# Four-week Summary of the 10th eConversation, 2nd Series

## Collaborating organisations

This eConversation has been organised by the Commonwealth Secretariat and the Digital Agri Hub in partnership with AGRA, Farmerline and DIASCA/GIZ.

The Commonwealth Connectivity Agenda | Digital Agri Hub | DIASCA Digital Integration of Agricultural Supply Chains Alliance | AGRA Sustainably Growing Africa's Food Systems | FARMERLINE

# eConversation framework

Data has become the fuel for economic growth for many economies today and the data economy is likely going to determine the next world order, much like the role that the oil industry has played in creating economic power players in the past. Data is also the rail on which digitalisation runs and the bedrock for emerging digital technologies such as artificial intelligence (AI), machine learning, blockchains and internet of things that are enabling availability and access to information.

Agriculture is increasingly data-driven and considering the huge potential of agricultural data for countries, multiple stakeholder groups – farmers, governments, non-governmental organisations (NGOs), agribusinesses, donors, foundations, investors, researchers, digital platform operators, international organisations and technology firms – are each investing in data collection, curation, processing, storage and sharing in a typical national agricultural data ecosystem.

However, these data systems are often fragmented and built in silos without interoperability. Data remains duplicated across government agencies, research institutes, and private actors, making it difficult to build a full picture of food production, markets, and natural resources at national level. In times of crisis—whether drought, pest outbreaks, or global price shocks—this lack of integration slows down responses and weakens evidence-based policymaking. Without a structured and coordinated approach to data management, the agricultural sector risks operating in the dark. The result is operational inefficiencies, increased costs, revenue losses, and reduced trade and investment both within and between countries.

The consequences extend to sustainability and innovation. Poorly managed data means missed opportunities for climate adaptation, inefficient use of land and water, and limited progress toward national and global sustainability goals. Researchers, startups, and agribusinesses struggle to innovate without open, interoperable datasets. In short, the absence of a country-level framework that brings together all the key agricultural data—collected by governments, research institutions, private companies, and even farmers themselves—into a coordinated, standardised, and accessible system is more than a technical shortfall—it is a strategic vulnerability that undermines resilience, competitiveness, and equity across the entire food system.

Through the Commonwealth Connectivity Agenda for Trade and Investment (CCA) programme, the Commonwealth Secretariat launched the **National Agricultural Data Infrastructure (NAgDI)** initiative in September 2023. The vision of NAgDI is to strengthen and harmonise existing individual data systems at country level through an interoperable national data infrastructure, enabling interconnected infrastructure at regional and global levels, thereby creating a superhighway for secure data exchange within and between countries, and across regions for macro-level decision-making. NAgDI is not a Digital Public Infrastructure (DPI), but an approach to delivering DPIs for agricultural data management at country level. NAgDI is likened to any national public infrastructure such as transport, telecommunication, energy, etc. NAgDI has been conceptualised to cover four components, namely (i) systems and technologies, (ii) principles and policies, (iii) marketing and business, and (iv) governance and administration.

If carried out well, a functional NAgDI can become a cornerstone of agricultural transformation. It would lay the foundation for independent data verification, giving investors the confidence to support Micro-, Small and Medium-sized Enterprises (MSMEs) and start-ups, while also improving access to finance and fostering innovation. By bringing together multiple data sources, it would enable more accurate, reliable, and evidence-based policymaking—ensuring governments are equipped to respond quickly and effectively to challenges in the food system.

NAgDI would also empower countries to navigate well-intended but disruptive external regulations, such as the European Union Deforestation Regulation (EUDR), by

facilitating access to credible and verifiable data. At the same time, it would strengthen national sovereignty in the digital domain, ensuring governments retain control over their agricultural data. Most importantly, it would prepare countries to fully harness the power of Artificial Intelligence and other emerging digital technologies, all of which depend on large volumes of accurate, trusted data.

Looking beyond national borders, interoperable NAgDIs across regions would create a secure "data superhighway" for exchange within and between countries. This would unlock new opportunities for macro-level decision-making, while serving as a catalyst for deeper intra-regional trade and investment. In this way, NAgDI is more than infrastructure—it is the backbone of a smarter, more connected, and more resilient agricultural future.

## About the events

The Commonwealth Secretariat developed a **Policy Guide for NAgDI** in support of intra-Commonwealth trade and investment. However, the policy extends beyond the Commonwealth. Prior to and alongside the launch of the Guide, the Commonwealth Secretariat and Digital Agri Hub, in partnership with AGRA, Farmerline, and DIASCA/GIZ, hosted this eConversation which consisted of a series of events including e-discussions and webinars unfolding over a period of four weeks. The initiative provided a two-way dialogue to assist the Secretariat in establishing the business case for private sector investment in NAgDI for interested countries, as well as raised awareness of the opportunities that were and would be available. The flow of events mobilised the audience around the initiative and engaged the parties during the launch of the Guide and its rollout activities.

