Embracing Digital Technologies at sub-national Governments-Issues; Challenges and Perspectives

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I. INTRODUCTION

Digital technologies and SDGs- The inevitable marriage

As we approach 2030, accelerated implementation of SDGs becomes a pivotal focus for Governments across the world. SDGs facilitate convergence and integrated planning across different sectors and tiers of Government. Digital technologies enable analytics of vast pools of development data and provide key insights to policy makers and practitioners on current status and priority focus areas. Therefore, the marriage of digital technologies to SDGs becomes an inevitable one in our march to 2030.

The use of new digital technologies are increasingly adopted to augment data analysis (Saner et al,2020) both from a quantity and quality perspective and also along horizontal and vertical lines. For example the use of technologies enables prompt analysis of a large quantum of data and assures a certain quality through enabling refined data checks and validation processes. Such data is also collated along horizontal lines i.e across nations or across Departments at a national level or along vertical lines i.e National,sub-national,local government tiers. All of these require a certain bolstering of capacity at various levels of Governments and civil society at large to fully adopt,assimilate,monitor,assess and chart out a roadmap to fill the development gaps/loopholes revealed by the data.

In the context of Digital technologies and SDGs,there is a growing emphasis on ‘digital public goods’ or ‘digital public infrastructure’ with a thrust on issues of extreme deprivation and basic needs (Ingram et al,2022).Use of new and improved ICT tools for capturing SDG data at a localised level may throw light on various dimensions,institutional issues,inequalities and regional disparities in addition to their role in provisioning of basic services and social protection.Linking of multiple data platforms can provide a convergent and holistic view of development challenges and priorities.Use of geo-spatial data tools are becoming powerful instruments for data visualisation,regional planning and service delivery opportunities.Digital technologies also promote a ‘whole of society’ approach by promoting greater citizen participation and engagement in the whole process of SDG implementation.

However one should be wary of the dependence on digital technologies and digitalization in the context of SDGs as sometimes linking of data in multiple platforms with diverse formats may provide biased results. Further inequities in digital access further perpetuate inequalities rather than bridging them which is never an ideal outcome from an SDG perspective. Nevertheless the relevance of digital technologies in today’s times for the achievement of SDGs cannot be overlooked or undermined and instead needs to be unleashed, propagated and disseminated at a larger scale across Governments and all tiers of Government.

II. A). India,Digital technologies and SDGs

India presently home to 17.7%[1] of the world's population stands to be a major contributor to the global achievement of SDGs. India has been at the forefront to embrace, adopt and champion the SDGs since its conceptualization. Flagship government schemes such as Ayushman Bharat,POSHAN Abhiyan and Swacch Bharat Abhiyan,align with SDG priorities.

The country has also been recognised for its Digital Public Infrastructure (DPI) which facilitates provisioning of social benefits and data sharing across multiple platforms to ease service delivery, ease of living and thereby SDGs.India Stack[2], which stands for "digital stack in India", is the collective name of a set of commonly used DPIs in India, which consists of three different layers - i. identity, ii. payments, and iii. data - that enable online,paperless,cashless,and privacy-respecting access to a variety of public and private services.

For example, India's Aadhaar system provides digital identification for more than a billion people, quickly enabling a dramatic expansion in access to government programs in the world's second most populous country facilitated by the Direct Benefit Transfer (DBT) Programme.Aadhaar, helped facilitate the transfer of social safety net payments directly from the government treasury'saccounts to beneficiaries' bank accounts, helping to reduce leakages, curb corruption and providing a tool to effectively reach households to increase coverage (Alonso et al,2023).The Aadhaar identity platform is also integrated with multiple digital platforms such as the Universal Payments Interface, which allows for seamless digital payments, alongside a Data Empowerment Protection Architecture and DigiLocker, which allow individuals to hold a "datawallet" showing their credentials and transaction flows (Ingram et al,2022).

