

Unlocking SHG potential through Account Aggregator: A white paper on data-driven financial inclusion



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List of abbreviations

| | |
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| AA | Account Aggregator |
| AePS | <i>Aadhaar</i> -enabled Payment System |
| AMC | Asset Management Company |
| BBPS | Bharat Bill Payment System |
| BMMU | Block Mission Management Unit |
| CBO | Community Based Organization |
| CIF | Community Investment Fund |
| CLF | Cluster Level Federation |
| DBT | Direct Benefit Transfer |
| DMMU | District Mission Management Unit |
| DPI | Digital Public Infrastructure |
| e-KYC | Electronic Know Your Customer |
| ERP | Enterprise Resource Planning |
| FIP | Financial Information Provider |
| FIU | Financial Information User |
| GSTN | Goods And Services Tax Network |
| HFC | Housing Finance Company |
| IRDAI | Insurance Regulatory and Development Authority of India |
| LokOS | Lok (People in Hindi) Operating System |
| MCP | Micro Credit Plan |
| MIS | Management Information System |
| MSC | MicroSave Consulting |
| NBFC | Non-banking Financial Company |
| NMMU | National Mission Management Unit |
| NRLM | National Rural Livelihoods Mission |
| NTC | New To Credit |
| OTP | One Time Password |
| PFRDA | Pension Fund Regulatory and Development Authority |
| RBI | Reserve Bank of India |
| RE | Regulated Entity |
| ReBIT | Reserve Bank Information Technology |
| RF | Revolving Fund |
| RIA | Registered Investment Advisor |
| SBI | State Bank of India |
| SHG | Self-help Group |
| SRLM | State Rural Livelihood Missions |
| UIDAI | Unique Identification Authority of India |
| UPI | Unified Payments Interface |
| VO | Village Organization |

Preface: Sahamati

Over the past decade, India’s digital public infrastructure (DPI) has played a pivotal role in advancing financial inclusion. *Aadhaar*, *Jan Dhan*, Unified Payments Interface (UPI), and Direct Benefit Transfers (DBTs) have helped millions to open bank accounts, make digital payments, and start saving. These initiatives have helped address long-standing barriers around access and affordability. With basic financial services now within reach for most households, the next frontier lies in expanding access to products that are not universal but **depend on assessing a person’s financial profile—such as credit, insurance, or pensions. These “eligibility-driven products” require reliable data to determine who qualifies, on what terms, and at what scale, making them essential for deepening inclusion beyond the basics.**

The Account Aggregator (AA) framework empowers customers to access services such as credit, insurance, and wealth advisory by allowing individuals to **digitally and securely share their financial data in real time, with full consent, across institutions and even from remote locations.** Lending has quickly emerged as a high-impact use case, demonstrating how secure, consent-based data sharing can reduce friction and improve access to credit. But the full potential of AA will be realised only when it reaches the last-mile.

There are around 100 million women enrolled under SHG programs in India. They mostly avail loans from banks through traditional lending methodologies. This translates into human intensive activities both at the bank and the borrower levels. These extensive

process level complexities lead to a huge turn-around-time, resulting in millions opting for higher-priced informal loans. For women in Self-Help Groups (SHGs), AA opens an important new pathway. SHG funds have been a lifeline for many households, helping them to meet enterprise, asset-building needs and emergencies, With AA-enabled data sharing, SHG members will also become visible to banks, NBFCs, and other formal lenders, allowing them to access larger, market-linked capital that can further fuel enterprise growth, asset creation, and household resilience.

At its core, Sahamati’s mission is to put individuals in control of their financial data; empower users to access products and services that were previously out of reach, at better terms. This is the promise of the AA framework: to make consent-based, secure data sharing a tool for user agency. Extending this capability to the last mile is essential, because for any digital public infrastructure to be truly public, it must serve and empower every community, including those historically excluded from formal finance.

This whitepaper is a first step toward bringing together these two powerful forces together: India’s digital public infrastructure and its community-led social infrastructure. It outlines how the SHG and AA ecosystems can integrate to unlock responsible, scalable, and context-aware financial access for underserved communities.

