BYTE BY BYTE

dasra

Following the strides in
data-driven innovation at India's grassroots

DECEMBER 2024
**HIGHLIGHTS OF THE
DATA FOR GOOD EXCHANGE INITIATIVE
2021 - 2024**

D4GX India is an initiative supported by Bloomberg, in collaboration with Societal Thinking and Stanford PACS

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Stanford PACS
Center on Philanthropy
and Civil Society

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TERMS & ABBREVIATIONS

Ayushman Bharat Pradhan Mantri Jan
Arogya Yojana (**AB PM-JAY**)

Child Care Institutions (**CCIs**)

Child Lifecycle Management Solution
(**CLMS**)

Common Services Centers (**CSC**)

Civil Society Organizations (**CSOs**)

Common Service Center (**CSCs**)

Data for Good Exchange (**D4GX**)

Data Empowerment and Protection
Architecture (**DEPA**)

Digital Personal Data Protection Act
(**DPDP**)

Digital Public Infrastructure (**DPI**)

Management Information Systems (**MIS**)

Monitoring and Evaluation (**M&E**)

National Data Sharing and Accessibility
Policy (**NDSAP**)

National e-Governance Division (**NeGD**)

Non-governmental organizations (**NGOs**)

Socio-Emotional Learning (**SEL**)

United Payments Interface (**UPI**)

Urban Local Bodies (**ULBs**)

Water, Sanitation, and Hygiene
(**WASH**)

INTRODUCTION

Executive Summary

India is at the cusp of a data revolution.

Only a decade ago, it would be difficult to imagine India as a powerhouse of data innovation. In 2014, one in five Indians were wired to the internet. Fast forward to 2024 – and this number has more than doubled.[1] Data consumption, use, innovation, and adaptation is going places. Government, funders, corporations, and civil society have all helped with tinkering to solve for both simple and complex societal challenges.

There is a need to strengthen the data for good ecosystem.

As this trend continues to take shape, there is a need to organize and strengthen the data for good ecosystem – moving it closer to a unified field that incorporates data as a resource for inclusion, agency, and empowerment, with multiple actors focusing on harnessing the approach. This thought is gaining momentum and can benefit from support and action.

Unlocking the Virtuous Cycle of Data Empowerment can build momentum for systemic change.

The Virtuous Cycle of Data Empowerment focuses on an approach where communities are not just recipients but active owners of data, enabling them to drive their own development agendas and fostering a more inclusive, resilient future. By breaking down barriers faced by communities in accessing, using, and understanding data – it is a tool for empowerment that provides the most vulnerable communities with the agency to drive solutions.

Civil society organizations are leading the data for good movement.

In recent years, data-driven solutions have revolutionized systems across sectors, but this shift has also inadvertently excluded marginalized communities, particularly in rural India, women, and those without access to digital literacy. This digital divide limits the ability of these groups to participate in decision-making processes and harness data for development. CSOs are helping communities with the resources to challenge, create, and leverage data to actively address their own development needs. By supporting community members and leaders, CSOs are dismantling negative feedback loops, leveraging data to create local innovations, claiming the right to access data for action, and demanding access to data for creating tangible impact.

The Data for Good Exchange Initiative has had three-fold growth, and is still growing.

The Data for Good Exchange (D4GX) Initiative is an effort, aiming to empower communities with the resources, capacity, and knowledge to unlock the virtuous cycle. The D4GX India Initiative has embedded itself as a backbone alongside India's thriving CSOs, engaged in driving the agenda of 'data for good' at India's grassroots. Through the cohorts, anchored since 2021 and 2024, the initiative has gathered seeds of knowledge that underscore the transformative potential of data in addressing societal challenges. The report shares learnings, insights, and practical case studies documenting the experiences of India's thriving civil society, championing this front. It also showcases the voices of community leaders and experts, reflecting their perspectives on the movement.

Building the field for data empowerment necessitates collective action.

To fully realize the India's potential for data empowerment, CSOs, governments, and funders must work in tandem to create a robust data ecosystem. CSOs, with their deep-rooted connections to communities, can leverage local insights to drive data-driven impact. Governments play a pivotal role in safeguarding data privacy, fostering data integration, and supporting data innovation for public good. Funders can align investments, encourage partnerships, and nurture innovation, to harness the power of data. This collective effort will not only benefit India but also serve as a model for the Majority World, paving the way for a more informed, inclusive, and resilient future for people and the planet.

HIGHLIGHTS
Highlights from the D4GX India Journey

Catalytic impact across thematic areas:
Through sustained support, mentorship, and network building, the D4GX India Initiative has built a nascent evidence base for catalytic impact. The impact plays out across its five key thematic areas: Equitable Health, Community Building & Resilience, Learning to Livelihoods, Urban Governance & Sanitation, and Climate & Sustainability.

Multifold solutioning at play:
By analyzing ~500 applications from CSOs across India this report unveils the unique challenges that communities in remote, rural, impoverished, and marginalized circumstances face. The report categorizes the multiple modes used to expand service delivery, strengthen community ecosystems, build policy reforms, and demonstrate how data can drive systemic change and promote inclusive, sustainable development.

In the Spotlight

"We are on the brink of empowering people on the ground to capture the data that matters to them in ways that are meaningful. It's no longer about dismissing their instincts and expertise, but about recognizing that what they observe and experience is valuable data. By translating video, audio, and text into structured formats – we can now analyze this information systematically, not randomly. When qualitative observations are turned into numbers, they become powerful tools for driving informed decisions and creating impact across levels."

Vera Michalchik

Director,
Philanthropy Research and Education, Effective Philanthropy Learning Initiative, Stanford PACS

Vandna Ramchandani

Head of Corporate Philanthropy APAC,
Bloomberg

"Data is at the core of all our work at Bloomberg, as is about giving back to the communities in which we live and work. We have long advocated for using data science to solve society's largest problems, and that's the ethos that comes through with the Data for Good exchange program we launched in India."

"The future isn't only limited to safeguarding who controls the data but as much about how it is shared, understood, and acted upon. Civil society, government, and the private sector must come together to create systems that are open yet secure, scalable yet simple, and most importantly, centered around the people and the communities that they serve. Stories and voices of people are the most authentic form of data, especially when these are unfiltered and deeply human. When we listen directly to communities, without reducing their experiences to checkboxes and spreadsheets, we honor their truths and restore their agency."

Sanjay Purohit

CEO & Chief Curator,
Centre for Exponential Change

Kavneet Sahni

Program Lead,
Dasra

"The Data for Good Exchange Initiative has helped create a coordinated and collaborative field. It is inspiring to see the work of civil society organizations and leaders from India using data-driven innovation, in service of communities. Through this initiative, there has always been a strong emphasis on building the inclusion and agency of community leaders to access the tools, knowledge, and networks for advancing meaningful impact."

Foreword

Data has emerged as an invaluable resource, transforming the development landscape across the globe. In India, this transformation is cascading to the grassroots, where the needs of communities intersect with innovations in data-driven technology. The Data for Good Exchange (D4GX) India Initiative has been instrumental in harnessing this headwind. **Data-driven innovation is being championed by an agile and imaginative civil society, advancing people-centered approaches, that empower communities and individuals, to leverage data for sustainable and impactful change.**

This report, Byte By Byte: Following the Strides in Data-Driven Innovation at India's Grassroots, captures the many journeys of the D4GX India Initiative, from 2021 to 2024. The D4GX India initiative has not only fostered an innovation ecosystem but also catalyzed a movement where data serves as a conduit between communities and solutions, directly addressing their most pressing challenges.

Throughout this journey, we have seen live: data is transforming the lives of several Indians! It has been used to drive equitable health services for large populations, optimal service delivery in underserved areas, and more inclusive models for education-to-employment pathways. **By investing in capacity building, knowledge exchange, and collaborative networks – the D4GX India Initiative has enabled data integration for organizations at the frontlines of change. It has enhanced their ability to design impactful programs at scale.**

As we look forward, the imperative remains clear: for data to drive positive change, it must be stewarded responsibly and inclusively, ensuring communities are co-architects in the data ecosystem. The trajectory and learnings documented in

this report reflect a growing commitment to the virtuous cycle of data empowerment, where insights drawn from data inform and enhance community-led solutions. It is a testament to the power of collaborative action, one that continues to unlock new possibilities and the multiplier effect, for India's development landscape.

This persuasive study is a testament to our belief in the data for good movement. It is meant to inspire continued innovation and action, to unlock positive impact and foster resilience in communities. Recognizing the complexity and dynamism of India's ecosystem, we posit that solutions developed within this context can be adapted and applied to global challenges. By sharing the stories and insights from India, we hope to create ripples everywhere.

I would like to acknowledge the invaluable contributions and partnership of Bloomberg, Societal Thinking, and Stanford PACS to the D4GX India initiative. I am deeply grateful to all the civil society organizations who have shared their knowledge and expertise. Their dedication to addressing underlying root issues through data is essential to shaping a sustainable and inclusive growth story for India.

Neera
Nundy
Co-Founder & Partner,
Dasra

Section B

INDIA'S DATA LANDSCAPE OVER THE YEARS

The Evolution of the Data Ecosystem In India

What does India's data landscape look like?

1

India is leading the charge

The measure of progress in today's global economy is often directly correlated to advancement in data and technology. India stands at the cusp of a data-driven transformation, laying the foundation to become a global leader in the data economy.[2] This evolution has been marked by the widespread adoption of digital services, which has accelerated data generation and use on an unprecedented scale.[3]

In the past decade alone, the value of data-intensive companies has shot up globally. India's for-profit sector has rapidly adopted data-driven methods to bridge market gaps. In a similar stride, the government has been laying the groundwork for a favorable data ecosystem. Initiatives like the Aadhaar biometric ID system, which holds 1.1 billion records, underscores India's commitment to creating a robust digital identity infrastructure.[4] This, coupled with the explosion of e-commerce and fintech services, facilitated by platforms like the United Payments Interface (UPI) – which

saw over 74 billion transactions in 2022 – India, with its strength in numbers, is well-poised to take a worldwide lead in a data-driven future.[5]

INFORMATION BOX 1

Understanding Data

WHAT IS DATA?

The meaning of 'data' is commonly interchanged with the term 'information'. However, information refers to a fact or point of knowledge that sits within a particular context. For example, a number may represent temperature, or a count of items on a shelf, depending on the context of the information provided.[6] Data is information that is devoid of meaning. It refers to information that is unprocessed, unorganized, and requires context in order to be interpreted.[7]

TYPES OF DATA:

Open data is information that anyone can access, use, and share freely, even for commercial purposes.[8]

Administrative data is information collected, used, and stored primarily for operational purposes.[9] These include census responses, court records, and educational records among others.

Personal data is any information that relates to an identified or identifiable living individual.

Big data refers to extremely large and diverse collections of structured, unstructured, and semi-structured data that continues to grow exponentially over time. These datasets are so huge and complex in volume, velocity, and variety, that traditional data management systems cannot store, process, and analyze them.[10]

Reaching for a people-first path to data-driven development

Data is a collective resource. By default, data does not belong to a single entity or institution, but rather is a collection of information, knowledge, opinions or features that belong to individuals from diverse communities, geographies and backgrounds. While communities own their data, its potential to empower them depends on several considerations.[11] Such as, how do communities sense the data around them? How can they become active participants in using data to solve issues? And lastly, how should communities remain safeguarded from the misuse of data?

INFORMATION BOX 2

Data & Technology

In the current landscape, data and technology play distinct but complementary roles in driving transformative change within the social impact ecosystem. Together, data provides the evidence, and technology transforms that evidence into strategic decisions for greater social impact.

Data
- Serves as the **'foundation'**, validating the effectiveness of interventions and answers critical questions about what works and why

- Helps organizations measure the impact of their programs by providing evidence from both primary sources, such as surveys, and administrative data collected during daily operations.

Technology
- Serves as the **'enabler'**, facilitating how data is collected, stored, and integrated across systems

- Allows different data sets to interact and speak to each other, generating meaningful insights that inform complex decision making for organizations.

FIGURE 1 | FROM DATA TO WISDOM

Information
Data reliability & Usability

Insight
Data analysis

Wisdom
Evidence & insights for decision-making

Illustration adapted from Aditi Namdeo
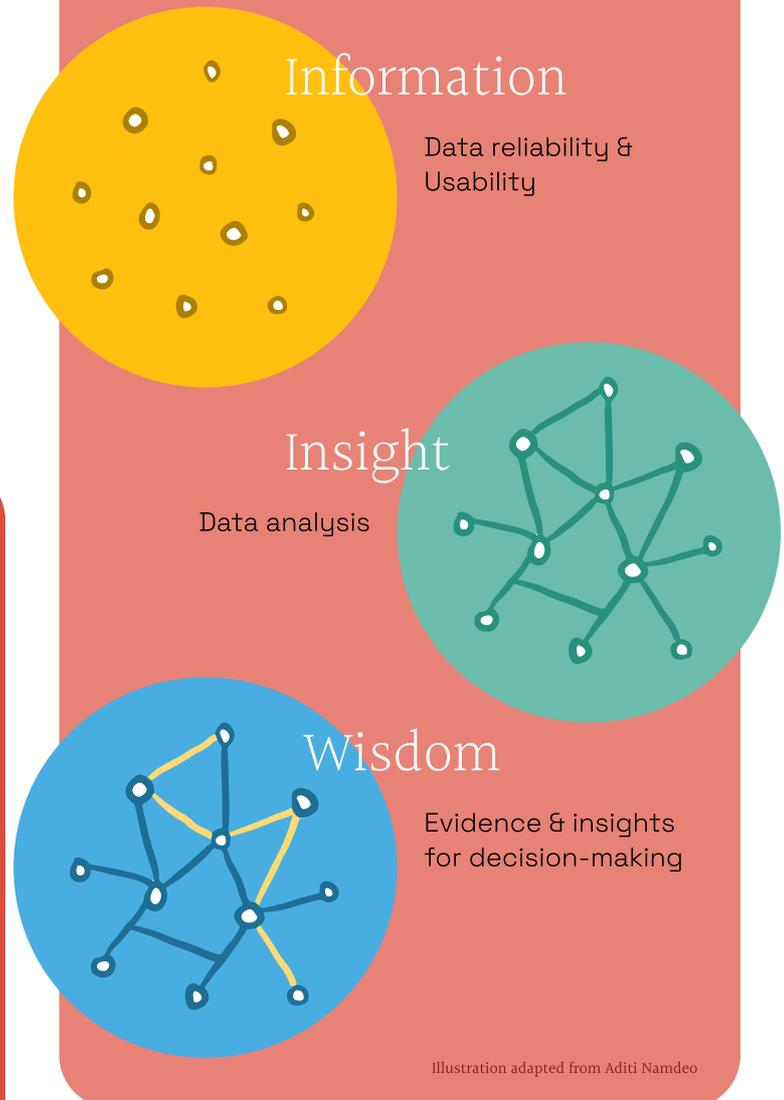
Data Empowerment for citizens implies having the ability to sense problems in a way that is easy, accessible, secure, desirable, and affordable.[12] Ensuring that data becomes an empowering and not exploitative resource for the most vulnerable communities requires conscious dialogue and action from every stakeholder.