The activities combined online and in-person events to bring together stakeholders from the Commonwealth and beyond – public sector, international organisations, development partners, private sector investors, and others interested in developing markets on the subject.

## Summary of the eConversation (Webinar & e-Discussion)

### A

### Summary of the Webinars

- On 26 September, a Launching Webinar paved the way for the actual eConversation, which was followed by weekly e-discussions and webinars. The Launching Webinar titled *"From Silos to Systems: NAgDI as a Delivery Approach to DPI in Agriculture"* introduced the concept of foundational digital public infrastructure (DPI), its implications for the agricultural sector, and the consultative approach used by the Commonwealth Secretariat in developing the NAgDI framework. Speakers included **Benjamin Kwasi Addom**, the Commonwealth Secretariat, **Krishan J Bheenick**, KMNCB Associates, **Nidhi Parekh**, the World Bank, and **Robert Karanja**, Co-Develop.
- On 03 October, the Webinar titled *"From Silos to Systems: Decentralised and interoperable data exchange"* explored the nature of technologies and systems that are needed to support the deployment of NAgDI in countries. Principles such as secure, decentralised, standardised and interoperable technologies and systems that create national spaces to facilitate seamless data exchange between individual data systems adhering to DPI principles to foster innovation and support data-driven collaboration were discussed.

Speakers included **Vineet Bhandari,** Centre for Digital Public Infrastructure (CDPI), P**eter Wortsman**, European Food and Farming Partnerships (EFFP), **Gabriel Saunyama,** ChromePay, and **Tomaso Ceccarelli**, Wageningen University and Research.

- The Webinar on 10 October was on *"From Silos to Systems: What is the Value Addition of the Commonwealth's NAgDI?"*. It provided a sneak peek of NAgDI with the holistic thinking around the term "infrastructure" and provided highlights into the Policy Guide. It also presented some of the opportunities available for partners to explore with member countries and join forces in support of NAgDI. The Webinar was facilitated by **Benjamin Kwasi Addom**, the Commonwealth Secretariat, **Krishan J Bheenick**, KMNCB Associates.

- On 17 October, the Webinar titled *"From Silos to Systems: What are some of the use cases of DPI in agriculture?"* focussed on different cases of data exchange technologies and platforms within the agricultural sector. Experts deliberated on the relationship between the foundational DPIs and sector DPIs being implemented by countries and explored alignment of their implementation with the four components of NAgDI. Speakers included **Marvin Nii Adom Armah**, Farmerline Ltd, **Tuntufye Laura Ntaukira**, UNDP, **Jeremi Joslin**, OpenSPP, **Michel Mouchiroud**, OpenSPP, and **Gregorio Canto**, Ministry of Agriculture, Food Security and Enterprise, Belize.

- The launch of the Policy Guide occurred on 23 October through a hybrid event, held in person in London and online alongside the eConversation. The event also saw the release of NAgDI Explainer Animation, deep dive into NAgDI and how it will benefit member countries. Speakers included **Rajiv Babooram**, Commonwealth Secretariat, **Dreli Silas Solomon**, Embassy of the Republic of Vanuatu, **Ruth Kattumuri,** Commonwealth Secretariat, **Opeyemi Abebe**, Commonwealth Secretariat, **Benjamin K Addom**, Commonwealth Secretariat, **Celso L. Moretti**, The OpenAg Foundation, **Ville Sirviö**, Nordic Institute for Interoperability Solutions, **Lars Kahnert**, GIZ/DIASCA, and **Krishan Bheenick**, KMNCB Associates.

- The final Webinar was held on 24 October and titled From Silos to Systems: **Coopetition rather than Competition?** It explored collaboration with partners around planning and implementation of DPI in agriculture through NAgDI. Possible collaborative pathways that were explored included a commodity-based approach, climate data for parametric insurance, EUDR, and opportunities for large volume of data for AI-enabled agronomic advisory services. Speakers included **Ronald Rwakigumba**, Bandung Institute of Technology & Coventry University, **Venky Ramachandran**, Agribusiness Matters, **Bharath Shankar Ganapathy**, FIDE, and **Stewart Collis**, Gates Foundation.

Some Statistics on the Webinars

| Date | Title | Registered individuals | Attendees % | Female | Recording |
|---|---|---|---|---|---|
| **26/09/25** | From Silos to Systems: NAgDI as a Delivery Approach to DPI in Agriculture | 186 | 55% | 34% | YouTube |
| **03/10/25** | From Silos to Systems: Decentralised and interoperable data exchange | 81 | 79% | 26% | YouTube |
| **10/10/25** | From Silos to Systems: What is the Value Addition of the Commonwealth's NAgDI? | 60 | 68% | 29% | YouTube |
| **17/10/25** | From Silos to Systems: What are some of the use cases of DPI in agriculture? | 120 | 53% | 24% | YouTube |
| **24/10/25** | From Silos to Systems: Coopetition rather than Competition? | 61 | 59% | 25% | YouTube |

