



Policy Brief

TRANSFORMING AGRICULTURE THROUGH DIGITAL FARMER REGISTRIES

GSMA

Mobile for
Development

M4D





The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive.

Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

We invite you to find out more at www.gsma.com

GSMA Mobile Money

The GSMA's Mobile Money programme works to accelerate the development of the mobile money ecosystem for the underserved.

For more information, please contact us:

www.gsma.com/mobilemoney

mobilemoney@gsma.com



Visa is a world leader in digital payments, facilitating transactions between consumers, merchants, financial institutions, and government entities across more than 200 countries and territories. The "Digital Finance for All" (DFA) initiative, a Visa-funded partnership between Visa and the GSMA Mobile for Development Foundation, is committed to advancing sustainable growth. The DFA programme aims to enable individuals and small and micro businesses (SMBs) in low and middle-income countries (LMICs) with digital financial services and financial education to bolster financial inclusion.

Authors

Panos Loukos, Director, Financial Inclusion, GSMA

Digileap Advisory Services

Contents

01	Introduction	04
02	Bottlenecks in agricultural value chains in LMICs	05
03	Harnessing the opportunity of digital farmer registries	07
04	Recommendations for policymakers	11
05	Conclusion	13
	Annex	14

Introduction

Smallholder farmers are an integral part of the food system, producing more than 30% of food globally and representing more than 80% of the world's farms. Most smallholders live in low- and middle-income countries (LMICs), primarily in Asia and Sub-Saharan Africa. Collectively, they manage about a quarter of the world's cropland and play a key role in the production of cash crops like rice, cocoa and tea.¹

Across LMICs, agricultural value chains face a variety of challenges. Agriculture and food systems are under pressure from climate change, population growth and market volatility.

Smallholder farmers often cannot access formal credit, subsidies, or affordable insurance because they lack verified identity documents (ID) or financial records.

This missing or inaccurate information makes it difficult for governments to establish transparent supply chains and monitor agricultural support services. Governments also grapple with fraudulent subsidy claims, most of which are the result of poor identity verification and data gaps.

Traditional government support mechanisms for smallholder farmers, like input subsidy programmes delivered through manual registries, are no longer sufficient for 21st century agriculture and food systems. Increasingly, governments are turning to digital solutions to create a more resilient agricultural sector, improve agricultural productivity and enhance service delivery to farmers. One of the most promising tools is digital farmer registries (DFRs), which have the potential to transform agricultural value chains.

This policy brief examines whether government-led DFRs, which are closely linked to official identity systems, can resolve challenges in agricultural value chains. Drawing on desk research and interviews with DFR practitioners,² it identifies bottlenecks for governments, financial service providers (FSPs) and farmers, highlights insights from successful DFRs in seven LMICs and offers actionable policy recommendations.

¹ GSMA. (2020). *The GSMA AgriTech Toolkit for the Digitisation of Agricultural Value Chains*.

² DFR practitioners that participated in the research included the Food and Agriculture Organization of the United Nations (FAO) (HQ), IFAD (HQ), OpenSPP, TBI (Kenya), an independent researcher, and representatives from the Governments of Ethiopia, Nigeria and Rwanda.

Bottlenecks in agricultural value chains in LMICs

Across LMICs, agricultural value chain actors, including governments, FSPs and farmers themselves, encounter a variety of barriers, or bottlenecks, that prevent them from operating at their full potential. Understanding these constraints is critical for developing DFRs that mitigate the risks these actors face.

Bottlenecks for governments

Fragmented data leads to inefficient subsidy distribution and fraudulent claims

In the absence of comprehensive farm and farmer profiles, value chain actors in LMICs have resorted to using multiple, project-specific registries to deliver agricultural services and subsidies.³ These functional registries are typically created on an ad hoc basis by government agencies, development partners and FSPs, each designed to serve a specific programme or intervention. While these registries provide a quick way to address immediate programme needs, they create a fragmented data landscape where farmers must register separately for fertiliser subsidies, seed programmes, credit schemes or crop insurance, which may have overlapping or inconsistent information requirements.⁴

This fragmented approach has become the default across LMICs because it is perceived as simpler and faster to implement than building comprehensive, open and interoperable systems that accommodate the needs of both public- and private-sector actors. However, functional registries inadvertently create the very problems they were meant to solve. Capturing information manually and storing it in siloed databases leads to subsidy fraud, drives up administrative costs and creates data gaps that make strategic oversight more difficult for decision-makers.⁵