Strong data governance can play a role in placing regulations to promote safer use

and exchange between parties, limiting the exploitation and misuse of private details. Industry, civil society and the government can work together to promote greater data inclusivity. This can be achieved by promoting a unified, rather than a uniform approach, while imagining data structures.

Through this design principle, data must be imagined through a co-creation of multiple perspectives. Philanthropy and funding institutions can leverage their positions to invest in greater equity for data use and promote the visibility of diverse identities, issues, and complexities that reflect community realities across data generation.

INFORMATION BOX 3

Pillars of Data Empowerment

The Two pillars of Data Empowerment are Data Openness and Data Ownership. Data openness implies anyone is free to use, reuse, and share data. Data ownership safeguards the privacy of owners by giving them rights to their personal data.

Data Openness

Data Ownership

Key Milestones in India's Data Journey: Looking Back at the Last Decade

2012

National Data Sharing and Accessibility Policy (NDSAP): Designed to promote the sharing of non-sensitive data for scientific, economic, and social development.[13]

2015

Digital India Initiative: A flagship program aimed at transforming India into a digitally empowered society, boosting internet connectivity, e-governance, and digital literacy.[14]

2015

Digital Personal Data Protection Act (DPDP): Modeled after the EU's GDPR, this act emphasizes individual data privacy and mandates responsible and transparent data handling by organizations.[15]

2020

Data Empowerment and Protection Architecture (DEPA): DEPA, a public-private framework developed by NITI AYOG provides a secure, consent-based framework for data sharing, giving individuals greater control over their personal data.[16]

2021

Budgetary Support for Digital India: The Union Cabinet has extended the Digital India scheme with a budget allocation of US$ 1.8 billion (Rs. 14,903 crore) over 2021-22 to 2025-26, further solidifying the country's commitment to a data-driven future.[17]

2023

India is driving conversations on data expansion and inclusion at a national scale: India hosted the G20 with two working groups —Digital Economy Working Group and Global Partnership for Financial Inclusion—dedicated to discussions on DPI. These discussions brought DPI to a global center stage and contributed to its universal definition, as well as the understanding of how it can be best leveraged and the role it plays in inclusion.[18]

India's journey toward becoming a data-empowered society has been marked by several significant milestones

Pillars of Digital India:
A New Era of Accessible Governance

India's digital journey is grounded in the creation of public digital platforms that make governance more accessible, efficient, and transparent. Managed by the National e-Governance Division (NeGD), key platforms include:

1. DigiLocker

A platform allowing citizens to securely access and store important documents.

2. UMANG

A unified mobile app providing access to a wide range of government services.

3. Government e-Marketplace (GeM)

A procurement platform for government bodies, promoting transparency and accountability in public procurement.

INFORMATION BOX 4

Digital Public Infrastructure

Once known as India Stack, this infrastructure has now been rebranded as Digital Public Infrastructure (DPI), reflecting its expanded scope and ambition. Digital public infrastructure (DPI) is a set of digital systems that enables countries to safely and efficiently provide economic opportunities and deliver social services.[19] As DPI continues to evolve, India plans to export this model to other nations, further strengthening its position in the global economy and enhancing its influence on the global stage.

Expanding Digital Connectivity for All

India's efforts to bridge the digital divide are evident in its push to extend high-speed internet to remote regions. With over 888 million broadband users and 590,020 Common Service Center (CSCs), including 468,773 in rural areas as of 2023, India is committed to ensuring equitable access to digital resources.[20]

While these innovations have enhanced convenience for affluent populations, their true potential lies in transforming the lives of millions by providing secure access to digital transactions for social welfare, health services, and educational opportunities.

India's journey to refine its data infrastructure and policy offers a powerful example to the world on how digital technology can drive both societal and economic progress. Due to the agile ecosystem, it can lead the development of feasible solutions that can be scaled and replicated across the Majority World.

A Closer Look at the Data for Good India Initiative

What is Data for Social Good?

2

The invisible issue of data exclusion

In the mid-2000s, data-driven solutions began to revolutionize operations and systems on a massive scale. The adoption of Big Data in both public and private sectors necessitated a shift in traditional business practices. However, the rapid transition to technology-driven ecosystems in lower middle-income countries like India has inadvertently excluded certain communities and identities.[21] For example, 70% of overall internet users are urban, and 57% of users are male.[22] This disparity is concerning because three quarters of the population resides in rural India. A significant portion of India's population, particularly women, rural residents, and those without access to digital literacy or infrastructure, remain marginalized in this digital age.[23]

Data for Social Good is forging pathways for inclusion

Data has always been an integral element in the work of nonprofit organizations serving communities on the ground. As a nonprofit sector leader aptly stated, "There is no grassroots organization that can work without data. We constantly rely on data to evaluate outcomes and inform our interventions." Community-based organizations rely on good quality data to reach the last mile, and invisible communities. The Data for Social Good movement embodies this ethos, functioning as a collaborative ecosystem of players united in the goal of empowering communities to leverage data for building solutions.[24]

Data for Social Good programs have enabled systems design across sectors such as healthcare, livelihoods, and education. By increasing student enrolments in school, widening access to local and timely healthcare, improving teacher training or forewarning the farmer of upcoming weather patterns, data empowerment has been critical to solving complex developmental issues at the community level.[25]

A Snapshot of Impact by Grassroots Nonprofits

FMCH has enhanced the nutrition levels of mothers and children through an innovative app-based solution, **positively impacting over 100,000 families and 1,000 frontline workers**

Elicit has leveraged data-driven insights to create trauma-informed education models to **train teachers in conflict-sensitive areas** of Kashmir and Northeast India

Shelter Associates has utilized data mapping to **facilitate the construction of 28,000+ home toilets** for urban slum communities in Mumbai
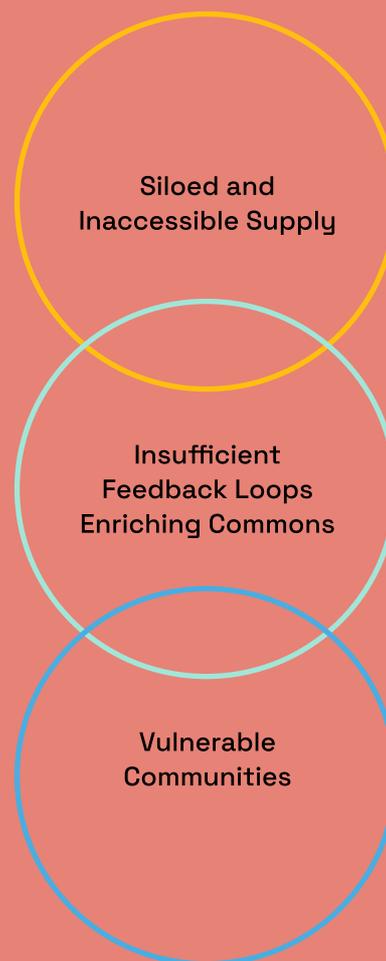
The Data for Good Exchange Initiative

How is Data for Social Good Reaching Communities?

Data is a conduit between ideas and implementation, particularly in development work. Data awareness and access is crucial for empowering communities. It enables informed decision-making, promotes meaningful participation, facilitates transparent resource allocation, and drives accountable planning. However, data is often siloed and underutilized. Communities are left out of important conversations and decision-making structures relating to data. The lack of data access and awareness hinders the community from developing and shaping localized solutions.

The D4GX India Initiative empowers community-based organizations, by leveraging data to address critical global challenges. The D4GX India Initiative has supported numerous nonprofits over the past three years, providing mentorship, grants, and platforms to advance their data-driven work. Dasra, in collaboration with Bloomberg, Societal Thinking, and Stanford PACS, has been hosting the D4GX India Initiative every year since 2021, a year after the pandemic altered the global landscape.

FIGURE 2 | DATA BREAKPOINTS

Data breakpoints that affect communities

Siloed and Inaccessible Supply

Insufficient Feedback Loops Enriching Commons

Vulnerable Communities

INNOVATION DESIGN GRANTS
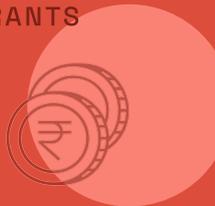
Grants worth INR 10 Lakhs are given to the winners of each thematic category

SPOTLIGHT & AMPLIFICATION OPPORTUNITIES

At the D4GX India Annual Conference and through social media channels across partners

CONSISTENT MENTORSHIP & NETWORKING

Capacity building workshops and networking opportunities to gain insights from thought leaders

Catalyzing Pathways for Data Empowerment

Indian CSOs have played a critical role in pioneering and implementing data-led solutions for complex challenges. Still, several barriers hinder the scale and adoption of these solutions. The D4GX India Initiative aims to overcome these hurdles by expanding the reach to the last mile.

Barriers that prevent Indian nonprofits from scaling and adopting data–driven solutions:

CHALLENGES IN BUILDING CAPACITY

CSOs may not have adequate capacity to integrate data usage in daily operations. This could be due to insufficient staff training or the inability to adopt and integrate data-driven approaches into their programmatic activities. This may lead to faulty data, or inconsistencies in quality or reliability of data.

GAPS IN INFRASTRUCTURE

CSOs may be under-resourced, affecting their access to robust infrastructure. Data usage follows a lifecycle of data collection, processing, storage, and management. This requires a reliance on technology and backup (such as Management Information Systems) to meet operations at the standard of need.

LACK OF MENTORSHIP

CSOs may lack access to mentors, networks, and peers who are able to support them with technical know-how on data and technology. Furthermore, they may face challenges in hiring and retaining talent with data skills, due to competition from the for-profit sectors. Such inconsistencies may cause bottlenecks in operations and maintenance.

The D4GX India Initiative has been addressing these barriers by building a sustained momentum among non-profits committed to unlocking the virtuous cycle of data empowerment for communities. With a comprehensive programmatic framework – the initiative focuses on helping nonprofits access the resources, support, and mentorship required to drive positive impact. The D4GX India Initiative has evolved during the last three years, incorporating lessons learned and adapting to challenges.

The D4GX India Initiative is committed to inspiring the Virtuous Cycle of Data among communities

Planning for a future where data enables greater agency, decision-making, and collective action in addressing development challenges at the community level has the potential to be transformative at the grassroots. However, this requires a shift in perspective: data should not be seen merely as a resource, but as a dynamic process for driving change.

The **Virtuous Cycle of Data** forms the foundation of the D4GX India Initiative, emphasizing that communities should not just be passive recipients of data but active owners and custodians of it. This model envisions a transformative approach where communities are empowered to use data to drive their own development agendas, thereby creating a cycle of continuous learning, adaptation, and growth. By aligning stakeholders – government, CSOs, funders, and institutions – around a shared vision of community data ownership, data can become a tool for sustainable change, ultimately fostering greater agency and resilience at the grassroots level.

The D4GX India Initiative underscores the transformative potential to not only inform but also empower communities.

FIGURE 3

Virtuous Cycle of Data

There is an urgent need to build a Data Empowerment narrative

BREAKPOINTS

01   Lack of universally acknowledged actionable metrics

02   Vulnerable communities are not empowered to participate

03   Insufficient feedback loops for enriching the commons

04   Siloed and inaccessible supply with singular purpose data

I HAVE — I HAVE the right data and metrics to demand tangible impact for me

I CAN — I CAN create local innovations that use this data for community impact

To truly place the most vulnerable at the 'First Mile', we need to activate the virtuous cycle of data

I CLAIM — I CLAIM my right to access more data to take greater actions

I WISH — I WISH my feedback informs policy and budgets that affect my community

Through its mentorship program the Initiative fosters a dynamic ecosystem, connecting data experts from the business world with development sector professionals, and innovative organizations with promising data-led solutions.

Through strategic discussions, participants can explore and address development sector challenges, creating meaningful impact on the ground. Alongside its support through mentorship, the Initiative offers unrestricted grants for organizations to strengthen their data capacity and take strides in applying their data-led innovation to scale.

The D4GX India network has been a first point of entry for grassroot organizations aspiring to collaborate with a network of partners, mentors and experts to further the larger goal of data for social good.
By addressing the systemic barriers of capacity, infrastructure, and mentorship, D4GX India Initiative has a laid a strong foundation for Indian CSOs to scale their data-driven solutions.

Impact Dashboard

Far and Wide

The D4GX India Initiative is expanding its reach year by year

Unlocking multifaceted impact across the ecosystem

CSOs PARTNERED WITH ~40

D4GX India has partnered with CSOs addressing critical thematic areas such as:

Equitable Health

● ● ● ● ● ●

Community Resilience

● ● ● ● ● ● ● ●
● ● ● ●

Learning to Livelihoods

● ● ● ● ● ● ● ●
● ● ● ● ●
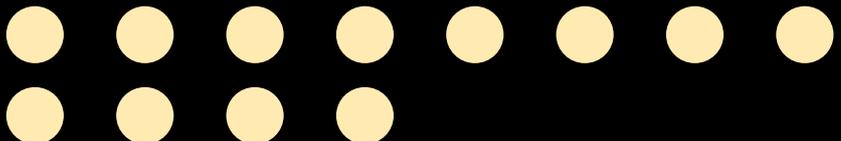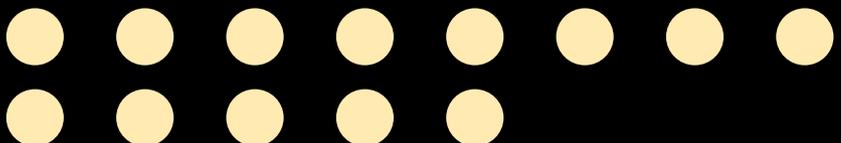
Urban Governance & Sanitation

● ● ●

Climate & Sustainability

● ● ● ● ● ●

Committing to nationwide and hyperlocal development

STATES & UNION TERRITORIES

22+

D4GX India supports organizations working across Indian states, reaching diverse communities in urban and rural areas

- Andhra Pradesh
- Assam
- Bihar
- Goa
- Gujarat
- Haryana
- Himachal Pradesh
- Jammu & Kashmir
- Jharkhand
- Karnataka
- Kerala
- Madhya Pradesh
- Maharashtra
- Meghalaya
- New Delhi
- Odisha
- Puducherry
- Rajasthan
- Tamil Nadu
- Telangana
- Tripura
- Uttar Pradesh

Building a collaborative ecosystem for change:

7 CONVENINGS

D4GX India Initiative has organized convenings on pivotal topics, including data sharing and stewardship, scaling data models, using data to create agency, and people-centered approaches to data, among others. These convenings have attracted diverse participants, including grassroots organizations, social entrepreneurs, policymakers, and academics, creating a collaborative ecosystem for change

Equipping CSOs with financial resources to increase impact:

₹1Cr+

IN GRANTS

D4GX India Initiative has unlocked ~INR 1 Crore/ USD 120k in grants providing CSOs with the financial resources needed to expand digital infrastructure, implement new initiatives, and scale successful programs

Providing sustained mentorship for learning:

35 MENTORS

D4GX India Initiative has partnered with CSOs addressing critical thematic areas to ensure that CSOs have the sustained support they need to adapt, innovate and maximize their impact over time

Strategy   Software Development

Data Analytics & Visualisation
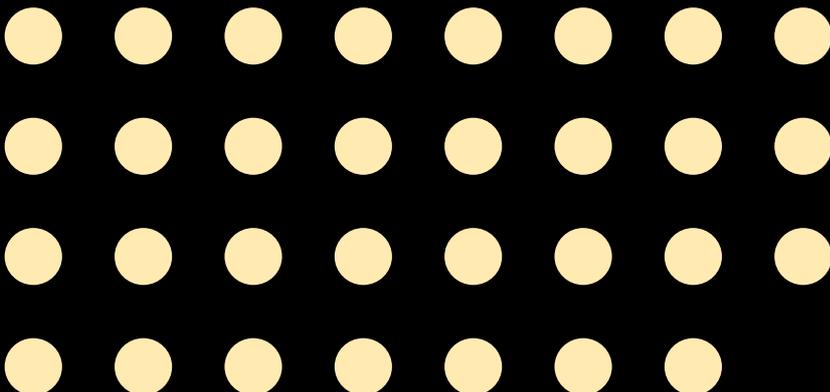
Broadening thematic focus areas:

D4GX India Initiative has progressively expanded its support to include a diverse range of sectors, moving beyond initial focus areas to now include critical fields such as climate action and sustainability. This evolution reflects a commitment to addressing intersecting issues impacting marginalized communities

MAPPING INDIA'S DATA FOR SOCIAL GOOD LANDSCAPE

Mapping Touchpoints for Data-Driven Solutions in India's Landscape

How does Data for Good translate into systemic change?