The future of inclusive finance lies at the intersection of strong digital rails and empowered community institutions. This journey has only just begun.

Preface: MSC

This white paper represents a convergence of long-term commitments, grounded expertise, and a shared vision for the future of inclusive finance in India.

MSC (MicroSave Consulting), in its efforts to strengthen financial and digital inclusion, has had the privilege to work closely with the National Rural Livelihood Mission (NRLM) and the State Rural Livelihood Missions (SRLMs) in various capacities. Over the years, MSC has supported and strengthened the ecosystem of community-based organizations (CBOs). These engagements have offered us a comprehensive view of how they function, the constraints they face, and the support they need.

In parallel, MSC has also been at the forefront of the development and design of use cases for India's **digital public infrastructure (DPI)**, which include close collaboration with UIDAI, NPCI and work underway in the account aggregator (AA) ecosystem. Our conviction that the intersection of SHGs and DPI holds transformative potential emerged naturally from these engagements. The idea that SHG members, especially women, could use their transaction history to access broader financial opportunities aligns with our long-held belief: **that SHG data is a goldmine for responsible and relevant financial service delivery.**

This journey was made possible through the steadfast support of **Sahamati**, an industry alliance for the AA ecosystem. Sahamati has played a key role as a knowledge partner to bring deep expertise on how the AA framework can address some of the industry's most significant challenges. The organization's guidance has helped shape the inquiry, inform integration scenarios, and refine the strategic direction of this work. We are equally grateful to the NRLM, whose

leadership and vision continue to inspire. Their thoughtful inputs were critical in shaping the operational pathways and use cases explored in this paper.

NRLM runs one of the world's largest women-led community finance programs. The opportunity to enable SHGs and their federations to **qualify for and access external capital based on their own data and performance** is a logical and powerful next step. It is, in many ways, a vindication of the decades-long investment in community-based institutions. We believe that the integration of LokOS into the AA framework goes beyond a mere technical initiative. It is a bold reimagination of how community-owned data can drive equity and choice. This paper reflects the work done and also serves as a call to action for policymakers, technologists, financial institutions, and community leaders to collaborate toward a more connected, transparent, and inclusive future.

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Acknowledgements

This whitepaper has been a collaborative endeavor of various individuals and institutions. MSC extends its gratitude to Sahamati team, especially Abhishek Varshney for his support throughout the process and for his insights and perspectives to enrich the contours of this paper. This whitepaper is based on the insights gathered through multiple expert consultations conducted with NRLM, Sahamati, We also extend our appreciation to the Gates foundation for supporting the initiatives under MSC's Pathways to Enhancing Financial Inclusion (PEFI) program which has helped develop key thought pieces, including this whitepaper.

Executive Summary

India's **Digital Public Infrastructure (DPI)** has transformed access to financial services, with the identity layer (*Aadhaar*, e-KYC) and payment layer (UPI, AePS, BBPS) delivering widespread inclusion. The **Account Aggregator (AA)** framework represents the next leap—placing financial data ownership in the hands of individuals and enabling secure, consent-based sharing of data between financial information providers (FIPs) and financial information users (FIUs). This innovation is unlocking formal credit for millions previously excluded from mainstream finance.

In parallel, the **Self-Help Group (SHG)** movement under the **National Rural Livelihoods Mission (NRLM)** has mobilized over 105 million rural women across 9.1 million SHGs. These federations promote savings, provide credit access, and build collective bargaining power. To date, SHGs have accessed more than INR 3,39,954 crore (**USD 39.85 billion**) in capitalization support and over INR 2,67,000 crore (**USD 31.27 billion**) in bank credit.

However, internal lending within SHGs, often critical for members—remains invisible to credit bureaus, limiting members' ability to build formal credit histories and access market-based products.

The digitization drive through **LokOS**, NRLM's centralized ERP, has changed this landscape. LokOS now captures rich, standardized data on SHG demographics, transactions, credit, repayments, and participation. Yet, this valuable dataset remains locked within the NRLM ecosystem.