Bottlenecks for FSPs

Limited data on farmers' economic activities makes it difficult for FSPs to assess creditworthiness and offer credit

To provide loans to farmers, FSPs need to evaluate their creditworthiness, often relying on proxy indicators derived from data on their financial activity. Without verified data on land tenure, yield history or transaction patterns (i.e. evidence of an economic identity),⁶ FSPs cannot properly assess creditworthiness.⁷ While some project registries use farmers' functional or privately issued IDs to capture their data, these are often not compliant with know-your-customer (KYC) regulatory requirements that usually mandate proof of a government-issued or recognised form of identification.⁸

Manual data collection drives up costs and reduces efficiency

Functional project registries incur high operational costs because they typically require in-person registration or inspection visits to manually record farmers' details, along with information on land tenure and yields. Tasks such as verifying identities, removing duplicate records, issuing credentials (e.g. paper IDs or digital login details where online portals exist) and maintaining authentication logs, are far more costly than leveraging existing national digital identity infrastructure and querying official sources online. Maintaining updated records poses additional major administrative challenges, especially when they are not interoperable with other databases like a country's civil registry.⁹

3 FAO and GIZ. (2023). *Farmer Registries and Social Protection Information Systems: Harnessing Interoperability to Improve Outcomes for Rural Populations*.

4 Digital Convergence USP2030. (2023). *Interoperability in Action: Workshop #4 – Social Protection Information System Interacting with Farmer Registry*.

5 European Court of Auditors. (2022). *Special report: The Commission's response to fraud in the Common Agricultural Policy*.

6 An economic identity is a dynamic citizen profile that captures an individual's life events, assets and transaction history. For farmers, digitalising the procurement of crops helps to establish an economic identity through transactional data from the sale of agricultural products. In combination with other farm and farmer data, this data opens full financial inclusion to farmers, including access to credit, savings and insurance products.

7 GSMA. (2020). *The GSMA AgriTech Toolkit for the Digitisation of Agricultural Value Chains*.

8 World Bank. (2018). *The Role of Digital Identification in Agriculture: Emerging Applications*.

9 Ibid.

Bottlenecks for farmers

The gender gap and lack of ID drive financial exclusion

According to a recent World Bank study,¹⁰ more than 140 million adults in Sub-Saharan Africa receive agricultural payments in cash due to their inability to access formal financial services. Around 47% of them are women. Cash payments leave recipients vulnerable to loss or theft, require physical proximity to collect and spend the payments and they are untraceable.

In LMICs, 45% of adults¹¹ are unable to access credit within 30 days, largely due to a lack of documented financial history. Women are less likely¹² than men to have formal identification, which further impedes access to formal finance. DFR practitioners who participated in key informant interviews (KIIs) reported that many farmers seeking loans rely on manual identification processes, such as letters from governmental or non-governmental agricultural bureaus that represent the interests of farmers. Two interviewees noted that mainstream financial products fail to meet the needs of smallholder farmers and uptake remains low due to rigid repayment structures ill-suited to seasonal farming cycles.

45%

In LMICs, 45% of adults are unable to access credit within 30 days.

Weak data governance reduces access to services

While legal frameworks for data privacy and protection are increasingly being enacted in LMICs, they are not being applied consistently.¹³ This could be due to weak administrative capacity, lack of resources, the absence of relevant data-sharing policies and low awareness or political will regarding data protection and privacy issues.¹⁴ Such challenges often delay data sharing between government agencies and private-sector actors such as FSPs and agribusinesses. The absence of clear safeguards also makes project registry custodians reluctant to share data with private-sector actors, while farmers may resist sharing their data with public or private sector entities. As a key informant explained, "One of the reasons that it's been very hard to share data is that there's no framework of how we would exchange data across different partners with different interests." This lack of consent management and data governance mechanisms hinder data use and, ultimately, access to financial products and services.

Systemic challenges create a digital divide and inhibit financial inclusion

Poor digital infrastructure, low digital literacy and language barriers – all of which are exacerbated by a gender gap – have created a digital divide between smallholder and larger-scale farmers. While 84% of adults in LMICs own a mobile phone and 3 billion have smartphones, rural populations face persistent barriers¹⁵ to the adoption of digital financial services (DFS).¹⁶ This is a particular challenge for female farmers, as women across LMICs are 14% less likely than men to own a smartphone or use mobile internet.¹⁷ For those who are already aware of mobile internet, the top reported barriers to adopting it are affordability and literacy and digital skills, inhibiting digital financial inclusion.