| Date | Title | Attendees' age group | | | | | |
|---|---|---|---|---|---|---|---|
| | | 18-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65+ |
| **26/09/25** | From Silos to Systems: NAgDI as a Delivery Approach to DPI in Agriculture | 2% | 23% | 33% | 30% | 11% | 1% |
| **03/10/25** | From Silos to Systems: Decentralised and interoperable data exchange | 2% | 24% | 28% | 26% | 14% | 6% |
| **10/10/25** | From Silos to Systems: What is the Value Addition of the Commonwealth's NAgDI? | 2% | 23% | 31% | 14% | 26% | 5% |
| **17/10/25** | From Silos to Systems: What are some of the use cases of DPI in agriculture? | 2% | 18% | 33% | 35% | 8% | 4% |
| **24/10/25** | From Silos to Systems: Coopetition rather than Competition? | 0% | 20% | 26% | 26% | 20% | 8% |

# B

## Summary of the e-Discussions on D4Ag

### Q1 What have been your sources of guidance on DPI for agriculture and what have you learnt from them that has helped you in practice?

During week 1 of the eConversation, a vibrant online discussion among agricultural data experts, policymakers, and technologists has spotlighted the urgent need to move from fragmented, siloed data systems to coordinated DPI in agriculture. The conversation, hosted by the D4Ag community, was sparked by the launch of the Commonwealth Secretariat's NAgDI initiative, which aims to harmonize disparate agricultural data systems at the national level and enable secure, interoperable data exchange across borders.

#### The Problem: Fragmented Data, Missed Opportunities

Participants agreed that agriculture is increasingly data-driven, but current systems are fragmented, with data duplicated across government agencies, research institutes, and private actors. This fragmentation leads to inefficiencies, higher costs, and missed opportunities for innovation and sustainability. In times of crisis—such as drought or pest outbreaks—this lack of integration slows down responses and weakens evidence-based policymaking.

#### The Vision: National Agricultural Data Infrastructure

The NAgDI initiative was presented as a solution to these challenges. Its vision is to create an interoperable national data infrastructure, likened to public utilities like transport or energy, that would serve as the backbone for secure data exchange and evidence-based decision-making. If implemented well, NAgDI could foster innovation, improve access to finance, and strengthen national sovereignty over agricultural data, while also preparing countries to harness emerging digital technologies like AI.

#### Defining DPI: Public, Scalable, and Interoperable

A central thread in the discussion was the definition and characteristics of DPI. Drawing on resources like the UNDP's DPI Playbook, contributors highlighted three core components: digital identity, digital payments, and consent-based data sharing. True DPI, they argued, must be scalable, interoperable, and accessible—ideally with open APIs that allow both public and private actors to build on top of foundational government-owned modules.

### Governance and Ownership: Public Good, Not Just Government-Owned

While DPI is often government-led, participants emphasized that "public" does not necessarily mean exclusive government ownership. The "public" in DPI refers to orchestrating a fair, inclusive, and interoperable ecosystem governed by public interest principles. The Rwandan e-voucher platform was cited as a successful example, integrating farmer digital identity, payments, and data sharing, with governance anchored in public policy but open to private sector innovation.

### Data Governance and Privacy: The Next Frontier

Strong data governance and privacy laws were flagged as essential, especially as DPI scales up. Contributors called for robust consent mechanisms and clear rules to protect farmers' data, drawing inspiration from frameworks like the EU's GDPR. The debate continues whether governance should focus on the infrastructure itself or the data within it, with some arguing for a shift toward infrastructure governance to leverage existing data governance progress.

### Country Cases: From Nigeria to the Netherlands

The discussion featured case studies from around the world:

- Nigeria: Early-stage efforts focus on digital farmer registries and grassroots engagement, but challenges remain in data availability and implementation speed.
- Netherlands: The AgroDataCube integrates multiple open datasets to provide a consistent, quality-assured data layer for developers, demonstrating the value of DPI "building blocks" and APIs.
- Lao PDR & Sri Lanka: Open-source registries like OpenSPP have enabled better targeting of subsidies and services, with the government as orchestrator and farmers retaining control over their data.

### The Road Ahead: Collaboration and Building Blocks

The consensus: DPI in agriculture should be built as interoperable, open-source "building blocks," with strong governance, public-private collaboration, and a focus on farmer benefit. The ultimate goal is a resilient, innovative, and inclusive agricultural ecosystem—one where data flows securely and efficiently, powering smarter decisions and better outcomes for all.

The debate continues, with the community calling for more shared experiences, documentation of best practices, and deeper exploration of governance models as countries move from silos to systems in agricultural data.

## Q2 What have been your experiences of DPI implementation at national level, and how have these DPI engaged with the agricultural sector?