3

Mapping touchpoints for data-driven solutions in India's landscape

India's data landscape is a hub of innovation and promise for many of the country's sticky developmental challenges. At the forefront of this transformation are grassroots CSOs, harnessing data to drive positive change in their communities.

Amidst the reality of fast-paced growth, the data ecosystem requires support machinery where impact in pockets can be taken to scale. The D4GX India Initiative aims to build the capacity of grassroots organizations to meet this need. The initiative is designed to bolster the weakest links in the chain—by developing data capacity in organizations that support communities most excluded from India's data narrative.

The categories in this chapter outline the specific community needs that grassroots organizations are working to address, as well as the innovative solutions they are implementing. These classifications are informed by four years of data from the D4GX India Initiative, providing valuable insights into how these organizations are utilizing data to drive positive change.

Category A: Community Needs in Focus

India's diverse development landscape presents a wide array of challenges, each demanding tailored and adaptable solutions. With the D4GX India Initiative, organizations working across the five thematic areas have been empowered to employ methods to address deep-rooted community needs.

Cumulative experiences over three cohorts of learning have enhanced our understanding of community needs and demonstrated how organizations are using data-driven solutions to meet them effectively. Community needs that India's data-driven organizations focus on are:

1. LIMITED AWARENESS WITH REGARD TO KNOWLEDGE, INFORMATION, AND ENTITLEMENTS

2. INADEQUATE ACCESS TO SOCIAL PROTECTION AND UNIVERSAL BASIC SERVICES

3. INSUFFICIENT INFRASTRUCTURAL DEVELOPMENT FOR UNDESERVED COMMUNITIES

4. DISPROPORTIONATE IMPACT OF CLIMATE CHANGE AND ENVIRONMENTAL FACTORS

5. EXCLUSION OF THE MOST MARGINALISED AND UNDESERVED COMMUNITIES

1

Limited awareness with regard to knowledge, information, and entitlements

Communities' understanding about the availability and eligibility to access existing government welfare schemes linked to employment, education, healthcare or essential amenities remains unfulfilled despite the advancements in information technology and digitization

2

Inadequate access to social protection and universal basic services

Communities lack the necessary resources for the uptake of social protection and universal basic services essential for survival such as nutrition, shelter, social participation, health, physical security, income security

3

Insufficient infrastructural development for underserved communities

Absence of physical and organizational structures needed for social welfare, such as feedback systems, communication networks, roads, water supply, sewage, and power grids, create barriers to socio-economic development

4

Disproportionate impact of climate change and environmental factors

Climate change affects communities unevenly, affecting those who are vulnerable and underserved more adversely, leading to disruptive events such as natural disasters, water shortages, food insecurity, and loss of livelihoods

5

Exclusion of the most marginalized and underserved communities

Lack of intersectional approaches to development that exclude marginalized and underserved communities, such as caste-ethnicity-gender minorities, persons with disabilities, and people from lower income groups, from availing equal opportunities

Category B: Data-Driven Solutions in Practice

Data-driven innovation is reshaping approaches to addressing development challenges. CSOs are at the forefront of this movement, providing real-time insights that empower communities.

By enabling informed decision-making and optimizing resources, CSOs play a pivotal role in improving access to essential services. This data-centric approach fosters transparency, strengthens partnerships, and ensures solutions are tailored to the most vulnerable populations.

Through these efforts, nonprofits are helping build resilient communities and advancing sustainable development for long-term impact. Key data-driven solutions employed by grassroot organizations span across the five themes.
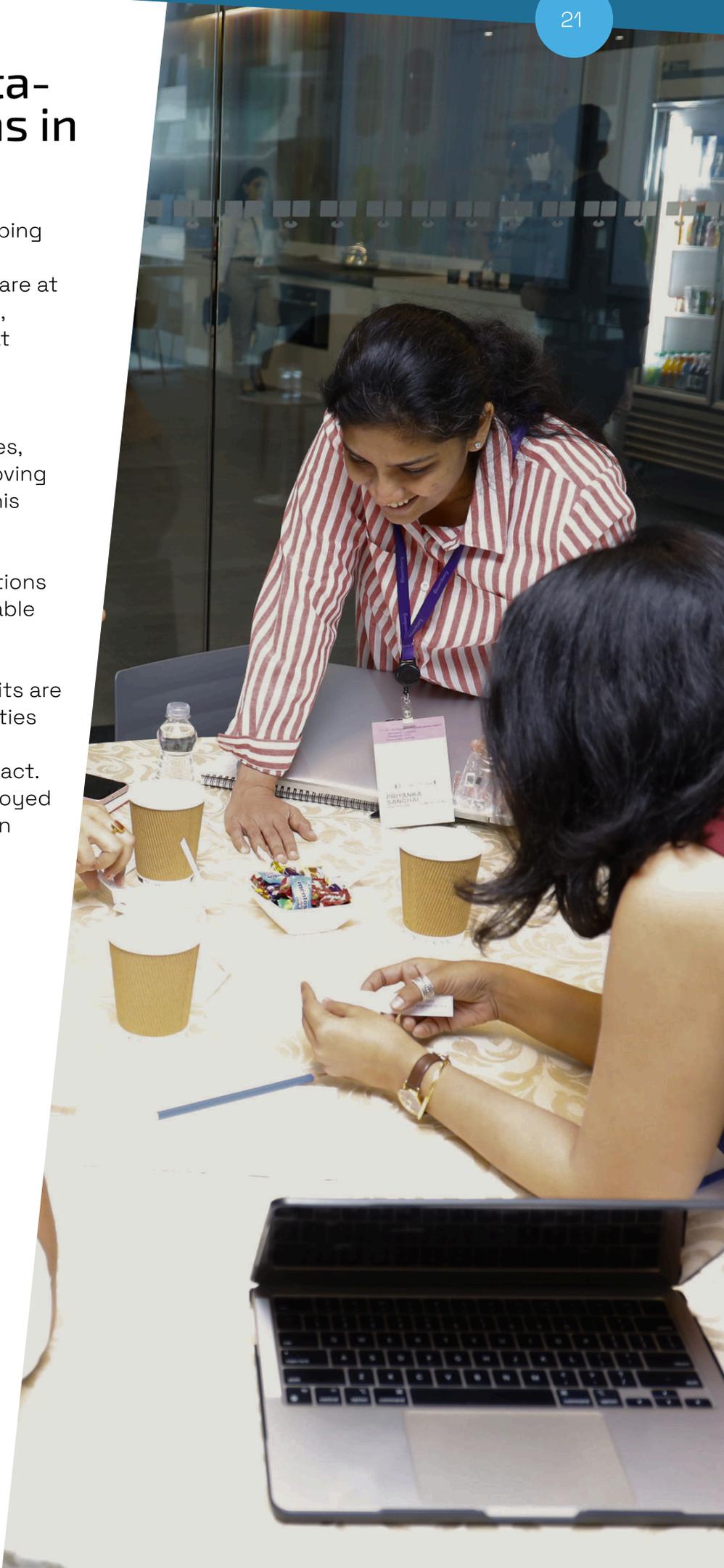
4 Bridging Gaps in Community Awareness

Building the capacity of communities to access essential services, schemes, and basic entitlements for their welfare and resilience

Empowering communities with data-driven insights equips them to make informed decisions and manage local resources more effectively. Access to accurate, accessible information on available services, best practices, and entitlements, empowers individuals to advocate for their rights and improve their livelihoods. Data-backed innovations not only increase transparency but also foster community participation, ensuring that critical resources reach those who need them most. As a result, communities become more resilient and self-sufficient, enhancing their ability to navigate systems and thrive.

SPOTLIGHT

How are communities accessing greater knowledge through data?

In Raigad, Maharashtra, the rapid effects of urbanization are sidelining tribal communities, restricting their access to basic rights and opportunities. Despite the enactment of the Forest Rights Act, 2006, a landmark legislation, millions of tribals and other traditional forest dwelling communities have not had much success in getting entitlements to their traditional land holdings.

Waatavaran, a foundation working to empower tribal communities in vulnerable geographies has developed a robust, and user-friendly technological platform to bridge this gap.

Using satellite mapping, the technological platform maps household settlements in tribal areas and is able to track, analyze, and share land and resource rights information with tribal families. The organization trains tribal family members to use this platform, enabling them to map their own land parcels and visualize their ancestral forest land and resources. This empowerment fosters a deeper connection to their land and aids in effective resource management.

The data-innovation empowers communities with access to knowledge, information, and entitlements – building their agency – and catalyzing change at the grassroots.

2 Strengthening Ecosystems

Reinforcing partnerships, infrastructure, and capacity among ecosystem actors and communities to create catalytic momentum for impact

Building strong ecosystems is essential for creating sustainable development solutions. By reinforcing partnerships and fostering collaboration among various stakeholders, such as communities, organizations, and policymakers, data can streamline communication and align efforts toward common goals. For example, the development of mobile apps or platforms that facilitate knowledge sharing and real-time updates allows for better coordination among ecosystem actors.

Convenings and collaborative sessions further strengthen these partnerships by providing spaces for joint problem-solving, capacity-building, and creating pathways to scale impactful solutions. This coordinated approach enhances the ability of ecosystems to adapt and respond to complex challenges efficiently.

SPOTLIGHT

How are communities enabled to strengthen ecosystems?

Child Protection Systems are responsible for the protection and safeguarding of vulnerable children. The system infrastructure is often overwhelmed and inadequate to handle the pressures and pace of efficiency required. This leads to several systemic gaps. Added to this is a lack of verified data, identification, and tracking of a child's contact with family (or lack thereof).

Where are India's Children, a nonprofit focused on creating systemic solutions to child protection, has developed a technological solution to plug this gap.

The Child Lifecycle Management Solution (CLMS) has been developed to digitize, manage, track, and audit the ground-level processes of children in Child Care Institutions (CCIs). CLMS has been developed as an Open-Source platform that can be used by CCIs, and relevant government bodies, to manage the status of all vulnerable children who reach CCIs, and to ensure the movement of children into the legal adoption pool where applicable, giving children a higher chance of being matched with families.

The data-led innovation promotes information exchange between stakeholders such as childcare institutions and families and establishes a user-friendly platform, strengthening ecosystems for greater impact.

3 Fostering Research and Development

Promoting research and development to build a strong evidence base for impactful solutions and utilizing data to drive innovation

Data-driven innovation plays a crucial role in tackling development challenges by fostering research and generating actionable insights. Research and development can foster a better understanding of ground level issues through monitoring and evaluation, tracking or multiplexing data sets to create richer insights. For example, by mapping best practices and conducting surveys, organizations can identify gaps in service delivery and understand community needs more precisely.

This approach, exemplified by initiatives led by marginalized communities, empowers local populations to actively participate in research processes—from design to implementation. Their involvement ensures that the data collected is relevant and the solutions developed are tailored to their specific context, leading to more effective and sustainable outcomes. Through ongoing research, communities can adapt strategies based on real-time data, ensuring solutions remain responsive and impactful.

SPOTLIGHT

How is data for research and development empowering communities?

Citizens in urban slums often fall outside the purview of government schemes and services. Inadequate measures of tracking and poor data affect the actual needs of the community. This makes it challenging to design appropriate interventions and improve reach.

Shelter Associates, has created a geospatial mapping tool that helps with tracking, monitoring, and assessing the actual needs of urban slum communities.

The tool operates on several levels. It collects community data by using a satellite mapping tool and supplements this data with household surveys that feed key data points regarding sanitation, health, and household needs. The organization gains insights from multiple data sets that speak to each other to provide unique insights on urban housing and living conditions. These insights are leveraged by the municipality to assist with better quality interventions.

The data is able to feed into tracking, identifying and monitoring of community needs, upstream, therefore promoting research and development for greater impact and reach.

4 Optimizing Service Delivery

Even where policy is strong, gaps in implementation can lead to inefficiencies in service delivery. Between policymaking and implementation – data-driven approaches are transforming how services are delivered by addressing efficiency gaps in public systems. By leveraging real-time data, increasing visibility, or recognizing the end-user, governments, and organizations can optimize their operations, ensuring seamless service delivery to the last mile.

This approach not only enhances connectivity in remote areas but also ensures that critical services are provided when and where they are most needed. The result is a more efficient, responsive system that can strengthen service delivery, therefore reducing disparities in access and improving overall societal outcomes.

SPOTLIGHT

How does data optimize service delivery at the last mile?

Higher education opens career opportunities that advance employability for young students. Entrance examinations such as JEE and NEET require coaching and resources that extend beyond the schooling system. However, for students from socio-economically disadvantaged backgrounds, issues with affordability and access to higher education are barriers to career growth and success.

Avanti Fellows, is a nonprofit that provides free test preparation programs, mentorship, and career services that help students place into top-tier Science and Technology colleges across India.