Integrating LokOS with the AA framework offers a game-changing opportunity:

- **NRLM via LokOS as FIP** → securely shares SHG and member data with banks, NBFCs, insurers, and other FIUs, based on consent.
- **NRLM as FIU** → consumes data from regulated entities to verify and validate transactions in LokOS.

This dual role creates a continuous feedback loop—strengthening data accuracy, transparency, and governance. The benefits span the financial value chain.



| NRLM via LokOS as FIP | NRLM as FIU |
|---|--|
| <ul style="list-style-type: none"> ▶ SHG members get wider access to financial institutions that can underwrite them and can offer credit and other financial products. ▶ SHGs & federations enhance their institutional creditworthiness, attracting market-linked capital. ▶ Lenders access a credible alternative data source for faster, more informed underwriting. ▶ Regulated entities can design tailored products such as crop-linked loans, embedded insurance, or bundled financial literacy services. | <ul style="list-style-type: none"> ▶ NRLM strengthens monitoring and impact measurement. |

By making SHG data portable and interoperable through AA, millions of women—currently “invisible” to formal finance—can unlock new economic opportunities. This convergence of **community-led finance** and **digital data empowerment** can become a global model for inclusive, **data-driven innovation**.

This transformation must be underpinned by robust awareness campaigns that help rural households clearly understand their data rights, give informed consent with confidence, and actively manage their own information—while also building the financial and digital literacy needed to fully benefit from these opportunities.