### Setting the Stage: Context and Framing

The week began with Krishan Bheenick recapping the previous week's discussion, which focused on the definitions and core elements of DPI, particularly as defined by the World Bank—namely Registries, Payments, and Data Exchange. He noted that while these elements are foundational, their application in agriculture requires adaptation to sector-specific needs, especially in facilitating data sharing across systems and functionalities. Krishan then launched the central question for the week: "What have been your experiences of DPI implementation at national level, and how have these DPI engaged with the agricultural sector?" Contributions were encouraged to address the context of local DPI cases, useful features, non-technological aspects (such as governance, equity, and business models), and practical lessons learned.

**Krishan** also highlighted resources for further exploration, including the DPI Map (UCL IIPP), which catalogues DPI initiatives by country and their relevance to agriculture. He encouraged participants to reflect on whether any of these foundational DPIs were already being leveraged in their own agricultural contexts.

### Provocation and Deepening the Discussion

**Ben Addom** followed by challenging the group to reflect critically on the current state of DPI in agriculture. He argued that, despite the proliferation of digital technologies and

services in agriculture (as catalogued by initiatives like Digital AgriHub), the sector is still far from achieving true DPI. Ben provocatively suggested that perhaps what agriculture most urgently needs from DPI is robust data exchange, given the abundance of digital services that require data support. He invited participants to agree or disagree and promised to share insights from ongoing discussions in Bangalore on DPI, AI, and data in agriculture.

## Practical Experiences and Case Studies

### Malawi—The Human API Approach

**Ronald Kondwani Udedi** shared a practical experience from Malawi, where he and a colleague acted as a "Human Application Programming Interface" (Human API) to connect a farmer, Mr. Juma, with relevant digital advisory services. This involved listening to the farmer's problem, processing the information, and linking him to appropriate online platforms and local partners, such as Farm Radio Trust and CABI plant clinics. Ronald emphasized that, beyond technology, successful DPI-like interventions require formal agreements and partnerships, such as Memoranda of Understanding among service providers.

### Australia and Systemic Change—A Structured Approach

**Simon Cook** contributed a conceptual framework for understanding digital transformation in agriculture, drawing on experiences from Australia and beyond. He suggested a four-step process for structuring change:

- Define the expected outcomes of digital transformation (e.g., improved production, sustainability, efficiency).
- Map where in the food system change could or should occur, considering all domains rather than just one's area of expertise.
- Identify how digital technology creates value in these processes—what improvements does it enable?
- Determine how this value will be captured and by whom, noting that some innovations may be disruptive while others are incremental or sustained by existing actors.

Simon advocated for mapping the wealth of experiences shared in the discussion in a logical, systemic way, to better understand the broader vision of change in digital agriculture.

### Tanzania—Government-Led Digital Transformation

Omar Bakari provided insights from Tanzania, where the Ministry of ICT leads a national digital transformation process guided by a Digital Economy Framework. Each sector ministry is responsible for operationalizing this framework. Omar described a practical use case: the digital issuance of agricultural export permits, which involves seamless data exchange and workflow integration across multiple ministries and agencies. This is enabled by a National Data Exchange platform. He noted that, while internal government data sharing has progressed, new challenges have emerged around sharing data with the private sector, especially regarding data safeguards and commercial sensitivities. Omar suggested that examining digital transformation roadmaps and business cases could help clarify how DPI differs from other digital initiatives and facilitates stakeholder engagement.

## Key Themes and Insights

### Digitisation as a Prerequisite

A recurring theme was the foundational importance of digitizing data—moving from analogue to digital forms—as a prerequisite for DPI in agriculture. Without digitized data, the benefits of DPI cannot be fully realized.

### Collaboration and Governance

Participants repeatedly emphasized that DPI is not just about technology. Effective DPI implementation requires collaboration, formal agreements (such as MoUs), and robust governance structures to coordinate among diverse actors, including government agencies, private sector partners, and civil society.

### Contextual and Incremental Design

The conversation highlighted that DPI solutions must be tailored to local contexts. What works in one country or sector may not be directly transferable to another. Instead, DPI development is seen as an incremental, evolutionary process, with each new challenge prompting design adaptations. Participants were encouraged to learn from multiple cases and adapt solutions as needed.

**Need for Analytical Frameworks**
Krishan and others noted the difficulty of making sense of the diverse DPI case studies available in reports and online repositories. There was a call for the community to develop a common analytical framework or set of descriptors (3-5 key points) for presenting and comparing DPI cases, to facilitate learning and transferability.

**Beyond Technology: Policy, Incentives, and Institutions**

Ben Addom and others stressed that successful DPI implementation depends as much on people, institutions, policies, and incentives as on digital tools. The Commonwealth's NAgDI approach, for instance, is designed to help countries improve processes beyond just deploying technology, by focusing on governance, stakeholder engagement, and policy alignment.