10 World Bank. (6 November 2024). "Data from the Global Findex 2021: Digitalizing Agricultural Payments in Sub-Saharan Africa".

11 World Bank. (2024). *Financial Inclusion: Lessons from World Bank Group Experience, Fiscal Years 2014–22*.

12 World Bank. (2021). *Digital Credit for Smallholder Farmers: Lessons Learned from the Field*.

13 Wagner, B. and Ferro, C. (2020). *Data Protection for Social Protection: Key Issues for Low- and Middle-Income Countries*. Social Protection Interagency Cooperation Board (SPIAC-B). Commissioned by the GIZ Sector Initiative Social Protection.

14 Ibid.

15 World Bank. (2025). *Digital Agriculture Roadmap Playbook*.

16 World Bank. (2025). *Global Findex Database 2025: Connectivity and Financial Inclusion in the Digital Economy*.

17 GSMA. (2025). *The Mobile Gender Gap Report 2025*.

Harnessing the opportunity of digital farmer registries

Digital farmer registries (DFRs) are a secure, electronic information system – typically managed or endorsed by a government or public authority – that systematically collect, validate and manage up-to-date data on farmers, their households and their agricultural activities.

Governments in several LMICs have implemented DFRs to facilitate the planning, delivery and monitoring of agricultural support services and social protection, and enable data-driven engagement with private-sector actors from the agricultural ecosystem, such as financial institutions, agricultural input suppliers and agribusinesses.

While still a nascent concept in many LMICs, early success stories suggest that well-designed DFRs could help address several bottlenecks in the agricultural value chain.

This policy brief draws on research of DFR implementations at various stages in seven LMICs: Cambodia, Ethiopia, Kenya, India, Nigeria, Rwanda and Sri Lanka. Only India and Kenya (see Figure 1 and Annex) have scaled DFR deployments, while registries in the other countries are still in the pilot stage, largely limited to regional initiatives. Early success stories demonstrate that government-led or commissioned DFRs can serve as secure systems for capturing validated information on farmers, their farms and their agricultural activities.

A common reason for developing and using DFRs is to transform how agricultural value chains function and deliver benefits – for governments, farmers, lenders and agribusinesses alike. By providing reliable, validated data, DFRs can reduce inefficiencies, improve transparency and enable more inclusive access to finance, inputs and markets.

Case studies of live DFR deployments

INDIA

Unified Farmer Service Interface (UFSI)¹⁸

System overview

India's UFSI is one of the world's most comprehensive DFRs, integrating three federated and authenticated registries that collectively answer who the farmer is, where their land is located and what crops are grown on it. The UFSI offers individual farmer identification and verification, a geo-referenced village map registry with precise land mapping and ownership verification and a crop-sown registry with real-time crop cultivation tracking.

Impact

The UFSI has enabled FSPs in India to fetch verified farmer, land and crop details directly, enabling working capital credit approvals in under 30 minutes, replacing what was previously a drawnout, multiweek process.

Audits have led to the recovery of Rs. 416 crore (approx. \$47 million) from ineligible beneficiaries nationwide by crossverifying claims against the digital registry and Aadhaar records.¹⁹

Implementation results

- 60 million farmers registered across 17 states
- 253 million farm plots mapped with geo-referenced coordinates

Challenges addressed

Inadequate identity verification, land ownership disputes, subsidy fraud and data gaps for decision-making

¹⁸ ICRISAT Center of Excellence for South-South Cooperation in Agriculture (ISSCA). (n.d.) *Digital Public Infrastructure for Agriculture – AgriStack*.

¹⁹ Business Standard. (25 March 2025). "Govt recovers Rs 416 cr from ineligible farmers under PM-KISAN: Centre".