It uses a data-driven platform to provide test materials, courses, and study materials that are easily accessible to children from vulnerable communities. The learning platform tracks the ability of the student in completing study tasks, and tailors course material to enable the student to meet their learning goals. The user data is then fed upstream and provides visibility to the course designers to gain insight into learning challenges for the students and customize the platform to enhance their learning.

The data-driven platform works to optimize service delivery by bringing those digitally excluded into the fold. It also expands the reach of learning to livelihood opportunities by making services easily accessible.

5 Informing Policy Through Evidence

Leveraging data from the bottom-up to make visible the needs of communities and inform policy and governance

Data that is used to develop evidence-based policies can ensure that the voices of communities are represented in decision-making processes. By integrating grassroots data, such as community needs and lived experiences, this approach promotes accountability and more effective governance. For example, data on the amount of waste managed by waste picker families can be used to calculate their economic contribution to a city, which in turn informs policies that ensure necessary support and services are provided to them. Incorporating evidence that reflects community realities not only strengthens policy but also enhances transparency, enabling governments and organizations to tailor interventions more effectively.

SPOTLIGHT

How is data used to inform policy through evidence?

Menstrual irregularities and disorders can significantly reduce quality of life, affecting health, social interactions, education, and economic opportunities for women and girls. Organizations that are running successful models, that deliver positive outcomes on the ground often show success at the community level but are unable to scale their impact to other geographies.

Uninhibited, works with stakeholders in the community, such as schools, healthcare providers and local government bodies to promote knowledge and awareness of menstrual health, especially among adolescent girls.

It has created the Hello Saathi App, which is a tool used to educate and inform adolescent girls about their menstrual health. The app is used by young girls to provide information and resources. This data feeds into a larger system that creates an evidence base for the challenges and learnings of interventions on ground, strengthening systems and integrating action towards better menstrual health practices. This evidence base carries community knowledge to the policy level, thus operating on a state level, and expanding the scale of impact to other geographies.

India's CSOs are at the core of championing data-driven impact that builds bridges for community awareness, service delivery, bottom-up policy formulation, research and development, and strengthening ecosystems. Such practice is shaping a strong evidence base for communities to anchor and steward themselves.

Sustaining Catalytic Impact Across Thematic Areas

How is the D4GX India Initiative building catalytic impact for the sector?

Data to enable equitable health services

Data to enable urban governance and sanitation

Data to enable climate and sustainability

Data to enable community resilience

Data to enable learning to livelihood

4

Sustaining catalytic impact across thematic areas

In this chapter we examine each of the five thematic areas covered by the D4GX India Initiative, breaking down the intersectoral impact achieved by the program. The data illustrated below is based on an analysis of ~500 applications submitted by CSOs participating in the D4GX India Initiative. These applications were analyzed to cull out key sectoral challenges and solutions that were implemented. Through a codification process, we have identified recurring trends and patterns, which can be categorized into six broad areas each, representing both challenges and solutions that were exercised on ground.

FIGURE 4

Mapping the D4GX India Challenges and Solution Landscape

Themes	Equitable Health	Community Resilience	Learning to Livelihoods	Urban Gov & Sanitation	Climate & Sustainability
Challenges in the ecosystem					
Limited Awareness	22%	29%	17%	24%	39%
Inadequate Access	12%	15%	19%	19%	3%
Insufficient Infrastructure	29%	20%	21%	19%	13%
Climate Impact	4%	6%	3%	0%	13%
Exclusion of Marginalised	9%	11%	9%	14%	6%
Cross-sectoral Issues	24%	20%	31%	24%	26%
Solutions implemented by CSOs					
Limited Awareness	27%	31%	29%	5%	32%
Inadequate Access	14%	18%	11%	14%	16%
Insufficient Infrastructure	5%	9%	2%	5%	3%
Climate Impact	19%	8%	15%	14%	6%
Exclusion of Marginalised	13%	23%	26%	33%	23%
Cross-sectoral Issues	21%	11%	16%	29%	19%

Please note: The dataset is non-exhaustive and indicative of the data for good action landscape. It is based on D4GX India application data and publicly available information provided by the NGOs themselves.
n= Health (85), Community Resilience (130), Learning to Livelihood (222), Urban Governance & Sanitation (21), Climate & Sustainability (31)

How is the D4GX India Initiative Building Catalytic Impact for the Sector?

Apart from the numerical insights illustrated above – the data available has illustrated vibrant ways in which the D4GX India initiative has been building steady momentum to foster a data ecosystem geared towards empowering organizations. These trends can be corroborated with patterns from across the distinct thematic areas.

The next section includes a snapshot of the specific sectoral context and catalytic impact that the D4GX India Initiative has generated by empowering organizations to develop data-driven solutions that build the capacity of communities, improve access to services, and streamline pathways from policy to implementation. This has enabled more inclusive solutions, fostered greater community engagement, and enhanced service delivery, driving meaningful change at every level.

1. DATA TO ENABLE EQUITABLE HEALTH SERVICES

2. DATA TO ENABLE URBAN GOVERNANCE AND SANITATION

3. DATA TO ENABLE CLIMATE AND SUSTAINABILITY

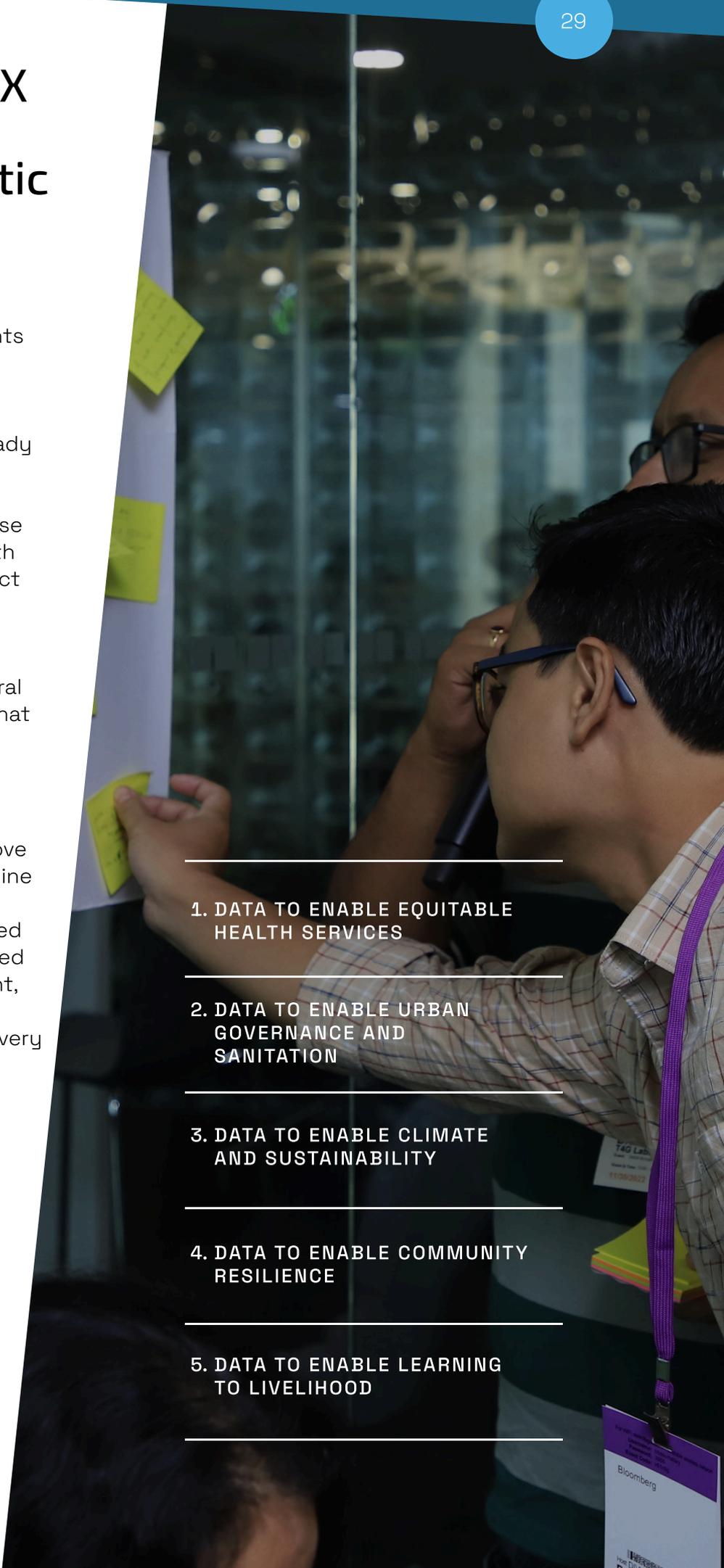4. DATA TO ENABLE COMMUNITY RESILIENCE

5. DATA TO ENABLE LEARNING TO LIVELIHOOD

Data to Enable
Equitable Health Services

Where does the challenge lie?

51% grassroots CSOs find insufficient infrastructure a challenge to creating equitable health services for all.

The public health infrastructure in India is a complex web with interlinked strengths and weaknesses. Among its strengths are robust government schemes. For example, the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) have been driving stronger policies. Such schemes are narrowing inequities between urban and rural accessibility to health services, and bridging affordability gaps by expanding insurance coverage, providing free essential drugs and comprehensive primary healthcare.[27] A challenge for public health in India lies in implementing the services, with efficiency at scale. It is at this intersection that organizations using data on ground are plugging the gaps.

How is India using data to address the problem?

Organizations working to harness data for equitable health solutions have been leveraging data to improve the reach of healthcare services for the most vulnerable communities.

Key trends observed are:

Approximately **40% of organizations** in the health sector are leveraging data to work directly with communities, driving change on two fronts:
- Building awareness and access to welfare schemes and entitlements, empowering communities to make informed health decisions
- Using data-driven solutions to optimize service delivery, ensuring efficient healthcare access and reaching the most vulnerable populations at the last mile

This dual approach is creating a powerful feedback loop, addressing both the knowledge gaps and the operational challenges in healthcare access.

51% 40%

Catalytic Impact of the D4GX India Initiative

Between 2021 and 2024, the D4GX India Initiative has provided direct support to **three key organizations** dedicated to closing the gap in access to equitable healthcare. This collaboration has sparked significant advancements in:

Expanding access to essential health services for underserved communities, ensuring more people receive the care they need

Fostering health awareness and care-seeking behavior, empowering individuals to proactively engage with healthcare systems

Empowering women to exhibit health-seeking behaviors and take more decisions, leading to measurable improvements in maternal and child health outcomes

2 Data to Enable
Urban Governance and Sanitation

Where does the challenge lie?

61% of CSOs find limited awareness as well as access to social protection and universal basic services for communities a challenge in enabling urban governance and sanitation for all.

The challenge in urban sanitation in India lies at the intersection of the rapidly growing urban population and the capacity of existing infrastructure in catering to adequate services, especially for marginalized groups such as the urban poor, migrants, and those living in informal settlements.[28] Overburdened municipal bodies struggle with limited resources and inefficient systems, leaving many without access to safe sanitation and waste management. These inequities are compounded by the hazardous working conditions faced by sanitation workers and the socio-economic disparities that further marginalize vulnerable populations, including women, children, and people with disabilities.[29] Nonprofit organizations are addressing these challenges by implementing data-driven approaches to optimize resource allocation and service delivery for the most underserved.

How is India using data to address the problem?

60% of organizations in the sector harnessing data for urban sanitation and governance have been leveraging data solutions to improve awareness and reach of urban sanitation for the most vulnerable communities.

Key trends observed are:

- Focusing on strengthening ecosystems by building evidence to further multi-stakeholder collaboration in the urban sanitation space
- Ensuring more inclusive and comprehensive sanitation strategies are applied by optimizing service delivery through customized sanitation technology to streamline and enhance sanitation services, particularly for economically marginalized urban populations

This approach is paving the way for a more data-centric, inclusive model of urban sanitation, aiming to bridge the gap in access and equity for vulnerable populations.

61% 60%

Catalytic Impact of the D4GX India Initiative

Between 2021 and 2024, the D4GX India Initiative has directly supported initiatives aimed at addressing the urban sanitation challenges faced by marginalized communities. This collaboration has led to significant transformations such as:

Improved access to sanitation services for the urban poor, enhancing their health and well-being by reducing exposure to hazardous living conditions

Secured sanitation workers through better incomes, safer working conditions, and access to welfare schemes, leading to enhanced dignity and social protection for these critical workers

Strengthened governance and service delivery by Urban Local Bodies (ULBs), enabling them to scale sanitation services efficiently and adopt data-driven approaches for systems change

3 Data to Enable
Climate and Sustainability

Where does the challenge lie?

52% CSOs find that limited knowledge, information, and resources is a prime challenge that impacts the lives of climate-vulnerable populations

Climate change is one of the largest challenges that forces across the globe aim to solve for. The rapid progress of Big Data has fast-tracked this possibility in several ways. Using datasets innovatively has multiplied the ability for organizations to forecast weather patterns, streamline resource distribution and aid, and improve post-crisis response. While such measures promulgate in pockets, it is vulnerable populations from the majority world who are often undocumented and unaccounted for in the use of such datasets.[30] The challenge lies in expanding the reach of upstream and downstream data for populations most vulnerable to climate change.

How is India using data to address the problem?

Approximately 68% of organizations that focus on climate resilience and sustainability are leveraging data to build resources and agency for community resilience by expanding platforms, use cases and datasets.

Key trends observed are:

- Actively building awareness and access to knowledge and resources that build community preparedness of disruptive climate events and opportunities for livelihood-based solutions
- Leveraging data-driven solutions to strengthen ecosystems ensuring that unite stakeholders in CSOs, government and communities to mobilize action towards climate resilience

Combined, these approaches are driving the infrastructural capacity and knowledge base for vulnerable communities to build agency towards greater climate-resilience.

52% 68%

Catalytic Impact of the
D4GX India Initiative

Between 2021 and 2024, the D4GX India Initiative has provided direct support to **three organizations** that focus on building the resilience of communities against climate change. This support has led to innovations that are:

Building the capacity of communities to respond effectively to unprecedented crises and climate-induced disasters

Fostering timely information and resource availability through digital platforms to safeguard the livelihoods of communities dependent on nature-based occupations like fishing and farming
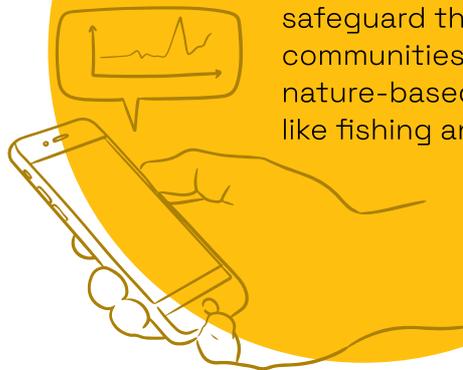
Designing inclusive platforms that are adaptive and user-friendly to communities from diverse geographies and linguistic backgrounds that face unique challenges

4 Data to Enable
Community Resilience

Where does the challenge lie?