**Conclusion**

Participants were encouraged to consult several key resources for examples and frameworks (see the next section below) while the week was set to culminate in a webinar on the Commonwealth's NAgDI approach, with the aim of comparing community insights with this emerging policy guide and continuing the dialogue on practical DPI implementation in agriculture. Week 2 of the D4Ag eConversation provided a rich, nuanced exploration of the realities and challenges of implementing Digital Public Infrastructure in agriculture. The discussion moved beyond technology to address the importance of digitization, collaboration, governance, and context-specific design. Participants shared practical experiences and called for frameworks to better analyse and share lessons from diverse DPI initiatives. The week ended with a sense of momentum, as the community prepared to engage further with structured policy guidance and ongoing peer learning.

## Q3 What are some of the emerging common areas of interests that can be taken forward as we collaborate to roll out NAgDI in our countries?

**Introduction and Framing**
The week's discussion was launched by Ben Addom, who thanked participants for their engagement and recapped the previous week's focus on in-country implementation of DPI. He introduced NAgDI, developed by the Commonwealth Secretariat, as a holistic approach to agricultural data exchange. NAgDI is built on four pillars: Policies and Principles, Technologies and Systems, Governance and Administration, and Marketing and Business Models. The distinction between 'User data' and 'Content data' was also highlighted. Ben encouraged participants to reflect on practical experiences with DPI layers (e.g., National ID, Farmer ID, Field ID, Standards, Bilateral Data Exchanges) and to identify emerging common interests for collaboration

**Learning from Other Sectors and Resources**
Krishan Bheenick pointed out that DPI has gained traction in the social protection sector, with many lessons applicable to agriculture. He shared resources on interoperability and the concept of "stacks" in DPI, emphasizing the value of understanding both horizontal (technological) and vertical (functional) layers. Krishan invited others to consider how these stack concepts apply to agricultural DPI

**Country Experiences and Technology Platforms**
Ville Sirviö introduced X-Road, an open-source data exchange layer implemented in 27 countries, with growing adoption in Africa and Latin America. He provided links to resources and maps showing X-Road's global reach. Krishan shared examples from Benin (French) and Tanzania (English), demonstrating the regulatory and technological coordination needed for DPI implementation. These cases underscored that non-technological interventions (e.g., regulation, coordination) are as important as technical solutions

**Key Challenges and Tools**
Michel Mouchiroud highlighted the DPI Explorer, which documents DPI use in agriculture (e.g., India, Kenya, Rwanda), and the DPI MAP for global DPI adoption. He also mentioned interoperability standards for social protection and farmer registries. Krishan referenced a presentation on OpenSPP in Sri Lanka, which demonstrated how DPI can trace

fertilizer use and support modular, standards-based registries managed by farmer organizations. This raised questions about the ease with which other countries could replicate such systems and the potential for federations of farmer organizations to prepare for national integration

**The Role of Registries and Modularity**
Michel argued that even without full DPI rails (Digital ID, Data Exchange, Payments), a well-designed Farmer Registry can serve as a foundational building block. Such registries address data fragmentation, enable interoperability, and support inclusion by verifying eligibility and targeting support. OpenSPP's modularity allows countries to adopt only the needed components, promoting adaptability and avoiding vendor lock-in. Michel also asked about private sector incentives to participate in or leverage such registries

**Critical Reflections and Concerns**
Charles Dhewa raised concerns about the rationale for large-scale registries, questioning whether the investment matches the needs and whether centralization could lead to inefficiencies, privacy risks, and loss of local resilience. He argued that local knowledge silos can be more resilient and that digital tools should empower communities rather than centralize control. Charles also doubted the private sector's interest in public-good data, except for companies seeking captive audiences

Ben Addom responded that NAgDI's goal is not centralization but harmonisation and interoperability among existing registries, reducing redundant data collection and enabling systems to "talk to each other." The "From Silos to Systems" theme is about connecting silos, not eliminating them, to enable better macro-level decision-making while maintaining sovereignty over local data

**Governance, Ownership, and Trust**
Gram Disha Trust and others raised questions about the governance, ownership, and transparency of DPI and NAgDI, especially regarding global versus local control, conflict of interest, and data sovereignty. They referenced concerns in India about big tech involvement in agricultural data and called for transparency and community control. The conversation also touched on open-source principles (e.g., copyleft, reciprocity) as potential models for governance

Ben clarified that NAgDI is not a DPI but a delivery approach for DPI, emphasizing a holistic, process-focused model that includes technology, policy, governance, and business strategies. He provided definitions of DPI from various organizations and explained that NAgDI's "I" (infrastructure) is broader and more holistic than traditional DPI

**Synthesis and Next Steps**
Krishan summarized that the week's discussion revealed both mistrust of centralization and an appreciation for modular, community-empowering approaches. He suggested that local mastery of data should precede larger-scale sharing and that platforms like OpenSPP could be tailored for local use before considering aggregation. The Commonwealth Secretariat's Policy Guide (with 64 activity clusters) was proposed as a framework for further discussion. The week closed with an invitation for more sharing of local experiences and collaborative model-building

