022

4.3 Implications for the mainstream economic data flows (contd.)

❑ According to KIIs, activities pertaining to regularly provided data were continued despite the pandemic. For instance, for **inflation, industrial production**, **wage rate**, **demographic** data etc.

- Collection activities for such data, even **at the field level**, has **never been stopped**

- Collecting **price related information** was **less challenging** given these can be obtained from facilities (e.g., shops or markets)

- However, obtaining **demographic information**, particularly from upscale parts of **urban areas**, was **challenging** in view of the pandemic

❑ Apart from these, the data collection processes of some other initiatives have been hampered:

- Literacy Assessment Survey

- Survey on climate

- Survey on tourism

The findings of the study have been clustered under the six hypotheses from the conceptual framework:

Hypothesis 1.1. There are institutional mechanisms and systemic efforts currently in place in Bangladesh to generate basic statistics given COVID-19

There have been institutional data initiatives in the face of the pandemic, but they are yet to evolve into a structured and regular system

❑ *First*, the COVID-19 targeted data initiatives were **both demand and supply-driven**
- The pandemic **created an opportunity** to **build a partnership** between **government and non-government entities**
- In **some instances**, the **higher-ups** in the government had to be **pursued proactively** to sensitise them for undertaking the initiatives

❑ *Second*, a number of **innovative data initiatives** were **taken** in view of the COVID-19 pandemic
- **Some of these** were **built upon pre-existing** data generation and management systems (doing by learning). **Others** had to be developed **from the ground up** (learning by doing)
- The utilisation of **user-generated data** and **telecom data** gained **heightened importance**

Hypothesis 1.2. There is an institutional arrangement of integration, coordination and reconciliation within the data ecosystem

The institutional arrangements are concentrated on health and have not spilt over to other areas of the data ecosystem. In the case of most of the initiatives, a 'government agency centric' approach was followed while a selected few took the 'whole of society' path

❑ ***First***, **both government** and **non-government** entities had to **take up multiple roles** (e.g., data generator, data manager, data user, data appraiser etc.) to carry out the COVID-19 targeted data initiatives

- ▪ The **government entities** and **officials** were able to perform in a **coordinated manner**

- ▪ The **collaboration** between the **government** and **non-government organisations** has become **more robust** after the COVID-19 outbreak

- ▪ The **acceptance** of **non-government data initiatives** to the government has **gradually increased**

❑ ***Second,*** the COVID-19 targeted **data initiatives** (both **intra- and inter-governmental**) had **interoperable** data systems

- ▪ There were **some instances** where **non-government entities** were **connected to such systems.** Most of **such data system** is **affiliated** with the **DHIS2 platform of DGHS**

Hypothesis 1.3. There is a systematic process of documenting and archiving the generated statistics and relevant stakeholders can access these statistics when required

The documenting and archiving process is mostly scattered and accessing micro-level data may become an arduous task

❑ *First*, the **majority of the data initiatives**, both government and non-government, **have well defined and formal storage** systems

❑ *Second*, a **formal mechanism** for accessing **COVID-19 related data** from the government **was absent**

   ▪ **Accessing data** becomes **easier** with **pre-existing liaisons** or through **informal channels**

   ▪ **Data access** becomes **difficult** due to **complex and lengthy bureaucratic processes**, **privacy concerns** on the part of **government**, or **absence of any designated person** or **system** to provide data

Hypothesis 2.1. The generated statistics enabled efficient delivery of the various policy measures taken to tackle COVID-19

All data and analyses did not result in decision making. Buy-in by the policy actors was slower for many cases, and often did not take place

❑ The **policy use** of data was found to be rather **limited**

- There was a **clear lack of understanding** on the part of the **government** as regards the data initiatives

- The **multitude of actors** involved in the **decision-making process** made the **situation worse**

- The **policymakers** were **not ready to accommodate** the data initiatives undertaken by **subordinate agencies** at the beginning of the pandemic. The **acceptability increased prior** to the **second wave**

  - It was encouraging to find that the government is **interested** in **accommodating data-driven findings** from **academicians and researchers** in order to **plan future interventions**

- **A number of** COVID-19 targeted data **initiatives** have been **undertaken** by **NGOs or CSOs** in Bangladesh. Regrettably, their **acceptance at the policy level** remained **very limited**

Hypothesis 2.2. The generated statistics are adequate for policy design, policy implementation, and monitoring process of the policies

New data obviously contributed to policy actions, however, not all demands for data were met

❑ Although the **continuous provision** of COVID-19 related data is **commendable**, there are some **underlying concerns** regarding the **accuracy, representativeness** and **quality of data**

- ▪ This puts the **usability** of **such data** at serious **risk**

Hypothesis 3.1. The experience of international organisations and other countries will help Bangladesh to adopt the best practices and vice-versa