Nearly 50% of CSOs find limited awareness and access to social protection and universal basic services, along with insufficient infrastructure for communities, a challenge to enabling community resilience for all.

The challenge in building community resilience in India stems from vulnerabilities exacerbated by economic disparities, climate change, and health emergencies. Communities, especially those in rural and underserved urban areas, lack adequate infrastructure and access to essential services, making them susceptible to cascading crises.

The COVID-19 pandemic, coupled with the increasing frequency of extreme weather events such as heatwaves and floods, has underscored the need for stronger, more resilient systems that can withstand such shocks.[31]

Nonprofit organizations are turning to data-driven solutions and technology to enhance the capacity of communities to adapt, respond, and recover from these events. These solutions aim to strengthen governance, ensure equitable service delivery, and empower communities to advocate for and implement sustainable, long-term strategies for resilience.

How is India using data to address the problem?

Approximately 50% of organizations committed to building community resilience are increasingly turning to data-driven solutions to empower vulnerable populations and enhance decision-making processes.

Key trends observed are:

- By raising awareness about welfare schemes and entitlements, nonprofits are helping communities' better access critical resources; they also provide local governments with data-driven insights about on-ground realities, enabling more informed, responsive decision-making
- Driving research and development; enabling a deeper understanding of local challenges. Innovative methods are being employed to build the capacity of vulnerable populations, equipping them with the tools to strengthen their resilience and be better prepared

This data-centric approach is paving the way for a more inclusive and sustainable model of community resilience, aiming to close gaps in access and equity for the most marginalized populations.

Catalytic Impact of the D4GX India Initiative

Between 2021 and 2024, the D4GX India Initiative has directly supported initiatives aimed at addressing the community resilience challenges faced by marginalized communities. This collaboration has led to significant transformations, including:

Leveraging data to empower communities with tools, resources and infrastructure that enables prompt decision-making and develops leadership in the long-term

Promoted inclusive decision-making by incorporating data insights into policy frameworks, ensuring that marginalized communities are actively involved in creating safer, more resilient cities

Enhanced urban safety by utilizing data to make quick and accurate decisions, contributing to the development of more inclusive policies that prioritize the needs of at-risk populations

5 Data to Enable
Learning To Livelihood

Where does the challenge lie?

57% CSOs find that insufficient infrastructural development and inadequate access to universal basic services are challenges faced by those making the transition from education to employment.

The pathway from education to employment is a critical transition in the lifecycle of individuals. This period is especially crucial for individuals from lower socio-economic backgrounds, as it determines the ability for income generation and upward social mobility.

The education to employment spectrum is faced with a dual challenge. First, even though school enrolments increase, learning outcomes remain concerning. Secondly, education doesn't translate into requisite employment.[32]

In the education system, data-driven measures have strengthened outcomes by improving learning outcomes, creating targeted teaching models, tracking learning goals, and improving reach of service delivery. Similarly, data solutions are supporting livelihood generation by making government schemes accessible and improving the reach of skill-training programs.

How is India using data to address the problem?

Approximately 65% of organizations are using data-driven approaches to increase awareness and access of resources that ease the transition from education to employment.

Key trends observed are:

- Using data-driven insights to bring greater knowledge and awareness in the hands of schools, educators, and policymakers to improve educational outcomes and opportunities for employment
- Leveraging data to strengthen learning and livelihood ecosystems by increasing the adoption of tech-assisted learning, improving the reach of government schemes and skill development programs for the socio-economically underserved

These approaches work together by leveraging data to break siloed information streams, therefore informing policy, generating knowledge and building platforms to improve learning and livelihood outcomes.

Catalytic Impact of the D4GX India Initiative

The D4GX India Initiative has provided direct support to organizations that focus on improving learning and livelihood for the socio-economically poor. Some transformations on ground include:

Building the capacity of personnel and institutions in the long term by leveraging data-based insights for planning and decision-making

Improving learning outcomes for vulnerable and excluded children through targeted approaches to learning, such as in circumstances of poverty, resource limitation and conflict-based settings

Streamlining the pathway from policy and implementation to community agency by providing access to knowledge, resources that improve the capacity for employment and livelihood opportunity

Applying the Field Approach to the D4GX India Initiative

How is the D4GX India Initiative influencing the field of Data for Good?

Over the last four years, the D4GX India Initiative has played a critical role in shaping the Data for Good field. The initiative prioritizes driving a strategic philanthropy movement, building thought leadership, and mobilizing communities of practice.

Bridgespan defines a "field" as **a set of individuals and organizations working to address a common social issue or problem, often developing, and using a common knowledge base.**[34] A field is defined by five characteristics – knowledge base, actors, agenda, infrastructure, and resources.

The D4GX India Initiative seeks to advance the field of Data for Social Good in the Indian context by seeding momentum for each of these characteristics. We illustrate the initiative's approach towards field-building in this tearout.
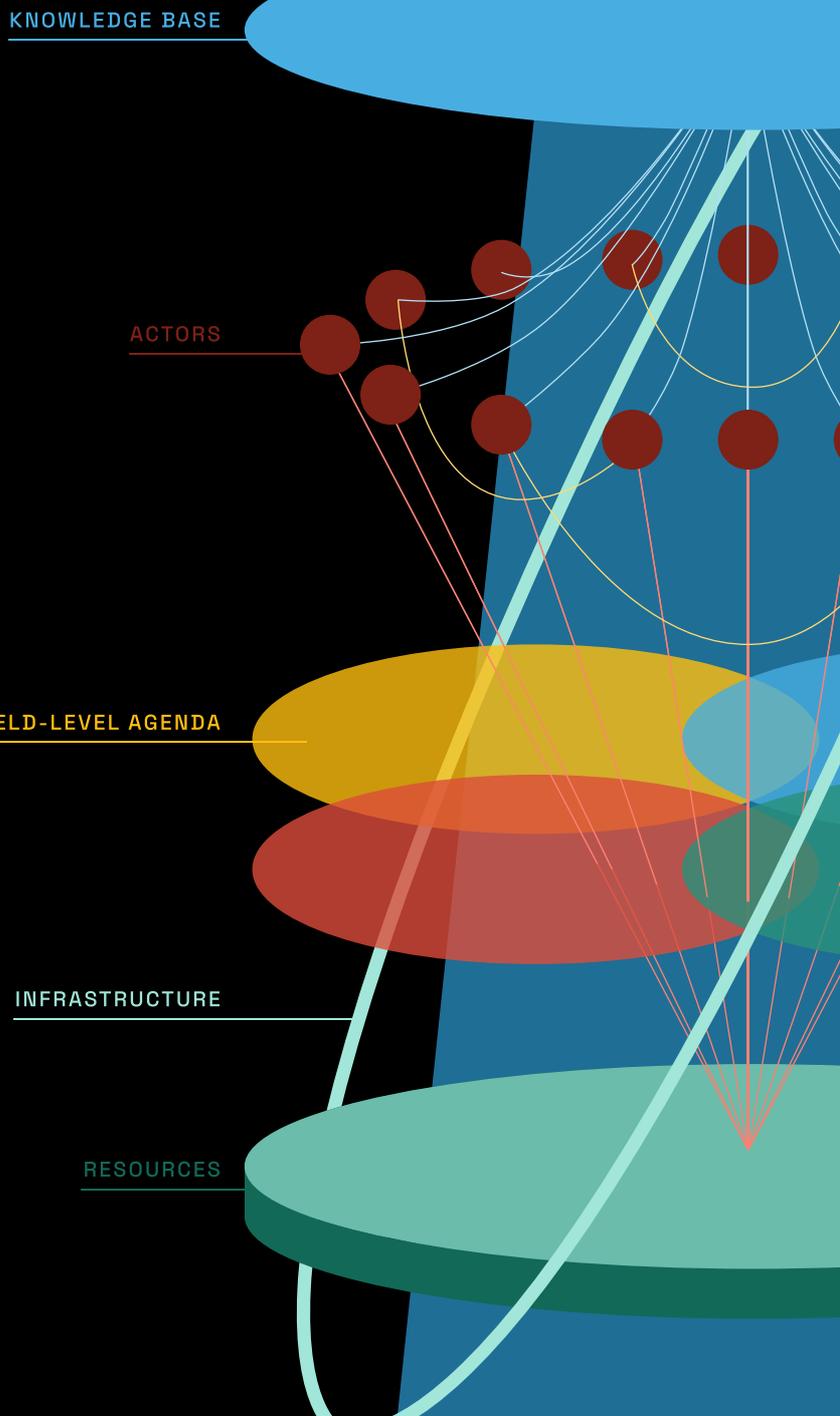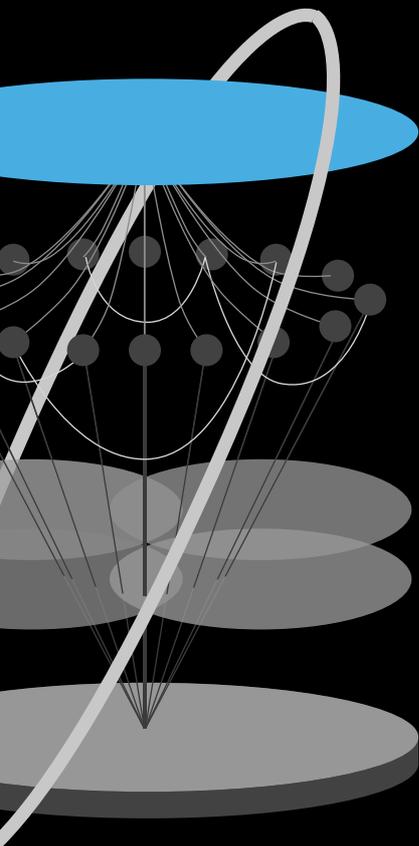
KNOWLEDGE BASE

ACTORS

FIELD-LEVEL AGENDA

INFRASTRUCTURE

RESOURCES

Knowledge Base

A FIELD'S KNOWLEDGE BASE IS THE BODY OF ACADEMIC AND PRACTICAL RESEARCH THAT HELPS ACTORS BETTER UNDERSTAND THE PROBLEM, IDENTIFY AND ANALYZE SHARED BARRIERS TO SOLVING IT, AND DEVELOP SOLUTIONS

The D4GX India Initiative has played a pivotal role in generating new knowledge for the still emerging field of Data for Social Good in India. The Initiative advances the scope of data-driven solutions by fostering continuous learning and knowledge-sharing among stakeholders. Through research and thought leadership, it has introduced the Data Empowerment Framework – a virtuous cycle of data that strengthens narrative-building efforts. The insights derived from the challenge focus on key groups within the nonprofit and philanthropic sectors, highlighting how these organizations can harness Data for Social Good. Over time, the Initiative has also utilized technology and media platforms to amplify these insights, ensuring they reach a wider audience of relevant stakeholders.

LONG TERM OUTCOME

A well-researched and widely accepted narrative that unites stakeholders around the Data for Good vision, with a proof of concept for other stakeholders, is established, for enabling the uptake the virtuous cycle of data framework.

Actors

A FIELD'S ACTORS ARE THE SET OF INDIVIDUALS AND ORGANIZATIONS THAT TOGETHER BRING A SENSE OF SHARED IDENTITY AND COMMON VISION TO THE FIELD.

D4GX India Initiative has strategically mapped and partnered with key actors who are aligned with its vision in leveraging data to further impact at scale. Through convenings, mentorship programs and knowledge-exchange platforms, the Initiative has built a shared value and sense of community for stakeholders to align with. This effort brings together funders, CSOs, and intermediaries, creating a synergistic community that amplifies the reach and effectiveness of its mission. Over time, these partnerships have progressively strengthened the foundation of the ecosystem, enabling the D4GX India Initiative to accelerate transformative changes across its network.

LONG TERM OUTCOME

Distinct actors are interested and invested in the Data for Good vision. There is improved alignment and synergy among actors, resulting in more impactful initiatives, greater resource mobilization, and accelerated progress towards Data for Social Good ecosystem.
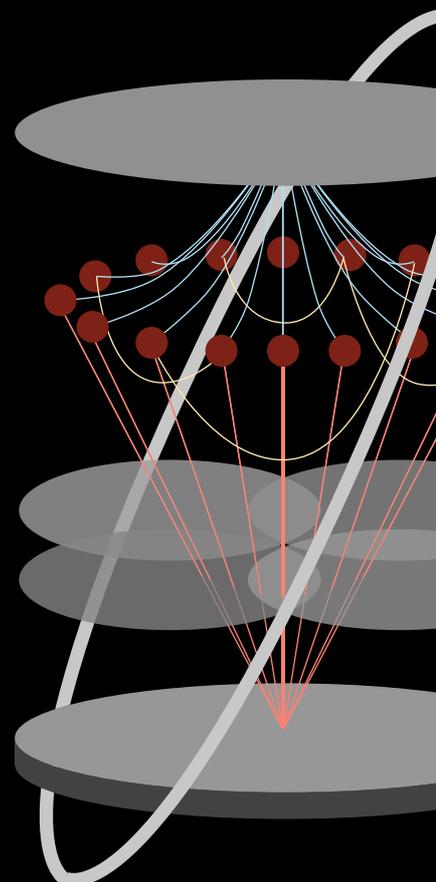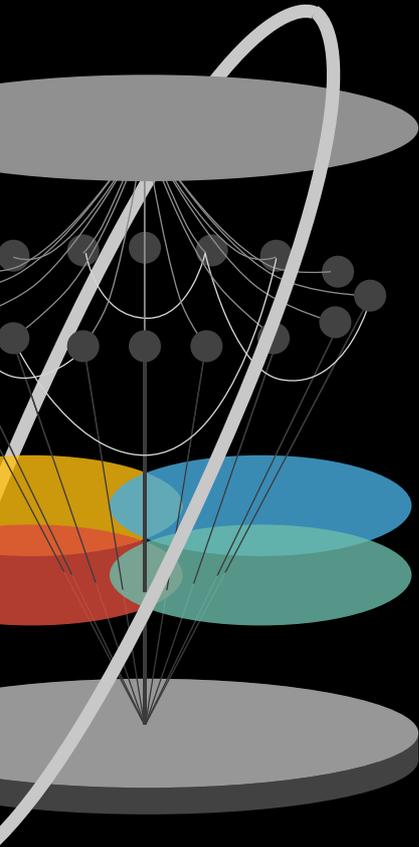
Field–level Agenda

A FIELD-LEVEL AGENDA REFERS TO THE STRATEGIC SUITE OF APPROACHES THAT AIMS TO ADDRESS SHARED BARRIERS AND UNLOCK COLLECTIVE PROGRESS. IT IS CO-CREATED (AND CONTINUOUSLY ADAPTED) BY THE FIELD'S ACTORS.