Kenya Integrated Agriculture Management Information System (KIAMIS)

System overview

Kenya's KIAMIS is a digital platform designed to coordinate agricultural data and support service delivery for the Kenyan government. While not yet comprehensive, its core components include:

- A single, government-managed DFR (demographics, farm location, landholding data and activity history)
- An e-voucher and subsidy management module
- Data collection, integration and reporting tools (to ensure real-time collection and analysis of agricultural information across government agencies)
- An agro dealer and service provider interface

Implementation results

- 6.8 million farmers successfully linked to the registry system²⁰
- Integrated service delivery through e-voucher and advisory services
- Direct connection between farmer identification and agricultural input distribution

Impact (through the e-voucher / e-subsidy initiative linked to KIAMIS)²¹

- 58% reduction in fertiliser costs to KES 2,500 (approx. \$19) in 2024, making it more affordable for farmers – a direct outcome of digital targeting and transparent distribution²²
- 514% increase in fertiliser distribution between 2022 and 2024
- 39% increase in maize production between 2022 and 2023 as reported by farmers registered under KIAMIS
- Enhanced targeting of agricultural advisory services based on verified farmer data

Challenges addressed

Inadequate identity verification, weak input subsidy targeting, reduced access to agricultural advisory, poor productivity, geographic verification issues

20 KBC Digital. (28 June 2025). "Government scales up agricultural reforms to boost productivity, food security".

21 Mezzanine. (2024). *Transforming Agriculture: The Impact of Cashless Value Distribution with eVoucher*.

22 The drop in fertiliser costs in 2023–24 was partly attributed to the National Fertiliser Subsidy Programme (NFSP), which the Kenyan government introduced in 2022 in response to fertiliser prices doubling early that year – an impact of the Ukraine-Russia conflict. KIAMIS was the distribution platform that enabled the NFSP to be implemented.

Evidence from India and Kenya shows that well-designed DFRs can systematically strengthen agricultural value chains by addressing the barriers that restrict smallholder farmers' access to services, credit, social protection²³ and productive inputs. The following are the main findings from the research:

- 1 Some government-led DFRs have already had an impact.** There is evidence of more accurate subsidy targeting, higher yields, lower input costs and reduced fraud through stronger verification. In several cases, existing subsidy and insurance schemes were effective launchpads for DFRs.
- 2 Stand-alone registries that are not linked to official forms of identification create KYC challenges, hinder service delivery and increase the risk of fraud and double enrolment.** By contrast, DFRs that are closely linked to official ID and core registries enable accurate identity verification and allow systems to be automated and integrated with financial services.
- 3 Farmer buy-in tends to be weak when registration is optional or not linked to tangible benefits.** Participation rates soared when DFR validation was required to access subsidies, inputs, crop insurance or markets (e.g. Kenya's e-voucher programme). Farmers who are harder to reach and less digitally adept tend to require support and incentives to create and keep their DFR profiles up to date.
- 4 DFRs have greater economic impact when they are integrated across the ecosystem and actively used by public- and private-sector actors.** Beyond government agencies, engagement from agribusinesses, lenders, insurers and other actors enables DFRs to unlock efficiencies, expand access to credit and strengthen market linkages for farmers.

- 5 DFRs rely on the effective and accurate capture and processing of farmer and farm data.** Farmers are often reluctant to share their information without strong safeguards against misuse while data processors, such as DFS providers and other value chain actors, are also unlikely to adopt or rely on DFRs unless robust and transparent data governance frameworks are in place.
- 6 Government monitoring and evaluation of farmer registries, including DFRs, remains limited, particularly for impact metrics like benefits for farmers, changes in yields or improved access to finance.** At the same time, duplication of registries by public- and private-sector actors persists, reducing efficiency and increasing fragmentation.

Evidence suggests that private-sector technology providers play a crucial role in the successful roll-out and ongoing enhancement of DFRs. Agritechs, fintechs and large digital infrastructure providers have introduced cutting-edge solutions, ranging from mobile-based profiling and biometric validation tools to cloud-based recordkeeping, artificial intelligence (AI) for big data analysis and geospatial mapping platforms. In public-private partnerships (PPP), these organisations can bring rapid innovation, user-centric service design and scalable systems, which can complement the government's capacity to build and maintain robust DFRs that address fraud and data gaps.²⁴ By engaging the private sector as an innovation and technology partner, and an ecosystem integrator, governments can address evolving needs in registry access, inclusion and data-driven service delivery far more effectively than by acting alone.

23 FAO. (25 April 2025). "New standards launched to connect farmer registries and social protection systems".

24 FAO. (2016). *Public-Private Partnerships for Agribusiness Development - A review of international experiences*.

04

Recommendations for policymakers

01

Governments should endorse and participate in the development of a national and comprehensive DFR even when delivery is sub-contracted to the private sector.

Appoint a champion authority with clear implementation powers while also facilitating cross-institutional coordination, for example, multistakeholder steering committees. Consider using existing subsidy, insurance or cooperative registration programmes to bootstrap the national DFR. Government involvement in DFR governance will be crucial, but it should be approached in a way that builds stakeholder trust, expands farmers' choices and access to financial services, avoids conflicts of interest and encourages active participation from the private sector.