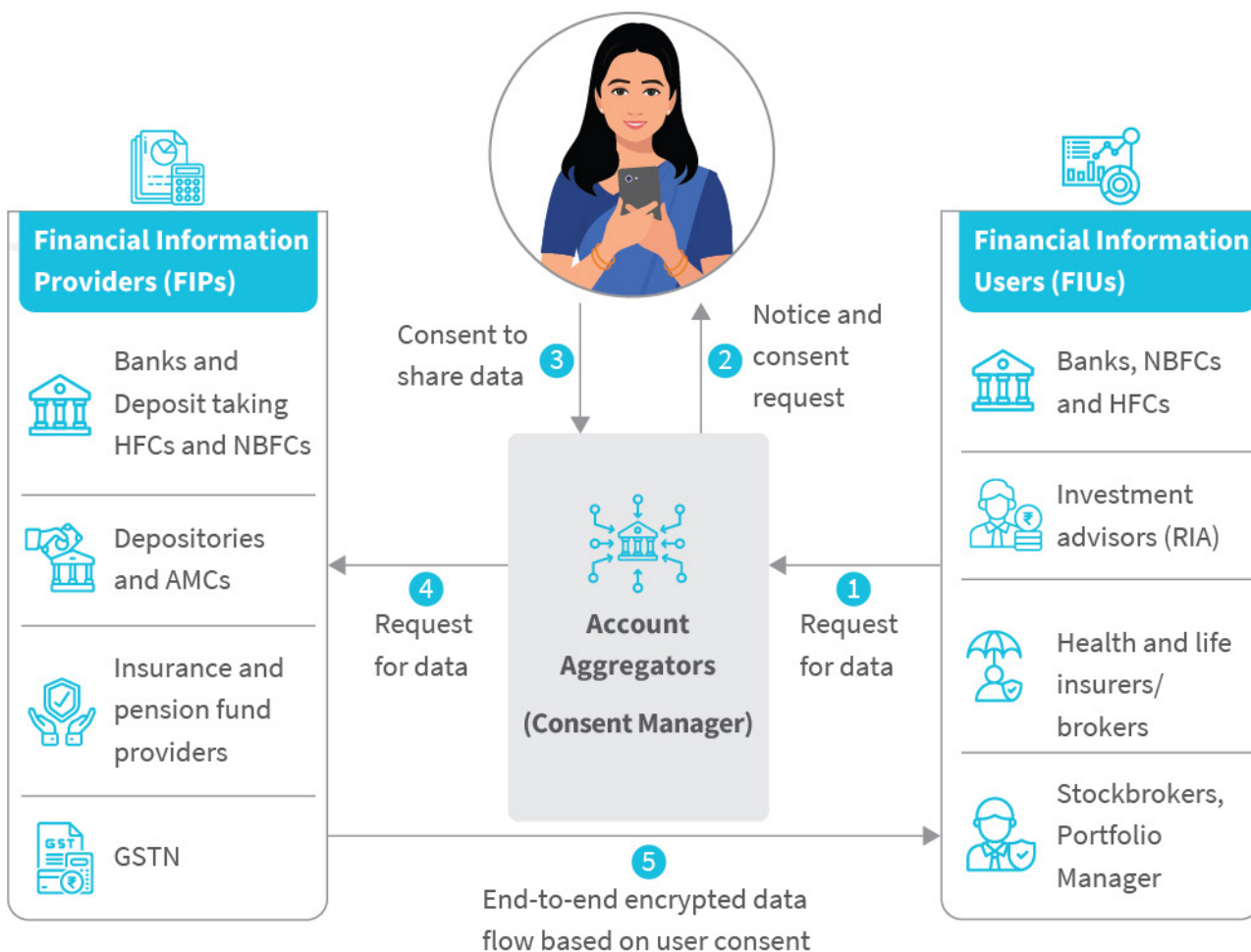
Chapter 1: Introduction and context



1.1. Setting the stage: Why account aggregator, and why now?

India’s digital public infrastructure has been instrumental in the revolution of India’s financial services landscape. Among India’s DPI, the identity layer (*Aadhaar*, e-KYC) and the payment layer (UPI, AePS, and BBPS) have played a vital role to facilitate and enhance access to financial services to millions in India. The data layer

will further strengthen this ecosystem as it will enable consented, secure sharing of data. In this context, the account aggregator (AA) framework plays a pivotal role as it enables the sharing of financial data among institutions, such as banks, insurance agencies, and mutual fund companies.



Pic: Data flow in the Account Aggregator (AA) framework

The AA ecosystem represents a transformative leap in the democratization of access to finance by putting data ownership in the hands of the individual. It has enabled consent-based sharing of financial data between financial information providers (FIPs) and financial information users (FIUs), helping unlock formal credit for previously underserved populations. As of March 2025, according to Sahamati estimates,

₹1.67 lakh crore was disbursed across 1.89 crore loans in FY25. This momentum highlights AA’s potential to expand access to viable and convenient financial products at scale, specifically for MSMEs and salaried individuals. Community networks, such as self-help groups (SHGs), can also be brought into the fold as key beneficiaries.

1.2. Understanding the SHG ecosystem: From poverty alleviation to financial institutions

The self-help group (SHG) model, institutionalized under the National Rural Livelihoods Mission (NRLM), has emerged as one of the world's most significant community-led development platforms. Initially conceptualized to alleviate rural poverty, the SHG model has transitioned into a decentralized system of community finance, which mobilizes more than 102 million women across 9 million SHGs. These SHGs are federated into 500,000+ village organizations (VOs) and 33,000 cluster-level federations (CLFs).

These federations cultivate saving and repayment habits, offer access to credit, and serve as platforms for collective bargaining, capacity

building, and social protection. The institutional depth and reach of the SHG ecosystem make it a natural partner for AA-led financial innovations. Regular group meetings and frequent transactions both within the group and with banks naturally generate a digital footprint for community-based organizations (CBOs) and their members. This lays the groundwork to use alternative data, captured through SHG-specific systems despite cash-based transactions, to underwrite both individual members and CBOs. It also addresses a key gap in the current AA ecosystem, which primarily relies on formal financial transaction data.

1.3. Institutions in motion: How SHGs are organized and governed

SHGs typically consist of five to 20 women from similar socioeconomic backgrounds who voluntarily form savings and credit groups. These SHGs form village organizations (VOs), and VOs federate into cluster-level federations (CLFs). Each tier nominates office bearers who lead day-to-day governance, manage group records, and serve as signatories for bank transactions. At all levels of CBOs, which include SHGs, VOs, and CLFs, two of the three office bearers must present joint consent for digital or physical transactions of payments.