The D4GX India initiative has been centered around the concept of the Virtuous Cycle for Data. The aim of the Virtuous Cycle of Data Empowerment is to translate theory into real world action. This schematic unites the sector towards coordinated action. It is a dynamic suite that is constantly evolving and shaped by the ground-level application that we gained from over 500+ NGOs that harness Data for Social Good through the integration of diverse perspectives. As the field-level agenda continues to grow in acceptance, adoption, and penetration across India's social sector, the aim is to foster systemic level change.

LONG TERM OUTCOME

There is a unified and widely accepted agenda for the field, which remains relevant across the short, medium, and long terms. Actionable insights are informing the implementation/ uptake of the agenda over the course of time.

Infrastructure

FIELD INFRASTRUCTURE IS THE "CONNECTIVE TISSUE" THAT STRENGTHENS EACH OF THE OTHER FOUR FIELD CHARACTERISTICS AS WELL AS THE COMPLEMENTARITY BETWEEN THEM. INFRASTRUCTURE EXPONENTIALLY ENHANCES THE EFFORTS OF ACTORS IN THE FIELD BY MAKING THEM MORE COORDINATED, CONNECTED, AND EFFECTIVE.

The Initiative has nurtured and sustained 'infrastructure' by investing in essential tools, resources, and systems that facilitate long-term collaboration and knowledge sharing among stakeholders. The program has been able to garner momentum and accelerate action by creating this tangible foundation for data innovators in the ecosystem. Programmatic elements such as hosting the annual challenge, grant-cycles, mentor-mentee relationships, peer learning, and convenings are parts of the 'connective tissue' steering further growth for the field.

LONG TERM OUTCOME

Infrastructure enables the evolution and longevity of strategic relationships, exchange of knowledge, and learnings for different actors in the field. Infrastructure strengthens innovation that is aligned to the common vision of Data for Social Good.
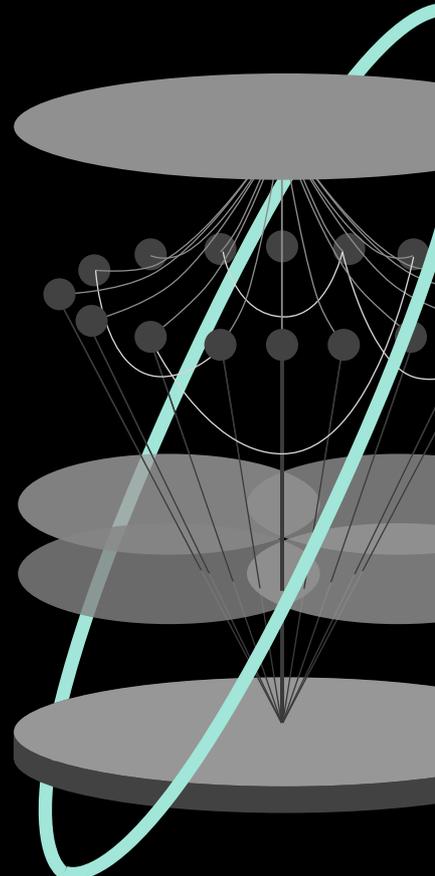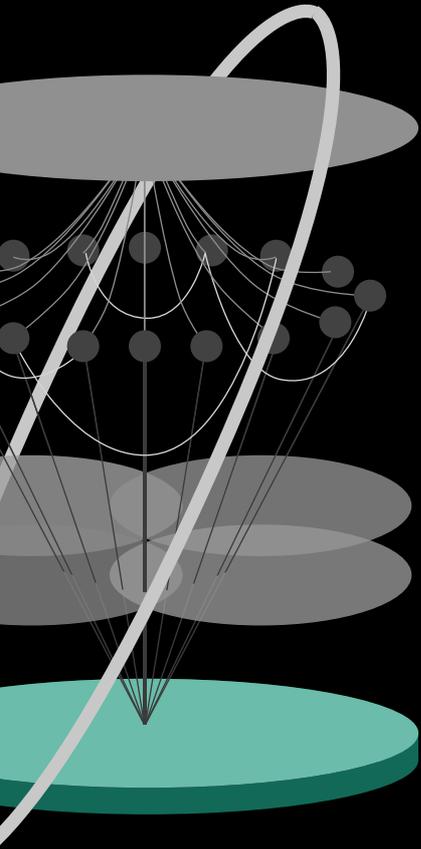
Resources

A FIELD'S RESOURCES COMPRISE BOTH FINANCIAL FORMS OF CAPITAL AS WELL AS NON-FINANCIAL SUPPORT.

The program's yearly grant cycles and a robust mentorship program are two core pillars of the D4GX India Initiative. This structure operates as both financial and nonfinancial support systems, providing capital for infrastructure, resources, and tools as well as a mentorship program that seeks to build capacity, skills, and strategic impact for organizations. Such resources become a foundational support system, especially for organizations in the early stages of their data empowerment journey.

LONG TERM OUTCOME

The availability of annual grants to shortlisted organizations for anchoring the field agenda and infrastructure is ensured. The program continues to run the mentorship program that provides advisory, guidance, and strategic support to organizations.

EMP Bindi International

THE PROBLEM

Rural women in India face marginalization and limited access to resources, hindering their economic and social progress. Despite their critical role in India's cultural and agricultural landscape, they often lack opportunities for sustainable livelihoods and entrepreneurship. Empowering these women through tailored vocational training, entrepreneurship, and agro-ecology programs is crucial for creating an equitable and resilient society.

THE SOLUTION

EMP Bindi International's Women Prosper Initiative utilizes the Sakhi app suite to empower semi-literate and illiterate rural women, enabling them to generate income through technology. Their Digital Curriculum provides training on smartphone usage, digital payments, and internet access, supporting the 'Digital India' initiative. As part of the training, Solar Sakhis are equipped with smartphones, ensuring they have the necessary tools to succeed in their entrepreneurial journeys.

Impact of the D4GX India Program

Streamlining app adoption through user-friendly features: The grant enabled Bindi International to address critical hygiene needs in app maintenance and invest in new features, such as QR code integration, to simplify user experience. Improvements such as bug fixes have led to smoother functionality, and enhanced app adoption by making it more user-friendly for beneficiaries.

Shaping strategy through mentorship: Guidance from mentors provided fresh perspectives, enabling the team to rethink app improvements and refine their strategies for user incentives. The mentorship support inspired productive internal discussions, shifting the focus toward enhancing user experience and refining outreach strategies, rather than solely prioritizing new features and functionalities for the app.

Building collaborative networks with D4GX India: The D4GX India team played a pivotal role in facilitating a productive mentor partnership, despite bandwidth challenges on both sides. This successful collaboration, concluded recently, has left Bindi International optimistic about

CASE STUDY

1

D4GX India Grant Winner
2023

Impact of the D4GX Grant in 2023

leveraging the platform for future partnerships and network expansion. Bindi International's experience with the D4GX India Initiative underscored the need for deeper support for resource-limited nonprofits. With its robust structure and access to mentorship opportunities, the platform is well-positioned to grow, making much-needed talent and resources accessible to organizations like Bindi International.

"One of the strengths of D4GX India is its emphasis on governance rather than solely on immediate tech solutions. A key distinguishing factor of the program is its commitment to making general data more accessible, fostering a community of alumni united by shared needs for data advocacy."

Shuvajit Payne

I HAVE

I have **access to tools such as the Sakhi app**, that empower me to learn new skills and generate income through technology

I CLAIM

I claim **my right to equitable access to technology and resources** that enable me to become a successful entrepreneur

I CAN

I can confidently use technology to **enhance my business activities** such as navigating digital payments

I WISH

I wish for a world where **women thrive in their entrepreneurial pursuits**, making a lasting impact on our environment and society

Karya Foundation

THE PROBLEM

Disadvantaged communities often face significant barriers to accessing fair economic opportunities, leaving many workers in poverty. The lack of dignified, well-paying jobs exacerbates socio-economic challenges. Without targeted training and support, these individuals remain trapped in a cycle of underemployment. This highlights the urgent need for solutions that leverage technology to uplift marginalized workers and create sustainable livelihoods.

THE SOLUTION

Karya uses crowdsourcing to bring dignified, digital work to economically disadvantaged Indians, giving them a pathway out of poverty. They connect digitally unskilled workers with employment opportunities engaging in tasks such as local-language speech dataset generation, document digitization, building diverse image corpuses, and image annotation and labelling. Karya's digital work has reached 35,000 people across 24 states in rural India.

Impact of the D4GX India Program

Deepening data and technology integration: Bloomberg's mentorship encouraged Karya to consider how data and technology could be strategically integrated across all stages of their impact journey.

Building networks: Karya had the opportunity to attend the New Economy Summit, where they connected with key stakeholders from the D4GX India community. This event provided valuable opportunities to explore possibilities for scaling their work beyond India. With the support of the grant, Karya also collaborated closely with other organizations in India, fostering mutual growth and learning in the social impact space.

CASE STUDY

2

D4GX India Grant Winner
2022

Impact of the D4GX Grant in 2022

"D4GX India played a pivotal role in building connections, giving us access to incredible partners like Bloomberg, who provided valuable advice and connected us with key industry players, even beyond India. These partnerships have opened new doors for Karya's growth."

Manu Chopra,
CEO, Karya Foundation

I HAVE

I have access to **dignified digital work opportunities** through Karya, allowing me to earn a fair income using just my smartphone

I CAN

I can participate in various tasks like speech dataset generation and image annotation, **earning a fair wage while building my skills** and improving my financial stability

I CLAIM

I claim my **right to work and earn a sustainable livelihood**, regardless of my digital skill level, and contribute to my community's economic growth

I WISH

I wish for a future where every economically disadvantaged person in India can **access fair and dignified digital work**, lifting themselves and their families out of poverty

Nourishing School Foundation

nourishing schools

THE PROBLEM

Malnutrition remains a significant issue for children aged 0-19 years in India, with stunting and underweight issues persisting while obesity rates continue to rise. There is an urgent need to address this issue by increasing nutrition awareness among school children.

THE SOLUTION

NSF provides schools with toolkits comprising games and activities for children aged 9-14, aimed at teaching healthy nutrition practices. Engaging with 330 schools across more than 4 states in India, NSF uses a data-driven approach to track children's nutritional status and health behaviors, offering evidence-based recommendations to guide priorities for schools, communities, and government bodies.

Impact of the D4GX India Program

Closing gaps with data innovation: Receiving the grant was a transformative moment for the NSF, allowing them to address critical technological gaps in their programs. Initially relying on a custom-based system and struggling with intermittent internet connectivity, NSF found it difficult to implement a solution that fit their needs. Additionally, the grant enabled NSF to publish impact reports on their website and a paper titled "Focusing on Adolescents: How Children Taking Charge Can Help Tackle Malnutrition" in the Children First Journal by the Delhi Commission for Protection of Child Rights, Government of National Capital Territory of Delhi. Through these efforts, NSF showcased its results,

built credibility, and attracted collaborations with organizations interested in transformative data use.

Unlocking data Insights and building internal capacity: The grant enabled NSF to expand their team by bringing on a new member who introduced Python for data cleaning and enrichment. This move allowed NSF to derive deeper, more actionable insights from their data.

Mentorship to optimize data management strategies: With mentor guidance, NSF identified inefficiencies, explore an SQL-based system, and focused on building internal capacity for smarter data management.

CASE STUDY

3

D4GX India Grant Winner
2022

Learning from the field: Attending the D4GX India conference highlighted innovations, global trends, and validated NSF's data-driven approach to scaling impact.

Impact beyond D4GX: The foundation's data-driven approach opened doors to strategic partnerships. One key collaboration with Rajasthan Patrika focused on raising public awareness about children's nutrition by leveraging the foundation's insights. This partnership not only boosted NSF's visibility but also extended their impact beyond direct service delivery. By showcasing their data-driven results, they were able to build credibility and attract further collaborations, particularly with organizations interested in transformative data use.

SPOTLIGHT

Impact of the D4GX Grant in 2022

"Filling out the D4GX India application clarified our data-driven approach and strengthened internal alignment, helping us convince apprehensive stakeholders. It was one of the few opportunities where we felt heard about our vision for the future, and seeing the results excited everyone about the potential of data."

Archana Sinha,
Co-founder & CEO, Nourishing School Foundation

I HAVE

I have access to data-driven insights that highlight the **nutritional status of children in my community.**

I CAN

I can implement the nutrition games and activities from our toolkit to educate my classmates, helping everyone **understand the importance of a balanced diet.**

I CLAIM

I claim the **right to learn about nutrition through engaging activities in school**, ensuring I make informed choices for my health and the well-being of my peers

I WISH

I wish to **shape school policies, ensuring that nutrition education becomes a core part of our curriculum**, leading to healthier futures for all students

Red Dot Foundation

RedDot™
Foundation

THE PROBLEM

UN Women estimates that one in three women will experience sexual assault at least once in their lives. Many women and girls refrain from discussing their experiences due to fears of police involvement, social stigma, and complex formal processes.

THE SOLUTION

Safecity is a platform that crowdsources personal stories of sexual harassment and abuse in public and private spaces. This data, often submitted anonymously, is aggregated into hot spots on a map, indicating trends at a local level. The idea is to make this data useful for individuals, local communities, and local administration to identify the factors that contribute to violent behavior and work towards finding solutions.

Impact of the D4GX Program

Enhancing accessibility through localization: The grant allowed RDF to translate the Safecity app into Marathi, improving accessibility for users in Maharashtra, India's largest state. This localization was key to engaging more users in reporting incidents and understanding safety data in their local context.

Improving data visualization for greater impact: With support from D4GX India, RDF refined its data visualization through dashboards, enabling clearer insights for the police and other key stakeholders. Mentor guidance helped make these visualizations more relatable and actionable for community members.

Building partnerships to expand reporting: The D4GX India Initiative program fostered stronger connections with other nonprofits, educational institutions, and youth networks to encourage reporting of sexual and gender-based violence. Through these partnerships, RDF facilitated multiple safety innovation data challenges where youth analyzed data and proposed solutions for safer neighborhoods.

CASE STUDY

4

D4GX India Grant Winner
2021

Impact of the D4GX Grant in 2021

"We have gone from strength to strength, increasing our numbers and impact with institutional partners. The unrestricted grant has empowered us to be experimental and innovative, allowing our organization the freedom to explore new approaches."

Elsa Marie D'Silva,
Founder & CEO, Red Dot Foundation

I HAVE

I have access to a secure **platform where I can safely and anonymously share my experiences of harassment**, allowing me to actively contribute to making my community safer.

I CAN

I can **utilize the data collected on Safecity to identify high-risk areas and collaborate with local leaders** to implement solutions like improved street lighting, safer pathways, and community watch programs that effectively address the problem

I CLAIM

I claim my right to use Safecity's data **to advocate for safer public spaces and hold authorities accountable** for change in my community.