DPI initiatives in India and linkages with Aadhaar have also been successfully implemented to simplify processes relating to registration,filing of tax returns and improve tax compliance which seeks to improve public finances and promote SDGs at large. The Indian Government's Public Financial Management System (PFMS) has been introduced for managing fiscal operations and monitoring spending of public finances in India.PM GatiShakti National Master Plan (PMGS-NMP)[3] was launched on 13th October 2021 for providing multimodal connectivity infrastructure to various economic zones.The plan has been developed as a Digital Master Planning tool by BISAG-N (Bhaskaracharya National Institute for Space Applications and Geoinformatics) and has been prepared in dynamic Geographic Information System (GIS) platform wherein data on specific action plan of all the Ministries/Departments have been incorporated within a comprehensive database. Dynamic mapping of all infrastructure projects with real- time updation will be provided by way of a map developed by BISAG-N.PM Gati Shakti marks the foray of India in the realm of digital mapping infrastructure.

India has also adopted digital initiatives in the health and education sectors such as the development of the COWIN portal for covid vaccine provisioning/certification and the DIKSHA portal for online education.There is also large scale infusion of Information and Communication Technology (ICT) in Agriculture, Health, Education, Planning under the umbrella of Digital India. To sum up,leveraging the potential of information technology and disruptive innovations is a key instrument in India's pursuit for implementation of the SDGs cutting across various dimensions and sectors.

[1] *World Population Dashboard 2023* https://www.unfpa.org/data/world-population-dashboard

[2] www.indiastack.org

[3] https://pmgatishakti.gov.in/pmgatishakti/about_pmgati

B). SDG Monitoring in India

In India, the NITI Aayog is the nodal body for SDG implementation at a national level. In 2018 NITI Aayog has brought out the SDG India Index: Baseline Report 2018 which seeks to capture the progress profile of India on different individual Goals and also is a pioneer effort in charting the progress made by all the States and Union Territories of India in achieving the SDG Goals. The latest SDG India Index 2020-21 ranks the 36 States and Union Territories of India in 115 indicators across the 16 SDGs.NITI Aayog has also developed the SDG India dashboard[4]as a digital platform which provides the composite scores,rankings and goal scores at national level as well as for the States and Union Territories.

The Ministry of Statistics and Programme Implementation(MoSPI) is also one of the key players in the implementation of SDGs. As indicators are key to measure the progress and the extent of achievement of thetargets and Goals in India, MoSPI has developed 306 national indicators in linewith the 169 SDG targets and the Global Indicators Framework.The MoSPI also has an India SDG Dashboard[5] which is a unified data repository on SDG Indicators as per the National Indicator Framework. Additionally, the MoSPI helps develop capacities of various statistical institutions at the sub-national level on SDG monitoring.

III. India: the SDG localisation experience

In the interests of ensuring a universal human-rights-based approach, there is a clear agreement that there should no longer be a focus on just national aggregates, but on disaggregated data—by income quintile, geographic region, sex, and by relevant social groups, particularly those most excluded (UNDP 2013).

The localization of SDGs has been ascribed utmost importance in India, as the States and Union Territories (UTs) are the foundational blocks of the country's ambitious development agenda. The country has been endeavoring for the adoption, implementation, and monitoring of the Global Goals at the national, sub-national, and local levels. There is demographic, social, ecological, cultural and economic diversity among States in India and therefore a uniform template for SDG implementation is not feasible in India at the sub-national level.Sub-national governments in the states and Union Territories are substantially contributing to the achievements of SDGs in accordance with their constitutionally mandated role in designing and delivering developmental schemes and programmes to the people.

The Indian model of SDG localisation is structured around four inter-related pillars operating sequentially and simultaneously at the national level, anchored by NITI Aayog in the centre and by respective state and UT governments at the sub-national level. The four foundational pillars in this model are:

Pillar 1: Creating institutional ownership
Pillar 2: Establishing a robust review and monitoring system
Pillar 3: Developing capacities for integrating SDGs in planning and monitoring.
Pillar 4: Promoting a "whole-of-society" approach.(Niti Aayog,2022)

The SDG Indices developed by Niti Aayog have also had an impact in deepening the localisation of SDGs in states and UTs to the subsequent levels where district-level monitoring has been initiated, promoting healthy competition among districts. The SDG localization agenda of India also focuses on data-driven monitoring frameworks resulting in State and District Indicator Frameworks being developed at sub-national levels reflecting local realities. Technical tools such as SDG dashboards are also encouraged for efficient and robust monitoring. The engagement with civil society organizations (CSOs) and

[4]http://sdgindiaindex.niti.gov.in
[5]http://www.sdgindia2030.mospi.gov.in/dashboard/

community based organizations who have a direct connect with vulnerable and marginalized sections of the population is another critical pillar of India's SDG localization agenda.