**Key Takeaways**
- NAgDI is positioned as a holistic, process-focused approach to delivering DPI in agriculture, emphasising interoperability and harmonization rather than centralisation.
- Registries (e.g., Farmer Registries) are seen as foundational, but their design should prioritize modularity, inclusion, and local empowerment.
- Concerns about centralisation, data sovereignty, and private sector motives were prominent, with calls for transparency, community control, and open-source governance models.
- Practical experiences from various countries (e.g., Benin, Tanzania, Sri Lanka) highlighted the importance of regulatory, technological, and community coordination.
- The conversation remains open, with a focus on learning from diverse local experiences and building collaborative frameworks for agricultural data infrastructure.

## Q4 What are the practical applications and macro-level use cases that we would like to explore using NAgDI as the delivery approach to DPI in Agriculture?

**1. NAgDI as a Delivery Approach to DPI**

The week began with clarifying that NAgDI is not itself DPI, but rather a delivery approach built on DPI principles. NAgDI is seen as an "infrastructure" that enables others to build services, with four key components: Policies and Principles, Technologies and Systems, Governance and Administration, and Marketing and Business Model. This expanded view aligns with the idea that infrastructure in agriculture must go beyond technology to include governance and business aspects.

**2. Launch of the NAgDI Policy Guide and Key Questions**

The week coincided with the release of the NAgDI Policy Guide. The main question posed was: "What are the practical applications and macro-level use cases that we would like to explore using NAgDI as the delivery approach to DPI in Agriculture?" Participants were encouraged to discuss use cases, collaboration models, and the role of The Commonwealth and the NAgDI Community of Practice.

**3. Practical Applications and Use Cases**

**Ben Addom** emphasized that NAgDI is not for direct end-user service provision but supports service providers. A highlighted macro-level use case is enabling data analytics tools and AI-enabled services in agriculture. The value of NAgDI is in making large, diverse datasets accessible, which can improve AI models and advisory services for smallholder farmers and service providers, reducing the cost and effort of data collection. The infrastructure allows for data exchange under agreed policies, managed by an independent entity, enabling service providers to access datasets from different regions and partners, thus strengthening AI-enabled agricultural services.

**4. Analogy and Implementation Challenges**

**Krishan Bheenick** used the analogy of roads adapted for agricultural use to illustrate how NAgDI provides the "tarmac" and regulatory framework, making DPI usable and relevant for agriculture. The conversation also touched on the "chicken and egg" dilemma: whether to scale DPI first or demonstrate value at the farmer level before scaling.

The need to document benefits from DPI investments and compare them with local needs was highlighted as a way to justify and plan NAgDI implementation.

**5. Steps for Planning and Change**

**Prof Simon Cook's** process for digital change was referenced:

- Identify expected changes from digital adoption.
- Consider where in the food system change could occur.
- Define the value proposition of digital.
- Determine how value will be captured and by whom.

The group was encouraged to discuss which use cases to prioritize and learn from existing examples in various countries.

**6. International Experiences and Reflections**

**Sander Janssen** shared lessons from the Netherlands' AgroDataCube, noting that once infrastructure is in place, new use cases emerge organically, such as environmental monitoring and farm management tools. However, it takes time for end-users to understand and benefit from new information, emphasizing the importance of starting infrastructure development early.

He also noted the lack of integrated governance for agricultural data compared to weather data, suggesting this as a gap for NAgDI to address.

**7. Mali's Experience**

**Modibo G. Coulibaly** described Mali's Agricultural Digitisation Centre, an initiative begun in 2018 that aims to transform the agricultural system in Mali and the broader region. The centre is seen as a revolutionary step for agricultural, food, and nutrition system transformation.

Overall, week 4 focused on the practicalities of implementing NAgDI as a sectoral approach to DPI, the importance of infrastructure and governance, real-world use cases, and the need for collaboration and community support to realize the benefits of digital transformation in agriculture.

**Some Statistics on the e-Discussion on D4Ag**

| Starting date: | 29 September 2025 | Closing date: | 24 October 2025 | New Members: | 71 |
|---|---|---|---|---|---|
| Number of posts: | Q1 | Q2 | Q3 | Q4 | Total |
| | 33 | 11 | 21 | 7 | **72** |

# C

## Overview of NAgDI and e-Discussion Podcasts (AI-generated)

**Week 1 Audio Alternative:** Listen to introduction the overall topic of NAgDI as a delivery approach to DPI in Agriculture "NotebookLM AI-generated Deep Dive" podcast (https://youtu.be/6FR31PWx-MI?si=IkYwH0gRuUMHc-Do)

**Week 2 Audio alternative:** Listen to the "NotebookLM AI-generated Deep Dive" podcast based on Week 2 of the e-Discussion (around 15 minutes): (https://youtu.be/8eW3aVFpf7M?si=PJwgqvdZLd9iGvo1)