I WISH

I wish for a society where women can move freely in public **spaces without the fear of harassment or violence.**

Waatavaran

Around 200 million tribals and traditional forest-dwelling communities in India depend on forests for their livelihoods, yet many remain landless due to poverty, illiteracy, and lack of skills. In Maharashtra, 10 million Adivasis rely on non-timber forest produce and agriculture but face insecure land access. Despite the Forest Rights Act, 2006, these communities struggle to secure legal entitlements to their traditional lands, undermining their identity, dignity, and livelihoods.

Waatavaran empowers millions of tribal communities through the use of the Survey 123 app and GIS mapping, significantly improving land claims and livelihoods. This user-friendly platform efficiently collects and stores critical data, maps land parcels using satellite imagery, and supports data analysis and sharing in multiple regional languages. By training tribal families to map their own land, Waatavaran fosters community ownership and effective resource management.

Impact of the D4GX India Program

The mentorship supported Waatavaran in innovating and reimagining processes, especially as they explored developing an app-based platform. It guided them in selecting the appropriate coding languages and technologies, helping them design a scalable model that could be implemented across tribal communities or villages.

Fostering collaborations: Waatavaran had the opportunity to connect with members of the Bloomberg team and fellow award winners, fostering valuable collaborations and insights

insights that enhanced their work and impact. Additionally, they were invited to work from the Dasra office, which enhanced their presence and facilitated valuable connections within the broader social impact ecosystem.

The grant enabled the team to develop the platform aimed at securing land ownership for tribal communities. Since then, Waatavaran has made further progress by developing a questionnaire that will be integrated into the platform and is now awaiting its launch online.

CASE STUDY

5

D4GX India Grant Winner
2024

Impact of the D4GX Grant in 2021

"D4GX India has sparked my imagination and that of team Waatavaran, inspiring innovation in decision-support systems. The mentorship support has laid a strong foundation for helping us create data-driven platforms and facilitating community-driven processes to secure land ownership for Adivasi communities."

Bhagwan Kesbhat
Founder & CEO, Waatavaran

I HAVE

I have access to tools and **training that allows me to map my own land and secure my family's rights.**

I CAN

I can **identify and map our land parcels accurately using the app**, which has helped me advocate for land rights and secure a stable income for my family through better land management and agriculture.

I CLAIM

I claim **my right to secure legal ownership of my ancestral land** and ensure my family's future.

I WISH

I wish for a future where all **tribal communities have secure land rights** and can thrive without fear of displacement.

Where are India's Children

THE PROBLEM

Despite an estimated 3.5 to 4 lakh children living in shelters across India, only around 2,100 are in the legal adoption pool, while more than 35,000 prospective parents are waiting to adopt. This disparity is driven by manual maintenance of children's files with no real-time dashboards, or insights, a lack of clarity in the pre-adoption process, poor tracking of children's cases, and limited incentives for CCIs to promote adoption.

THE SOLUTION

Where are India's Children (WAIC), established in 2019, is dedicated to integrating vulnerable children into the legal adoption pool across India. Their CLMS captures verified data on children in CCIs, utilizing algorithms to identify eligible candidates and track the adoption inquiry process. Real-time dashboards provide insights for authorities at all levels, while usage reports facilitate the adoption process for CCIs and district authorities. Additionally, WAIC supports social workers collaborating with CCIs to ensure eligible children are made legally adoptable.

Impact of the D4GX India Program

Building capacity: With the help of a grant, WAIC significantly enhanced their technology, improving reporting capabilities, refining the user interface, and adding new features within 3-4 months. This funding also enabled them to expand their team from 6 members in 2022 to 18 by 2023, accelerating their progress and impact.

Learning from the field: At the D4GX India conference, WAIC found the emphasis on monitoring and evaluation (M&E) particularly valuable. It offered insights into how growing organizations like WAIC can use data more effectively for long-term impact, providing essential guidance beyond technical solutions. WAIC also attended webinars on topics like child protection, where organizations showcased innovative solutions such as using chatbots. Inspired by these ideas, WAIC is now exploring ways to apply technology for similar innovations to amplify their impact.

Reflective application process: The D4GX India application process prompted WAIC to reflect deeply on their data, emphasizing how it would be used and why it was being created. This approach

Impact of the D4GX India Grant in 2022

helped WAIC develop a clearer strategy for leveraging data to drive decision-making and improve program outcomes.

"D4GX India highlighted the value of a multidimensional view of data which could lead to other positive outcomes. This shift has led to impactful collaborations with UNICEF, Miracle Foundation, and a letter of intent signed with CLiC. These collaborations will help fulfil the overarching principle of a child's right to family."

Meera Marthi,
Co-founder & CEO, Where are India's Children

I HAVE

I have access to **verified data and resources that allow me to support children** in CCIs and streamline the adoption process

I CAN

I can **advocate for children who are not eligible for adoption** and collaborate with organizations to provide them with additional support and resources

I CLAIM

I claim the right to **a collaborative system that enables us to work closely with authorities and prospective parents**, ensuring no child is overlooked

I WISH

I wish for **a future where every child in our care finds a safe and loving home**, supported by a system that prioritizes their well-being and best interests

WAY FORWARD

Navigating the Future of the Field

Where should the Data for Good field progress from here?

5

Civil Society Organizations

Government Stakeholders

Funding Community

Navigating the Future of the Field

The potential of collective action by CSOs, funders and the government can be much needed impetus to the field of Data for Social Good. By working together, these stakeholders can drive a data ecosystem that empowers communities to create lasting, transformative impact. Funders can accelerate the pace of growth and surge the scale of impact by investing in critical areas that foster collaboration, capacity building, and infrastructure development.

Governance can play a pivotal role in ensuring responsible data governance and safeguarding public interests in a new and uncertain data-driven future. CSOs can leverage their position as a conduit with communities to generate meaningful insights, innovate, experiment and create homegrown solutions to complex societal challenges.

India stands at the brink of a data- and technology-driven transformation. It is well-poised to become the world's largest scale lab for social innovation due to its strength in numbers. The future is data driven. Data will drive decisions, design solutions, and enable scale.

The advancement of data for good spans across a long-term horizon, where the possibilities are boundless. By aligning investments, fostering collaborations, and unleashing innovation – India's funding community, government stakeholders, and civil society organizations can set an example. An example that it is possible to create a people-first inclusive and thriving data ecosystem. Replicating this example can help propel India and the Majority World forward, towards a more informed and resilient future, for people and the planet.

Civil Society Organizations

CSOs can harness their position in communities to shape and drive meaningful data-driven impact

CSOs are uniquely positioned in the data ecosystem owing to their deep connection with communities and strong focus on creating positive impact. They have the ability to generate insights based on lived experiences of affected communities, making them influential actors in the data for good movement.

Leverage Community Insights for Impact Metrics: It is important to use the lived experiences of the communities to generate meaningful impact metrics. CSOs can offer objective assessments of who benefits from services and who does not, informing learning, solutioning, and course corrections.

Advocate for Data Systems that Reflect Community Realities: Pushing for data systems that emphasize on access and outcomes can ensure that the data collected offers long-term benefits for people and the planet. Civil society can boost accountability by advocating for resilience-oriented outcomes.

Invest in Comprehensive Data Lifecycles: Building and maintaining systems that support the full data lifecycle – from collection to analysis to visualization – can generate critical evidence. Civil society is well-placed to focus on practices and infrastructure that ensure data is managed effectively, allowing it to be leveraged across sector.

Government Stakeholders

Governments can ensure data is safeguarded and foster trust, accountability, and innovation

Government agencies and regulators hold a central role in the data landscape, balancing the need for innovation with the responsibility of safeguarding public interest. They must put in place the right frameworks to manage data risks while enabling the responsible use of data for societal benefits.

Promote Cross-Sectoral Data Integration: Encouraging collaboration between different government departments and with the civil society can create integrated data systems that facilitate feedback loops. The ability to make data systems interoperable across sectors is essential for addressing critical public issues and solutioning for complex challenges.

Nurture Data Innovation for Public Good: The government can strengthen the innovation ecosystem by allocating resources for data-driven approaches within public systems. This will allow the government to harness the power of data to improve services, enhance policymaking, and tackle systemic societal issues.

Ensure Data Privacy, Protection, and Governance: Establishing and enforcing regulations that prioritize data privacy, protection from misuse can help guarantee that data is used for its intended purposes. Governments, as custodians, can create robust data governance frameworks that ensure transparency, accountability, and responsible data use, with all actors – public and private – adhering to the highest standards.

Nurture Data Innovation for Public Good: The government can strengthen the innovation ecosystem by allocating resources for data-driven approaches within public systems. This will allow the government to harness the power of data to improve services, enhance policymaking, and tackle systemic societal issues.

Funding Community

Funders can focus on building capacity, fostering collaboration, and creating shared infrastructure

Funders have a critical role in enabling the effective use of Data for Social Good. At this pivotal moment, it is essential for funders to direct resources towards strengthening capacity, promoting collaboration, and building the infrastructure needed for a data-driven transformation in the sector.

Invest in Capacity Building: It is important to channel funding into initiatives that develop skills and capabilities across organizations. This can ensure that data and technology investments are utilized efficiently to drive on-ground results and impact.

Encourage Collaborative Data Exchange: Funders can help set up data-sharing platforms that bring together organizations working in similar sectors. This will help amass a collective knowledge base, leading to more informed decision-making and innovative problem-solving.

Build Foundational Data Infrastructure: Support the creation of shared data systems and registries that can serve the entire sector. These foundational systems will enable diverse programs to customize their workflows while maintaining consistent data standards, ensuring holistic benefit for all stakeholders.

Levers for the Future of Data for Good

"Data and technology play a crucial role in transforming social sector outcomes and creating the impact that we want answers to in order to show that something has worked, and something has not. Data is at the crux of the triangle between the three cornerstones; people, resources and technology. Data sits squarely between that triangle."

Aditi Namdeo

Director - Strategic Initiatives
J-PAL South Asia

Technology

While in the past, data and technology were seen as operating on a linear plane, today, we stand at the cusp of an AI and machine learning revolution. Data and technology no longer function in isolation; they now work in tandem to drive us into an era where transformative solutions are within reach. Once reliant on basic tools, grassroots organizations, are now exploring cutting-edge technologies to deepen their impact.

Technology is a critical pillar with dual functions: First, it forms the infrastructural base upon which data capabilities are supported. As a building block upon which data can be stored, managed, analyzed, and multiplexed. Second, technology enhances the quality of data and insights harvested. With the right technology in operation, data-driven insights are closer to being accurate, reliable, and nuanced. For example, the evolution of data collection from paper to digital is a result of technological progress.[35] Investing in robust and high-functional technology such as CRM databases, management information systems (MIS), partner management tools, and policy databases can reduce the operational burden on organizations and ease data management.[36]

What are key considerations for the future of data for good?

The future of Data for Social Good will depend on our ability to understand the interplay of three critical levers: technology, resources, and people. Understanding the adjacencies of these three levers can help future-proof the virtuous cycle of data empowerment.

Data

Resources

In a world increasingly driven by automation, it's easy to forget that at its core, data remains a human-driven asset. India's development sector is brimming with narratives and stories, collected from surveys, administrative records, and the lived experiences of communities.

This human dimension is what makes Data for Social Good possible. When adopting data-driven mechanisms to programs and interventions, it is necessary to place the end-users at the front and center of the solution. It is crucial for data-design to ensure lower cost and higher value, democratize data through community representative datasets, and safeguard data ownership.[38]

For the development sector to influence steady impact – adopting people-first principles can create structures that empower communities and respresent the voices of those systematically excluded from mainstream narratives.

People

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Methodology and Limitations

Methodology

The report used relies on primary and secondary research. The various stages involved in compiling the report are defined below.

1. **Codification of Application Data:** The analysis of this report draws heavily from data submitted by ~500 applications from CSOs for the D4GX India Initiative. These applications were analyzed to cull out key sectoral challenges and solutions implemented. Through a codification process, we have identified recurring trends and patterns, which can be categorized into six broad areas each, for both challenges and solutions in the data for good action landscape.

2. **Desk Review:** A thorough desk review of existing literature formed a foundational component of this study. Articles, reports, and documents from a wide array of sources, by think tanks, government bodies, non-profits, news agencies, and multi-lateral organizations were examined. It has helped contextualize the D4GX India Initiative within the broader ecosystem of data for good. The insights gathered from these sources were synthesized to shape the report's central premises, validate application data, and strengthen arguments related to the sector's evolving landscape.

3. **Interviews with Key Informants and Sector Experts:** To complement quantitative data and literature insights, 16 semi-structured interviews were conducted with key informants, including sector experts, practitioners, and thought leaders. These conversations provided nuanced perspectives on the challenges and opportunities of leveraging data for social impact.

4. **Detailed Conversations with the D4GX India Community:** In addition to expert interviews, in-depth discussions were held with members of the D4GX India community, including past participants, and partners. These conversations served as a critical feedback loop, allowing the report to capture ground-level realities, practical challenges, and success stories directly from those involved in implementing data-driven solutions.

Limitations

This report may contain biases due to Dasra's role in running the challenge. Furthermore, the data on the ecosystem remains limited and siloed because the field is still emerging and growing. Therefore, we acknowledge that the data presented is not exhaustive but indicative. The barriers from these limitations have been addressed through consultations with diverse stakeholders, and a comprehensive literature review.

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Analysis from the D4GX India Initiative

The data illustrated below is based on ~500 applications collected over four years. It has been used to codify insights and perspectives, from the field, for this report.

Challenges

Themes	Equitable Health	Community Resilience	Learning to Livelihoods	Urban Gov & Sanitation	Climate & Sustainability
Limited awareness with regard to knowledge, information, and entitlements	19	34	38	5	12
Inadequate access to social protection and universal basic services	10	17	42	4	1
Insufficient infrastructural development for underserved communities	25	23	47	4	4
Disproportionate impact of climate change and ecological factors	3	7	7	-	4
Exclusion of the most marginalized and underserved communities	8	13	19	3	2
Spanning across sectors	20	23	69	5	8
TOTAL	85	117	222	21	31

Analysis from the D4GX Initiative

The data illustrated below is based on ~500 applications collected over four years. It has been used to codify insights and perspectives, from the field, for this report.

Solutions

Themes	Equitable Health	Community Resilience	Learning to Livelihoods	Urban Gov & Sanitation	Climate & Sustainability
Building community awareness and access	23	40	55	1	10
Fostering research and development	12	23	21	3	5
Informing policy through evidence	4	12	4	1	1
Optimizing service delivery	16	11	29	3	2
Strengthening ecosystems	11	30	50	7	7
Unclear	18	14	30	6	6
TOTAL	84	130	189	21	31

List of NGOs Profiled

The NGOs listed below underwent an internal assessment during their year of participation in the D4GX program. The list is indicative to spotlight the landscape of efforts in the data space. Therefore, please note it is non-exhaustive, and further due diligence may be needed.