02

Integrate DFRs with government-recognised identification systems and official data registries (e.g. land registry).

Encourage the development of application programming interfaces (APIs) to link and verify farmers' identities against a government-recognised identity database to ensure DFRs meet national KYC and service delivery standards. DFRs are more comprehensive and effective when they profile not only farmers but also their farms, crops, livestock and value chain activities.²⁵ While official data sources can be integrated during set-up, DFRs should also incorporate private-sector data that provide insights into a farmer's economic activity.

03

Incentivise and support farmers to register.

Strengthen farmer participation in DFRs by raising awareness of the benefits of registration and requiring validation of their profile as a condition of accessing services. Farmers could be offered direct incentives to register, such as faster subsidy disbursements, wider market access, crop insurance or even subsidised handset and mobile data credits. To be more inclusive, offer offline and assisted registration channels, such as USSD, agricultural extension workers or farmer cooperatives, and ensure that field agents are equipped with digital devices and trained to capture and store data consistently. Implement policies that specifically address the needs of women, youth and other marginalised groups. For example, governments should actively support private-sector initiatives to improve the digital and financial literacy of these groups.

25 Bujoreanu, L. et al. (2018). *The Role of Digital Identification in Agriculture: Emerging Applications* (English). World Bank Group.

04

Openness and interoperability are essential for public- and private-sector actors to fully leverage a DFR.

Developing open APIs and interoperable architecture allows integration with DFS providers, agribusinesses, insurers, cooperatives and social protection systems – creating a “single source of truth” that supports more accessible and targeted services. For example, lenders could use DFR data such as land parcel records or transaction histories to develop credit-scoring models and extend loans to farmers previously excluded from formal finance.

05

Establish clear legal frameworks for data governance and security.

Robust provisions for data protection, cyber-security, resilience and consent management are critical to enable multi-agency access, two-way data sharing and data monetisation. Data ownership, access rights and intellectual property should be defined at the outset, particularly in PPPs. These measures will help ensure that access to farmer data complies with best practice privacy and security standards and is conditional on the informed consent of farmers.

06

Regularly monitor and evaluate DFR data using available technologies.

Existing and emerging tools can enhance fraud detection and impact assessment. For example, AI and machine learning (ML)²⁶ models can cross-validate farmers’ self-reported information against reliable sources, such as land registry records, satellite imagery and weather datasets.²⁷ These tools can also be deployed to monitor transactions during loan disbursements and to track the broader impact of DFRs on productivity, financial inclusion, subsidy efficiency and welfare outcomes.²⁸ Combining AI with satellite intelligence makes it possible to verify crop patterns and acreage, validate farmer claims and support climate preparedness and resilience and land use planning. Seasonal dashboards can be developed to anticipate input requirements and forecast production volumes.²⁹

26 The integration of AI in DFRs represents a transformative approach to combating agricultural fraud and enhancing system integrity. See: Farmonaut, “AI-Powered Crop Monitoring: 7 Smart Ways to Boost Yields”.

27 AI-powered systems cross-reference satellite imagery, weather data and farmer-reported information to detect inconsistencies between reported and actual crop conditions, thereby preventing fraudulent subsidy and loan applications.

28 FAO. (25 April 2025). “New standards launched to connect farmer registries and social protection systems”.

29 The GSMA Innovation Fund, which supported digital agriculture services across multiple countries, found that AI-integrated farmer profiling systems significantly improved the accuracy of farmer verification and reduced duplicate registrations. See: GSMA. (2023). *The GSMA Innovation Fund for Digitisation of Agricultural Value Chains*.

Conclusion

DFRs represent a transformative opportunity for governments in LMICs to revolutionise agricultural value chains and unlock the potential of smallholder farmers.

The evidence from successful implementations in Ethiopia, Kenya, India, Nigeria and Rwanda demonstrates that well-designed DFRs can simultaneously address multiple systemic challenges that have long constrained agricultural development. The policy recommendations in this brief provide a comprehensive roadmap for establishing DFRs as core digital public infrastructure for agriculture. By integrating these systems with national identity frameworks, developing incentive-based engagement models and establishing robust data governance frameworks, governments can build the foundation for an inclusive transformation of agriculture.