**Week 3 Audio alternative:** Listen to the "NotebookLM AI-generated Deep Dive" podcast based on Week 3 of the e-Discussion (around 15 minutes): (https://youtu.be/uJo0s3AZFlk?si=3zpeVUZGSlsMocrD)

**Week 4 Audio alternative:** Listen to the "NotebookLM AI-generated Deep Dive" podcast based on Week 4 of the e-Discussion (around 15 minutes): (https://youtu.be/4T5fbcYiHTI?si=6EzHYzUZBL5Xqgp-)

# D

## Resources for the 4 Weeks e-Discussions

**List of URLs referenced during Week 1 of the e-Discussion on D4Ag**

- The DPI Approach: A Playbook (UNDP, India G20 Presidency) https://www.undp.org/sites/g/files/zskgke326/files/2023-08/undp-the-dpi-approach-a-playbook.pdf
- Instructions on How the eConversations Work https://dgroups.io/g/d4ag/wiki/28552
- AgroDataCube (Netherlands) https://agrodatacube.wur.nl/
- Earth Informatics, Wageningen University & Research https://www.earthinformatics.eu/
- GAERS (Global Agricultural Extension and Rural Services) https://gaershub.com/
- World Bank Digital Public Infrastructure White Paper http://tiny.cc/wv8t001
- World Bank Digital Transformation of Agri Food System Report http://tiny.cc/dw8t001
- Digital Public Goods Alliance Annual Reports https://www.digitalpublicgoods.net/annual-reports
- ADB Policy Brief http://tiny.cc/8w8t001
- World Bank Digital Public Infrastructure and Development White Paper (March 2025) https://documents1.worldbank.org/curated/en/099031025172027713/pdf/P505739-84c5073b-9d40-4b83-a211-98b2263e87dd.pdf
- A Digital Public Infrastructure Approach for the Agriculture Sector (Sep 2025) https://vitalwave.com/wp-content/uploads/2025/09/DPI-Approach-for-Agriculture-Sector_Final_.pdf

**List of URLs referenced during Week 2 of the e-Discussion on D4Ag:**

- Access Agriculture (Malawi case study) https://www.accessagriculture.org/
- AgroInsight blog (Malawi farmer story) https://www.agroinsight.com/blog/?p=1556
- Farm Radio Trust (Malawi) https://www.facebook.com/FarmRadioMw/posts/get-in-touch-with-us-to-know-more-about-our-servicesfor-agricultural-advisory-se/4034151623350187/
- CABI PlantwisePlus Knowledge Bank https://plantwiseplusknowledgebank.org/
- 2nd International Conference of OFE (On-Farm Experimentation) 2023 Papers https://hdl.handle.net/1813/116214
- Robert Karanja Presentation (NAgDI, Africa case studies) https://dgroups.io/g/d4ag/files/Webinar26Sept2025/Robert%20Karanja%20Presentation%20NAgDI%20September%2026,%202025.pdf
- UNDP Report: Accelerating the SDGs Through Digital Public Infrastructure – India's G20 Presidency https://www.undp.org/sites/g/files/zskgke326/files/2023-12/undp-accelerating-the-sdgs-through-digital-public-infrastructure-v2.pdf
- DPI Map (Digital Public Infrastructure Map) https://DPIMap.org
- YouTube: What makes DPI scale | Dr. Pramod Varma (Chief architect of the India Stack) | DPI Masterclass https://www.youtube.com/watch?v=fc2TjULsSIc