Equitable Health

2023

Nourishing Schools Foundation

The Nourishing Schools Foundation uses data to assess the health and nutrition of students in grades 4-9, sharing the results with teachers, parents, and students to identify key areas for improvement. A toolkit, featuring resources and games, is provided to raise awareness about health, nutrition, and WASH. Over the course of two years, the program tackles malnutrition by establishing school gardens and supplementing meals. Random stratified sampling ensures equal representation of girls in the data, and schools use the findings to enhance health and nutrition, with a particular focus on improving outcomes for girls.

2023

Praja Foundation

To encourage efficiency in health through governance, Praja provides relevant information to urban governance stakeholders including Elected Representatives, administration, citizens, media, and academia; and works with leadership amongst its stakeholders to equip them to address inefficiencies in the implementation of various health schemes and policies, bridging the information gaps, and mobilizes them in taking corrective measures and advocating for change. The data-led innovation provides information on the need for services to be equitable. Primary healthcare is largely accessed by the population belonging to the lowest Socio-Economic Classes. Praja works on strengthening city governments to actively address the challenges in the healthcare sector.

2023

Foundation for Mother & Child Health (FMCH)

FMCH works to improve maternal health and reduce child malnutrition by bridging the access gap. Their innovation, the NuTree App, functions as a data collection tool for frontline workers, tracking beneficiaries and generating tailored visit notifications based on mothers' risk categories to ensure timely support for high-risk mothers.

2022

Shelter Associates

Shelter Associates is dedicated to improving urban living conditions for the poor in India, aiming for equal access to basic infrastructure and secure tenure. Their innovation, Plus Code, assigns unique digital addresses to locations, facilitating access to essential services and allowing residents to report WASH infrastructure issues accurately. This initiative empowers communities by co-creating validated data with urban local bodies, enhancing service delivery.

Ummeed Child Development Center

2022

Ummeed is dedicated to supporting children with or at risk of developmental disabilities through a transdisciplinary approach involving specialists in various fields. Their interventions empower children and families to design personalized plans, focusing on participation-based goals that hold personal significance. Ummeed promotes collaboration among healthcare professionals, families, and community members to tackle barriers like physical accessibility and stigma, enhancing participation and overall quality of life for children with disabilities.

Uninhibited

2022

The innovation, Hello Saathi, is India's only menstrual & sexual reproductive health telemedicine helpline bridging access to information & healthcare to mitigate the impact of COVID-19 lockdown on MHH/ SRH of last mile marginalized menstruators, men, sex workers and transgender individuals.

Learning to Livelihood

Youth4Jobs

2024

Swarajability is a collaborative endeavor dedicated to improving the employment prospects and livelihoods of young individuals with disabilities.

Slam Out Loud

2024

SEL Edge is India's first analytics platform for educators and administrators, designed to track and enhance students' socio-emotional learning (SEL) within the Indian education system.

Centre for Civil Society

2024

Jeevika mobile app was developed through extensive grassroots consultations, tailored to the specific needs of street vendors. Jeevika provides a legal repository, legal aid, and a Heat-Map feature to track harassment trends and empower vendors.

EMPBindi International

2023

The Women Prosper Initiative leverages the Sakhi app suite to empower semi-literate and illiterate rural women in income generation through technology. The Digital Curriculum equips women with smartphone usage, digital payments, and internet access, supporting the 'Digital India' initiative. Solar Sakhis receive smartphones during training, aligning with the government program. The app suite, designed for scalability, aims to enhance women's capabilities and contribute to their economic prosperity, with different modules in various stages of development.

ELICIT Foundation

2023

The innovation, Teach to ELICIT, supports children and school systems in conflict impacted regions through a data led teaching framework, consisting of a set of outcome goals and actionable matrices crafted to help create and measure learning experiences, which can mitigate the impacts of conflict on children's academic, social and emotional growth. The framework helps teachers mark progress on goals of safety and resilience for self, class and community using rubrics on shared Google sheets. The data feeds back into the design of lesson plans for children, learning circle plans for teachers and culture building plans for school systems. The innovation aims at changing the way school systems understand and prepare for implications of conflict-led trauma on children's growth.

Sol's Assessment and Remedial Centre

2023

The App-Based Screening Tool helps teachers identify children at risk of mental health challenges and disabilities, connecting them with eligible government schemes and benefits. Teachers use the app to input data on each student, including information about cognitive abilities, developmental milestones, potential risk factors, and disabilities, along with demographic details such as name, age, and gender. With over 80% of teachers in India unaware of disability risks and struggling to identify children with special needs, this innovation provides a one-stop solution. It equips teachers with the tools and knowledge to confidently implement inclusive classroom practices.

Karya Foundation

2022

Karya uses crowdsourcing to bring dignified, digital work to economically disadvantaged Indians, giving them a pathway out of poverty. They connect digitally unskilled workers with employment opportunities engaging in tasks such as in four types of tasks: (1) local-language speech dataset generation, (2) document digitization, (3) building diverse image corpuses, and (4) image annotation and labelling.

Digital Empowerment Foundation

2022

The innovation, SoochnaPreneur, is built on the principles of information as both a right and a service. There is a lack of access to digital services and public schemes due to limited information, digital literacy, and infrastructure. Information entrepreneurs bridge this gap by establishing centers in locations where government-run common service centers (CSCs) are unavailable. They provide essential information, facilitate access to schemes and opportunities, and assist with CSC and banking registration. This ecosystem empowers entrepreneurs, including women and disabled individuals, to earn a livelihood while becoming change-makers in their communities.

Antarang Foundation

2022

Career GPS is a one-stop destination akin to Google Maps for guiding adolescents on their career journey to reach their aspirational careers.

Srijan Foundation

2021

SF focuses on empowering marginalized communities to demand their rights and entitlements, creating replicable grassroots development models through direct field interventions. They also work to build the capacity of CBOs and Civil Society Organizations, promoting collective action with a particular focus on women and children. Recognizing the need for real-time information for end users, SF developed an MIS system that enables individuals to track their investments and profits at each stage of production. This system empowers users to set fair prices, negotiate with middlemen, and sell their produce at appropriate market rates.

Avanti Fellows

2021

Plio is an open-source, web-based platform designed to provide state governments with a cost-effective solution to capture student learning data, run rapid A/B tests, and deliver personalized learning content to students. Free for all users, Plio offers external researchers open access to de-identified data at the student, question, and video levels, enabling large-scale, targeted studies. The platform facilitates high-quality, scientific assessments by creating online adaptive quizzes from an open question repository, continuously improving items based on student responses.

Swaadhar FinAccess (SFA)

2021

SFA has developed digital platforms—Swadhaar Dost for trainers and Swadhaar Saathi for end users—to streamline operations and delivery. The platforms feature an opportunity/gap analysis tool for Financial Product Advice, which assesses household goals to provide insights into family status and help them choose suitable financial products. Trainers can use Product Linkages to guide clients, clarify documentation requirements, and support uptake, particularly for non-credit products. Additionally, the platforms are integrated with external digital systems, such as Haqdarshak, to simplify access to government welfare schemes and further empower users.

Digital Green Trust

2021

Through their innovation, Digital Green offers farmers relevant information, services, and tools to control their own data, empowering them to increase their income

Climate and Sustainability

SEEDS

2024

Aakshvi a national climate loss open data platform, aggregates citizen-led self-assessments of losses with observational data to generate actionable insights for government and non-government aid agencies.

Vaaghdhara

2024

Kisan Diary, an app, empowers the farmers by promoting sustainable agricultural practices, enhancing living income, food security, and promoting climate aligned lifestyles, ultimately contributing to Food, Farming, and Thought Sovereignty.

Mann Deshi

2024

Agriculture Soil, Water Crop Testing Program: The innovation empowers smallholders to undergo subsidized soil and water tests. These tests are conducted using advanced technologies like Atomic Absorption Spectroscopy and Flame Photometer, yield real-time data on soil, water, and crop health.

Hume Centre for Ecology and Wildlife Biology

2023

The Community Weather Monitoring System is a citizen science initiative in Wayanad district, engaging 200 farmers, 100 students, and local residents to gather district-level climate data. Targeting vulnerable areas on mountain slopes and floodplains, the district is divided into 25 square kilometer grids equipped with rain gauges. Trained residents collect daily rainfall and temperature data, which is compiled in Google Sheets, mapped using GIS software, and shared publicly via WhatsApp and Facebook. Early warnings based on rainfall thresholds have averted disasters, while weather forecasts support farmers in crop planning.

Spandan

2023

This data-driven innovation provides field-based weather information to women in the dry fish business along the Bay of Bengal coast, addressing the climate change challenges impacting their livelihoods. Automatic weather stations installed in key locations collect local data on temperature, wind speed, precipitation, and rainfall. This information is shared with the women, empowering them to minimize losses and make informed decisions. By leveraging weather data, the initiative promotes resilient livelihoods, supports the socio-economic well-being of women-led families, and addresses vulnerabilities linked to climate change.

Veditum India Foundation

2023

The innovation, India Sand Watch, has been created with a primary focus on River Sand Mining. It operates as a public-facing repository, encompassing all sand mining-related activities in India, ranging from guideline formulation to mineral discovery, auctions, mining operations, and associated reporting. Additionally, it serves as a capacity-building tool, enabling interested parties to engage with the issue effectively. This is facilitated through a platform that digitizes official and public records while documenting sand mining instances across India as case files, ensuring transparency within the sector. This comprehensive database empowers individuals, collectives, and various stakeholders, including affected citizens, activists, journalists, and civil society organizations, to monitor and collaborate on this issue for potential impact and change.

Community Resilience

Keystone Foundation

2024

Kwol Radio is a wireless mesh network developed as a community media and archiving platform for the Irula community in the Nilgiris Biosphere Reserve.

Impulse NGO Network

2024

Impulse Care Management Centre Software combats human trafficking through a centralized online database. It enhances case management and cross-border coordination, supporting victim rescue, rehabilitation, and repatriation. Integrated with Anti-Human Trafficking Units and partners, it improves data accuracy and intervention efficiency.

Project Second Chance

2024

Project ALT tackles prison overcrowding and limited legal aid for marginalized populations. Using a tech platform, it connects families of prisoners with vetted lawyers and offers legal training in prisons.

Waatavaran- Climate Environment and Sustainability Foundation

2023

The Friends of Forest program leverages technology to support tribal communities in securing land rights. Using the Survey123 app with Esri-based technology, Waatavaran collects and maps critical data, including village details, personal information, land records, and evidence, guided by Block Coordinators. This data is transformed into GIS-based maps and satellite imagery, vital for land claim applications. A user-friendly dashboard provides real-time access for tribal communities and local administrations, streamlining the process. The program plans to integrate a decision-making support system to monitor application status, addressing historical injustices through a unique, digitized strategy.

Civis

The Civis program is focused on empowering communities by democratizing the lawmaking process in India. This initiative is achieved through a participatory approach, enabling citizens to provide feedback on draft laws, thus bridging the gap between the public and the government. Utilizing technology, Civis collects and analyzes public feedback, ensuring it shapes policy decisions. This process not only enhances governmental capacity but also includes diverse voices in India's lawmaking, particularly benefiting marginalized communities. The program aims to foster more inclusive policies and build community resilience through better implementation of laws.

Protsahan India Foundation

The innovative app, ProChild Passport, is designed to bridge the gaps in connecting families on the fringes of society to the government's social security network. It ensures that the marginalized understand and have access to services such as e-shram card, rations card, adhaar card, healthcare facilities, etc. that create a social security network for a family. The app collects socio-economic, ethnic, and abuse-related data, enabling Protsahan to connect young migrant girls in slums to social security services while providing immediate support like school enrollment, academic aid, digital literacy, and arts-based therapy—empowering them to not just survive but thrive.

Where Are India's Children (WAIC)

The Child Lifecycle Management Solution (CLMS) captures verified data on children in Child Care Institutions (CCIs), enabling automated tracking of key metrics such as family contact frequency, shelter stay duration, and guardian status. Using algorithms, it flags children for adoption inquiries, monitors the inquiry process, and identifies delays or blockers. CLMS provides real-time dashboards for district, state, and central authorities, offering actionable insights into children's statuses, alongside daily usage reports for CCIs, District Child Protection Units, and Child Welfare Committees to streamline adoption processes. It also supports social workers in collaborating with CCIs and authorities to make eligible children legally adoptable.

Criminal Justice and Police Accountability Project (CPA)

2022

The CPA Project combines research, litigation, and cause lawyering strategies to support communities in Bhopal. Empirical data, including police records and crime data from courts, is used to highlight the targeting of DNTs (Denotified Tribes) or Vimukta. The project involves mining and disaggregating data based on caste and gender, examining police records to demonstrate the disproportionate impact of policing on DNTs' lives and livelihoods. Through data-driven research and litigation, the project seeks to hold the justice system accountable for perpetuating caste-based and colonial modes of social control on marginalized communities

Seven Sisters Development Assistance (SeSTA)

2022

A data-driven mobile app has been developed to collect basic details of farmers, such as land and income information, to assess baseline income and land utilization patterns. The app has already gathered data from over 70,000 women farmers in rural Northeast India. This data is used to map families based on their resources, ethnicity, and socio-economic status, helping determine eligibility for various schemes. Eligibility reports can be generated at multiple levels, and strategies are created to engage stakeholders, enabling marginalized families to access the relevant government schemes.

Red Dot Foundation

2021

The innovation, 'Safecity', crowdsources anonymous personal stories of sexual harassment and abuse in public and private spaces, aggregating the data as hot spots on a map to indicate trends at a local level. By identifying trends and behaviors that contribute to violence, Safecity empowers individuals, communities, and local administrations to find effective solutions.

The Centre for Policy Research (CPR)

2021

Their Scaling City Institutions for India (SCI-FI) programme focuses on understanding governance and socio-economic scales in Indian cities. The innovation leverages geospatial analytics for decision-making, utilizing data from multiple sources, including drone mapping and satellite imagery. It has empowered government officials with tools for tenability analysis and land identification for new habitats, facilitating efficient and effective urban planning.

Praxis Institute for Participatory Practices

2021

The COLLECT system, a community and worker-led monitoring and accountability platform, serves as a knowledge hub for practitioners, CBOs, and local/state governments. It establishes a robust, worker-specific database to inform community interventions and guide policy formulation on social protection schemes, particularly in response to the COVID-19 crisis.

Urban Sanitation

Centre for Advocacy and Research (CFAR)

2023

Centre for Advocacy and Research (CFAR): Saniwall is a community dashboard that monitors the status of Water, Sanitation, and Hygiene (WASH) services, reflecting community needs and suggestions to enhance service delivery. By tracking access to sanitation and water for marginalized groups, it aims to improve accountability, community participation, and responsiveness within the WASH system.

Hasiru Dala

2023

Hasiru Dala seeks to build a comprehensive database of skilled informal waste workers to integrate them into the sustainable waste management system, capturing data on their livelihoods, housing, health, and children. This database will advocate for their rights, enhance living standards, and support social security services through data-led innovations.

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