There are obvious scopes for cross-learning while being cognisant of the country context

❑ The scope to utilise some pre-existing data initiatives and replicate some of the new ones is evident within the data ecosystem of Bangladesh

- ▪ **Strengthening** the **non-government entities** would allow **expanding the data ecosystem** both **vertically and horizontally**

- ▪ **Adoption of global good practices** should take **cognisance** of the **country-specific context**

Challenges faced as regards to data initiatives

❑ The improvements in the data ecosystem during the pandemic were largely concentrated in the area of health. The use of such initiatives was limited in providing public support. Even within the health issues, for the rehabilitation domain, no such initiative was found

❑ Pre-conditions were important for the success of the initiatives. While using the NID database was possible as it covered a larger section of the population, the use of the tracing app failed due to very little penetration of smartphones and other technical issues

❑ Overall mindset and flexibility of the stakeholders were also found to be critical as evidences suggest that all data and analyses did not result in decision making

❑ Buy-in by the policy actors was slower than it should be for many cases and often did not take place. There is also ample scope for improving transparency in these initiatives. This has perhaps also constrained improving political buy-in

❑ The scope for scaling up and involving more stakeholders could be done with improved transparency

6.Conclusions and Recommendations

The COVID related data initiatives manifest evolving synergy among the actors and activities within data ecosystem in Bangladesh

❑ There have been several new and positive data initiatives, particularly in pandemic-related health issues which improved over time in terms of scope, efficiency, institutional capacities and utilisation in the policymaking

  ❑ The government primarily took these initiatives with the view to take immediate pandemic response. The government accommodated supply-driven initiatives as and when necessary, despite some early reticence

❑ During this pandemic period, Bangladesh has made the use of new and innovative data technology such as telecom data and apps

❑ Bangladesh has embraced new institutional frameworks which enabled them to collect data in real-time

❑ The new partnerships involving multiple stakeholders both within the government agencies and with the non-government organisations were not necessarily absent in the past, but definitely broadening the scope and expediting the process compared to past experiences

❑ There has been a considerable improvement of data dissemination as evinced from developing dashboards, regular press releases, and use of websites and social media platforms

6.Conclusions and Recommendations

The future course of actions in view of the present achievements and challenges will critically hinge on three issues: the *system-wide adaptation* *of the successful initiatives, enhanced* *scalability across domains* *(both horizontal and vertical), and ensuring* *HR-related/financial/organisational sustainability*

To ensure *system-wide adaptation:*

❑ There is a need to **establish a clear institutional architecture** of the initiatives **ensuring** the issues related to **governance** and **rules of business**

- ▪ The pertaining discussion **should not** be limited to a **legalistic** nature. **Involvement** of **all relevant stakeholders** from both demand and supply sides should be **ensured**

❑ The creation of a '**knowledge hub**', containing all relevant data, statistics, research and analysis contributed by both government and non-government entities, might be **beneficial**

- ▪ Issues pertaining to **data standardisation, reconciliation, disaggregation, interoperability, access, and quality assurance** should receive **due attention** during its formation. **Data privacy and confidentiality** must be **ensured** in such efforts. **Formulation** of **data privacy policies** and the **development of data sharing frameworks** should receive **top priority**

6.Conclusions and Recommendations

***Scaling up of the data initiatives* should focus on:**

❑ Involving more **sectors/issues** as well as **stakeholders** both **within** and **outside** the government

❑ **Formation** of a '**data community**', following a whole of society approach, might be **useful** in this regard

- ▪ This will **facilitate overcoming** the **traditional silos** existing within the data ecosystem
- ▪ This will also **provide** the **non-state entities** with a **gateway** to be **integrated** in the mainstream data-related activities

The *sustainability of the data-related initiatives* will require:

❑ **Mobilisation of additional resources – financial, human resources and technical** – from both domestic and foreign sources

- ▪ This is particularly **pertinent for non-state actors** who might **lack the resources necessary** to develop a robust data architecture

❑ **Utilisation** of the **learnings** during the pandemic to **bolster and modify the existing** data **initiatives**

- ▪ For instance, the **real-time health data generation** mechanisms developed during the pandemic should be **maintained** and **expanded to other sectors.** The **use of administrative data, user-generated data and geospatial data** must be **expedited** by the **BBS**

Overall, **political buy-in** is critical for all three of the aforementioned areas. As has been evinced, the data-driven approach towards policymaking has shown some improvement during the pandemic. However, the data generators and the knowledge community must continue their endeavour to sensitise the policymakers regarding the usefulness of data and its use. To ensure this, **documenting the experience, generating evidence** of the positive impacts of such initiatives and opinion building by **engaging stakeholders** will be needed

Thank You

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