The State Governments of India have also been adopting digital platforms to enable real-time reporting and monitoring of SDG data in the form of SDG dashboards. Other digital initiatives have also been implemented at state level such as Rajasthan's initiative in developing an online module to map all the budget heads with the schemes and the relevant SDGs which are inter-linked to the state's Integrated Financial Management System (IFMS). The State of Karnataka has developed the New Decision Support System (NDSS) software Avalokana to ensure effective monitoring and evaluation of development programmes. Avalokna enables information flow right from the gram panchayat level to the state level. The NDSS software enables the linking of financial and physical targets and expenditures to SDGs, thereby allowing the budgeting for SDGs.

India has a three-tier local governance structure in the urban areas as well as the rural areas. For rural areas, at the village (or gram panchayat) level, a Gram Panchayat Development Plan (GPDP) is prepared. The Ministry of Panchayati Raj has actively advocated to ensure that SDGs are integrated in the Gram Panchayat Development Plans. This is a vital first step in ensuring that grassroots level plans at the village level in India are aligned to the SDGs. The development of the Local Indicator Framework on SDGs and the Panchayat Dashboard would complete the localization at the lowest unit of governance in India i.e the villages.

IV. North-Eastern Region and SDGs

In recent years, India has been increasingly focusing on development of the North-East region of the country. The north eastern region of India comprises eight of the 28 states. It is a culturally, geographically and socio-economically diverse region displaying wide inter-state and intra-state disparities in terms of development. The Government of India primarily through the Ministry of Development of North Eastern Region (MDoNER) and the North Eastern Council (NEC) has initiated an array of development initiatives in the North East some of which are the following[6]:

- Announced in Budget 2022-23 as a 100% Central Sector Scheme, Prime Minister's Development Initiative for North East (PM-DevINE) has been initiated.
- A Budget allocation of Rs 76,040 crore for the year 2022-23 for North Eastern Region under 10% Gross Budgetary support.
- A Task Force constituted to steer the growth of Agriculture Sector in North Eastern Region.
- A Regional action plan is being drawn up for development of tourism in consultation with North Eastern States and active stakeholders.
- Mission mode program for Saturation of Model Blocks & Villages through equal access to basic services and opportunities.
- North East Special Infrastructure Development Scheme (NESIDS) a central sector scheme, aimed to support filling up gaps of infrastructure in the Region in identified sectors like water supply, power, connectivity, tourism and social infrastructure in the areas of primary and secondary sectors of education and health.
- 'Advancing North East portal' a digital web-based platform provides needed knowledge and guidance - in education, employment and entrepreneurship - to the youth of NER.

[6] www.pib.gov.in Press release 28 December 2022

NITI Aayog, in partnership with the Ministry of Development of North Eastern Region (M-DONER), state governments and UNDP has prepared the North-Eastern Region District SDG Index – Report and Dashboard 2021-2022, which compares 120 districts from the eight north eastern states across all sectors of the SDGs through 84 selected indicators. The NER District SDG Index as of date remains a holistic source of development data at sub-national level for the districts of North Eastern Region.

V. Nagaland and SDGs - The Nagaland SDG Dashboard

Nagaland situated in the North-East region of India is largely a mountainous State. The State consists of sixteen administrative districts. 71.14 percent[7] of its population lives in rural areas.. Nagaland is one of the States in India that enjoys special provisions within the Constitution of India under Article 371 A in recognition of the unique traditions and customary laws of the State. A rich social capital and community spirit, abundance of organic agricultural and horticultural produce, high literacy rate, indigenous crafts and handloom traditions, verdant and scenic beauty and a strong record in sustainable conservation practices rooted in age old traditions are some of the positive attributes of the State. However the remoteness and the difficult geographical terrain exacerbates geographical disparities within the State and makes last-mile-delivery of basic services and infrastructure a huge policy challenge. Meeting these challenges of development while conforming to the agenda of inclusive growth under the SDGs assumes priority for Nagaland.