This self-governed structure receives support from a formal implementation system that includes Block Mission Management Units (BMMUs), District Mission Management Units (DMMUs), State Mission Management Unit (SMMU), and the National Mission Management Unit (NMMU). This multi-tier system enables the NRLM to deliver policy, financial, and capacity-building support at the grassroots level.

1.4. The credit engine: Internal discipline, external linkages

SHG access to credit is grounded in discipline and trust. Every group operates under the *Panchasutra*, a five-point code to emphasize

regular meetings, savings, internal lending, timely repayment, and transparent bookkeeping.

Regular Meetings

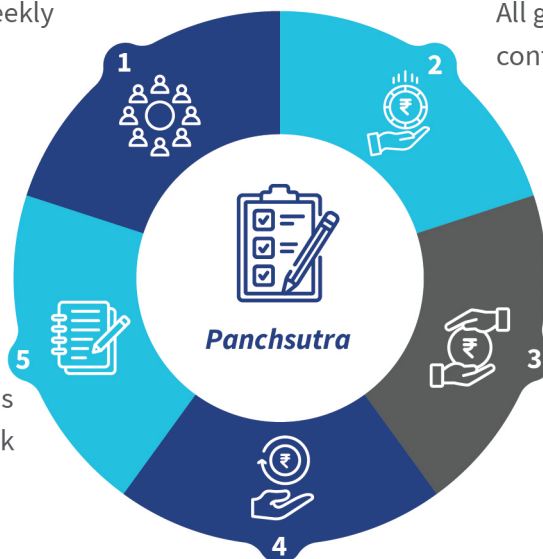
SHG should hold regularly weekly meeting

Regular Savings

All group members must contribute regularly to savings

Updated bookkeeping

All the collective decisions has to be recorded in minute book



Internal lending

Regularly lending to meet the immediate credit need of the members

Timely repayment

Members should regularly repay the loans obtained

Pic: *Panchsutra*: Philosophy behind SHG discipline and credit enablement

Federations (VO and CLF) grade self-help groups (SHGs) based on their adherence to the *Panchsutra* principles. Each SHG prepares a micro credit plan (MCP) that outlines its members’ credit requirements. Through well-prepared MCPs, SHGs can access incremental loans from banks, which typically range from INR 1.5 lakh (~USD 1,807) to INR 20 lakh (~USD 24,063.57). The MCP serves as both a tool to plan and underwrite, which facilitates structured credit linkage with formal institutions.

The capital comes from banks, NRLM’s Capitalization Support Fund, or the Community Investment Fund (CIF) via CLFs. The drawing limit is determined by the SHG’s savings and corpus¹.

The community institutions have accessed, cumulatively, more than INR 3,39,954 crore² (USD 39.85 billion) of the capitalization support fund, and SHGs have received more than INR 2,67,000 crore (USD 31.27 billion) as bank credit as of June 2025.

The table below illustrates the average credit access per SHG member, which considers both bank linkage and CIF support. The data highlights the substantial public investment in community-based finance and underscores the need to expand credit access beyond government-linked funding channels.

¹ Corpus = savings + interest earned + revolving fund + income from other sources + funds from other sources including donations

(Source: https://www.rbi.org.in/Scripts/BS_ViewMasCirculardetails.aspx?id=12493#)

² As of June 2025 -> INR 38,069 crore = revolving fund (INR 8,612.14 crore) + community investment fund (INR 29,456.98 crore)

| Indicator | Value | Per SHG member (INR) (assuming 10 members per SHG) |
|--|--|---|
| Number of SHGs with outstanding loans (A) | 9.1 million SHGs | – |
| Outstanding bank loan (B) | INR 2,78,078 crores (USD 33.5 billion) | – |
| Average loan to SHG (C = B/A) | INR 3,12,447 (USD 3,658) | INR 39,056 (USD 457.4) |
| CIF allocation (D) | INR 28,549 crores (USD 3.3 billion) | – |
| SHGs with CIF (E) | 4 million SHGs | – |
| Average CIF per SHG (F = D/E) | INR 71,372.5 (USD 835.7) | – |
| Combined loan (Bank + CIF) per SHG (G = C + F) | INR 3,83,820 (USD 4,145) | INR 47,977 (USD 561.8) |

Table: Value of different SHG indicators as of August 2025 (Source: The NRLM)

The current model is anchored by the NRLM and receives support from banks and cluster-level federations (CLFs). While the model has successfully enabled early-stage growth and financial inclusion, it also creates a structural dependence. SHGs remain tightly linked to a designated benefactor bank, which limits their options due to limited underwriting frameworks. Moreover, individual loans from internal lending at SHGs to their members are not reported to credit bureaus, which further restricts members' ability to build formal credit histories and access market-based financial services.