The success stories reveal consistent benefits across diverse contexts: more accurate subsidy targeting, higher agricultural productivity, significant cost reductions for farmers and service providers and enhanced fraud prevention mechanisms. These outcomes show that comprehensive farmer identification, when linked to official identity systems and designed with interoperability, openness and effective data governance in mind, can resolve critical bottlenecks in the agricultural value chain that have historically excluded smallholder farmers from formal financial services and government support programmes.

However, successful implementation depends on political commitment, institutional coordination and sustained investment in both digital infrastructure and human capacity. Governments must champion these initiatives while fostering multi-stakeholder partnerships that leverage the expertise of development partners, private-sector actors and farmer organisations.

As the global food security challenge intensifies and climate change threatens agricultural livelihoods, DFRs offer a scalable, evidence-based solution for building resilient 21st century agriculture and food systems. The time for action is now. Governments that invest in comprehensive DFR systems today will be better positioned to support farmers, enhance food security, contribute to the growth of national economies and drive sustainable agricultural development for decades to come.

Additional case studies of DFR pilots examined for this policy brief

NIGERIA

Accelerated Agricultural Development Scheme (AADS) and new Digital Biometric Farmer Registry pilot

System overview

Nigeria's DFR, AADS, has claimed significant improvements in agricultural service delivery through enhanced farmer identification and verification processes.³⁰ However, the country is pioneering a new, biometric-enabled DFR. Agents capture farmers' National Identity Numbers (NINs) and biometrics (fingerprints) using mobile enrolment kits, querying against National ID Management Commission (NIMC) databases to provide verified identity information.³¹

Anticipated results

- 6 million farmers registered over 16 months (by the end of 2026)
- Comprehensive farm profiling includes geolocation coordinates, crop varieties and cultivation methods to assess farmers' creditworthiness and reduce banks' perceived risk when lending to smallholders

Anticipated impact

- Eliminate "ghost" farmers through unique biometric identification
- Enable services such as microloans, consumer credits, health insurance and student loans
- Lift farmers out of poverty through expanded access to financial products and services

Challenges to be addressed

Subsidy fraud, duplicate farmer registration, credit access barriers, data quality for policy formulation and KYC compliance

³⁰ CSM Tech. (24 June 2024). "Digitizing Africa's Agricultural Landscape: The Imperative for Farmer Registries".

³¹ National Identity Management Commission. (16 January 2025). "FMAFS/NIMC NIN-Enabled Farmer Registry & G2P Card Project". Press release.

Smart Nkunganire System (SNS) and upcoming DFR (not launched yet)

System overview

Rwanda's approach combines an operational fertiliser subsidy system (SNS) with a comprehensive DFR that is still under development. The focus remains on the SNS where extension workers register farmers using smartphones, with USSD available as a fallback for basic phones. The SNS is integrated with the National Identification Authority (NIDA) database through an API connection, allowing users such as lenders to validate farmers' identities in real time.

Impact (focused on subsidies but with plans to scale)

- Reduced fraud through the elimination of losses and duplicate records from manual processes
- Created payment efficiency as subsidy distribution became faster with automated processing
- Introduced system transparency with real-time visibility into farmer registration and subsidy allocation

Implementation results

- 2.8 million farmers registered in the subsidy programme³² (80% coverage)
- 5,400 livestock officers equipped with tablets and 23,000 extension workers equipped with smart devices to collect and validate farmer data in person

Challenges addressed

Inadequate identity verification, fraudulent subsidy claims, productivity gaps, data fragmentation and inefficient resource allocation

32 Data from KII and CGIAR. (6 January 2025). "A smart—and smartly delivered—advisory service for Rwanda's small-scale farmers".

DFR pilot to track comprehensive farm-level data, including GPS coordinates, input usage and agricultural activities

System overview

Launched in May 2025, the government-led DFR has registered 50,000 farmers. Integration with the Fayda National ID aims to create unique biometric farmer profiles, while collaboration with the private Lersha programme (280,000 farmers) is under discussion. Using the same ID required by banks, the DFR has strong potential to drive DFS and more efficient subsidy delivery.³³

Anticipated impact

- Improve access to DFS, particularly for previously underserved farmers
- Lower risk assessment costs to make lending to smallholders economically viable

Challenges to be addressed

High risk assessment costs, inefficient data collection, credit access barriers, credit decision delays and information gaps

Anticipated results

- 1 million farmers registered by the end of 2025

33 Information shared in KII.

GSMA Head Office

1 Angel Lane
London EC4R 3AB
United Kingdom

gsma.com