In 2019, the Nagaland State has set up the SDG Coordination Centre (SDGCC) of Planning & Transformation Department with technical support from UNDP for implementing the Sustainable Development Goals (SDGs) localisation and integration process. In 2021 Nagaland has released the Nagaland SDG Vision 2030 as a strategic development plan for all government departments to work coherently towards the achievement of the SDGs in the state. The focus is on bringing forth the convergence between departments and highlighting innovative means to achieve the ambitious targets through systematic planning and implementation. The document comes out with clear strategies for resource mobilization and monitoring the progress of implementation through clearly defined targets against identified indicators using advanced technology.

Availability and use of high quality and high-frequency data is vital for evidence-based decision making and the effective implementation of the 2030 Agenda for Sustainable Development. With a view to streamline the implementation of the SDGs and ensure that targets are achieved in sync with its Vision 2030 Plan, the Nagaland State is developing the Nagaland SDG dashboard that will be launched soon. The Dashboard consists of two monitoring frameworks- State Indicator Framework (SIF) (115 indicators) and District Indicator Framework (DIF) (84 indicators). The Nagaland SDG Dashboard seeks to bring together 26 State Government Departments and 16 District administrations into a single platform and throw light on development progress and disparities in the State for timely assessment and course correction.

The key objectives of the *'Nagaland SDG Dashboard'* tool are for real-time reporting, analyzing, monitoring, and evaluating the performance of the State towards the achievement of Agenda 2030. The tool will offer support to administrators/policy makers in decision-making for accelerating the schemes and programmes in the run-up to achieving the various SDGs. The tool will also emerge as a handy technology for the administrators/policy markers while preparing State and District Plans for informed decision-making.

The Nagaland SDG Dashboard would provide goal-wise, department-wise, and indicator-wise performances chronologically across all relevant SDGs at a State level as well as at

[7] India Census 2011

district level. Customizable reports would also be downloadable in the dashboard indicating performing districts, critical districts, top indicators, critical indicators, aspirant indicators, performer indicators, frontrunner indicators, and achiever indicators.

Although the SDG dashboard for Nagaland is being developed as a basic pilot initiative for North-East States, there are plans to facilitate API integration with all the MIS portals for various development schemes implemented in India. Potential for AI, machine learning and big data would be explored further to accelerate the achievement of SDGs and propel the country to greater heights. Greater citizen engagement and reporting mechanisms by civil society would also be sought to be incorporated to augment the process of SDG monitoring in the State.

There are various constraints in the course of development of such a digital platform in the State. Some key challenges faced are ensuring updated quality data updation particularly from the remoter districts of the State with severe accessibility issues. Data gaps on key SDG indicators and resource constraints in newly created districts in the State also pose immense challenges. The relevance of nationally defined indicators at sub-national levels is also an issue as certain indicators that may be globally or nationally relevant may not be relevant at sub-national and district levels. This necessitates the State to develop its own indicator frameworks that encapsulate local realities, remove irrelevant indicators and frame its own indicators. Further pursuant to onboarding of the platform, lack of digital access and digital literacy may raise inequalities in consumption of the services of the dashboard particularly in remoter districts of the State.

The development of the Nagaland SDG Dashboard is an example of how digital technologies can be effectively harnessed for assessment of SDG gaps and ensure right allocation of resources at sub-national/local levels. However raising the level of digital access,improving digital literacy and bolstering the overall capacity of statistical systems as well as skill upgradation of government and non-state actors is an absolute prerequisite for adopting digital technologies at sub-national level.

VI CONCLUSION -WAY FORWARD

The advent of advanced technologies such as artificial intelligence, Internet of Things (IOT), cognitive analytics are accelerators in effective provision of and access to critical dimensions of sustainable development. These enable rapid growth for achieving the SDGs, including peace, justice and security through cyber-secure infrastructure. The potential for adopting advanced digital technologies in SDGs at sub-national/local levels are immense in India and other countries. The impact that this can have on the overall global SDG agenda will also be huge given that large districts in India have a population greater than many countries of the world.

However this would require up skilling workforce and developing an overall ecosystem of data driven governance. Data security is also important in the context of increased reliance on digital technologies. The poorer States and local governments would also be in need of financial resources for continuous innovation, upgrading and maintenance of technologies. This necessitates concerted efforts at a national level as well as a global consensus for achieving true localization of SDGs in the remotest corners of the globe with the aid of digital technologies. The principle of ‘Leave no one behind’ needs to be adopted in true letter and spirit when it comes to adoption of digital technologies for SDGs.

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