As a result, the potential of SHGs is constrained by the acceptance criteria of a few institutions. However, if SHG-level data were made accessible to external lenders through frameworks, such as an account aggregator, it would enable multiple financial institutions to assess and serve SHGs and their members. This would unlock a wider range of loan products, improve competitiveness, and accelerate the journey of SHGs to become financially self-reliant institutions. NRLM's structured foundation has laid the groundwork—now, enabling external participation can help SHGs grow beyond the current ecosystem.

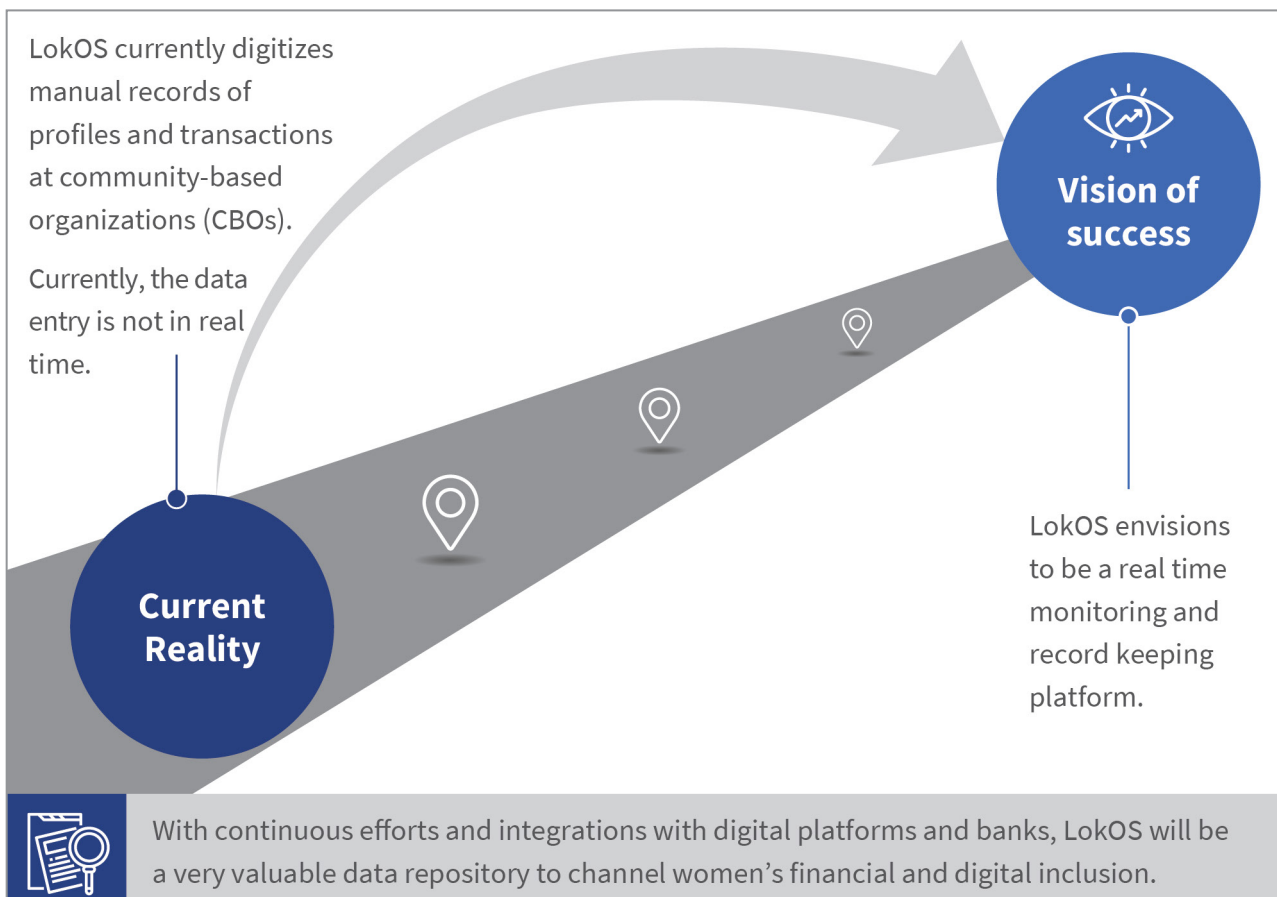
1.5. A digitally ready ecosystem: from manual books to LokOS