**List of URLs referenced during Week 3 of the e-Discussion on D4Ag:**

- Digital Convergence Initiative – Data exchange platforms for interoperability: country approaches: https://spdci.org/events/dialogue-series-session-20/
- DPI Handbook (Research and Information System for Developing Countries): https://pn.ispirt.in/wp-content/uploads/2025/08/DPI-Handbook.pdf
- A Digital Public Infrastructure Approach for the Agriculture Sector (Vital Wave, OpenAgriNet, World Bank, Gates Foundation, Co-Develop): https://vitalwave.com/wp-content/uploads/2025/09/DPI-Approach-for-Agriculture-Sector_Final_.pdf
- YouTube – Minister for ICT in Tunisia, Dr Nizar Ben Neji, on Data Sharing and Interoperability: https://youtu.be/NtlzND0lCCM?t=265
  (Benin case: https://youtu.be/NtlzND0lCCM?t=1152)
  (Tanzania case: https://youtu.be/NtlzND0lCCM?t=3647)
- X-Road global information: https://x-road.global
  (Map of countries: https://x-road.global/xroad-world-map)
- DPI Explorer – Agriculture sector: https://www.dpiexplorer.org/explore?sectors=Agriculture
- DPI MAP (UCL IIPP): https://dpimap.org/
- Digital Convergence Initiative – Interoperability standards for farmer registry: https://spdci.org/news/dci-releases-interoperability-standards-farmer-registry/
- YouTube – OpenSPP implementation in Sri Lanka (ID4Africa Conference): https://youtu.be/OM43S1_ImRM?t=3820
- India Public Food Procurement and Supply program: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2179514#:~:text=NFSA%20legally%20entitles%20up%20to,receive%20adequate%20food%20and%20nutrition.
- Joint letter to the Agriculture Minister (India, National Agristack): https://internetfreedom.in/joint-letter-to-the-agriculture-minister/
- FSF and GPL (copyleft): https://sfconservancy.org/news/2014/nov/07/copyleft-org/#:~:text=Its%20primary%20project%20is%20currently,studies%20of%20copyleft%20compliance%20situations.
- FSF enforcement principles: https://www.fsf.org/licensing/enforcement-principles
- FSF v Cisco (2008): https://www.scl.org/1420-fsf-v-cisco/#:~:text=The%20complaint%20asserts%20that%20Cisco,GNU%20Binutils%2C%20and%20GNU%20Debugger.
- Big Tech's market dominance (CBLTRGNUL): https://www.cbltrgnul.in/post/big-tech-s-market-dominance-challenges-and-interventions#:~:text=12%5D,data%20exploitation%2C%20and%20unfair%20competition.
- Open Network for Digital Commerce (ONDC): https://ondc.org/
  (Open data: https://opendata.ondc.org/)
  (Network participants: https://ondc.org/network-participants/)

**List of URLs referenced during Week 4 of the e-Discussion on D4Ag:**


- Abhay T. (2025) Helping Farmers with Smart Tools - AgriTech Survey on IoT Solution for Smallholders. https://gramdisha.org/iot-agritech-smallholders/
- ADB (2024) Exploring the Different Financing Models for Digital Public Infrastructure and Why They Matter. https://doi.org/10.56506/VYDL5566
- Ardic A., Oya P.; Clark J.; Galicia R., Guillermo A.; Marin G. (2025) Digital Public Infrastructure and Development: A World Bank Group Approach - Digital Transformation White Paper: Volume 1 (English). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/099031025172027713
- Clark, J., Marin, G., Ardic Alper, O.P., Galicia Rabadan, G.A. 2025. Digital Public Infrastructure and Development: A World Bank Group Approach. Digital Transformation White Paper, Volume 1. Washington, DC: World Bank. https://documents1.worldbank.org/curated/en/099031025172027713/pdf/P505739-84c5073b-9d40-4b83-a211-98b2263e87dd.pdf
- Gupta-jee (2025) SLM–IoT Integration for Natural Farming. https://gramdisha.org/slm-iot-integration-for-natural-farming/
- Schroeder K., Lampietti J. and Elabed G. 2025. 2021. What's Cooking: Digital Transformation of the Agrifood System. Agriculture and Food Series;. © World Bank. http://hdl.handle.net/10986/35216 License: CC BY 3.0 IGO."
- The Commonwealth Secretariat (2025) National Agricultural Data Infrastructure: A Policy Guide. https://thecommonwealth.org/publications/national-agricultural-data-infrastructure-policy-guide
- UNDP. (2023) Accelerating the SDGS Through Digital Public Infrastructure. A Compendium of The Potential of Digital Public Infrastructure, https://www.undp.org/sites/g/files/zskgke326/files/2023-12/undp-accelerating-the-sdgs-through-digital-public-infrastructure-v2.pdf
- UNDP. The DPI Approach, A Playbook (2023) https://www.undp.org/sites/g/files/zskgke326/files/2023-08/undp-the-dpi-approach-a-playbook.pdf
- Vital Wave, OpenAgriNet, World Bank, Gates Foundation, Co-Develop. (2025) A Digital Public Infrastructure Approach for the Agriculture Sector –. https://vitalwave.com/wp-content/uploads/2025/09/DPI-Approach-for-Agriculture-Sector_Final_.pdf


**Cited websites:**


- The State of the DPG Ecosystem Reports. https://www.digitalpublicgoods.net/annual-reports
- EPPO Global Database. https://gd.eppo.int
- Access Agriculture. https://www.accessagriculture.org
- PlantwisePlus Knowledge Bank. https://plantwiseplusknowledgebank.org
- The Digital Public Infrastructure Map: Tracking national-scale digital infrastructure around the world. https://dpimap.org
- Data for Public Good. https://dataforpublicgood.org.in/


**Cited online multimedia**


- National Agricultural Data Infrastructure explainer animation. https://vimeo.com/1129495846
- What makes DPI scale by Dr. Pramod Varma (Chief architect of the India Stack) | DPI Masterclass https://www.youtube.com/watch?v=fc2TjULsSIc


## Collaborating organisations

The Commonwealth Connectivity Agenda · Digital Agri Hub · DIASCA Digital Integration of Agricultural Supply Chains Alliance · AGRA Sustainably Growing Africa's Food Systems · FARMERLINE