The digitization of SHG operations has accelerated through LokOS (Lok meaning “people” in Hindi)—a centralized digital platform developed by NRLM. LokOS captures both demographic and transactional data for SHGs, village organizations (VOs), and cluster-level federations (CLFs), which include savings, credit, repayments, attendance, and training participation. Data entry into LokOS follows a two-step process: first, office bearers record attendance and transactions, such as internal savings, loans, and repayments, in a paper ledger, then, a *sakhi* or trained

bookkeeper inputs this information into LokOS. The system includes internal checks to ensure data consistency to maintain a clean and reliable digital ledger. These internal SHG transactions—recorded in LokOS—do not appear in the SHG's bank account statements. Only activities, such as received funds, repayments made to banks, or cash withdrawals, reflect in SHG bank accounts. Moreover, member-level financial data is largely absent from bank records, which limits visibility into individual creditworthiness or financial behavior.

As of May 2025, more than 97% of SHG demographic data has been digitized. The platform’s transaction-level coverage expansion is now underway, which started with cluster-level federations (CLFs) and gradually moved toward capturing SHG-level transactions. LokOS enables

mobile and web-based entries, which allow *Sakhis* and office bearers to upload records from the field. This digital infrastructure creates a verifiable data trail for SHGs and their members in strengthening both transparency and the potential for financial inclusion.



1.6. The bridge ahead: Why this matters for the SHG ecosystem

In the current system, LokOS data is locked within a closed-loop platform. This data includes SHG member profiles, individual and group transactions, VO and CLF-level details, and transactions. The locking of data restricts access for external financial service providers, which limits the ability of members to use their data to access additional capital. Yet, this very data—rich in behavioral and transactional insights—can potentially power innovative underwriting mechanisms.

As SHG data becomes increasingly digitized and standardized through LokOS, the opportunity to link it with India’s expanding account

aggregator (AA) ecosystem is both timely and strategic. If LokOS gets positioned as a financial information provider (FIP), it would enable SHGs and their members to share their financial histories securely and with consent. This would unlock access to affordable, faster, and more tailored market-based credit, insurance, and other financial services. Greater recognition of SHGs within the formal financial system would empower them with control over their data and simultaneously expand their access to a broader range of competitive financial tools. Chapter 2 explores this integration pathway in detail.

Chapter 2:

Linking SHGs to the account aggregator ecosystem



2.1. The case for SHG data integration with AA

India's SHG ecosystem generates a rich volume of financial and nonfinancial data, which ranges from individual savings and loan histories to group-level attendance, training participation, and credit discipline. However, most of this data is either stored manually or captured digitally through LokOS but remains confined within a closed-loop system. As a result, financial institutions do not recognize or use it for broader financial access. This lack of accessible SHG data limits the ability of financial institutions to assess the creditworthiness of SHG members, especially those who are new to credit (NTC). This constrains their inclusion in the formal financial system.

The account aggregator (AA) framework offers a solution to this challenge as it enables secure, consent-based data sharing. SHG data integrated with AA will make it discoverable, standardized, and accessible to financial institutions. This will unlock new opportunities for SHG members and their federations to access customized financial products, which include formal credit, insurance, and savings instruments.

The approaches mentioned below, though independent, are complementary and outline potential pathways to integrate account aggregators into the SHG ecosystem.

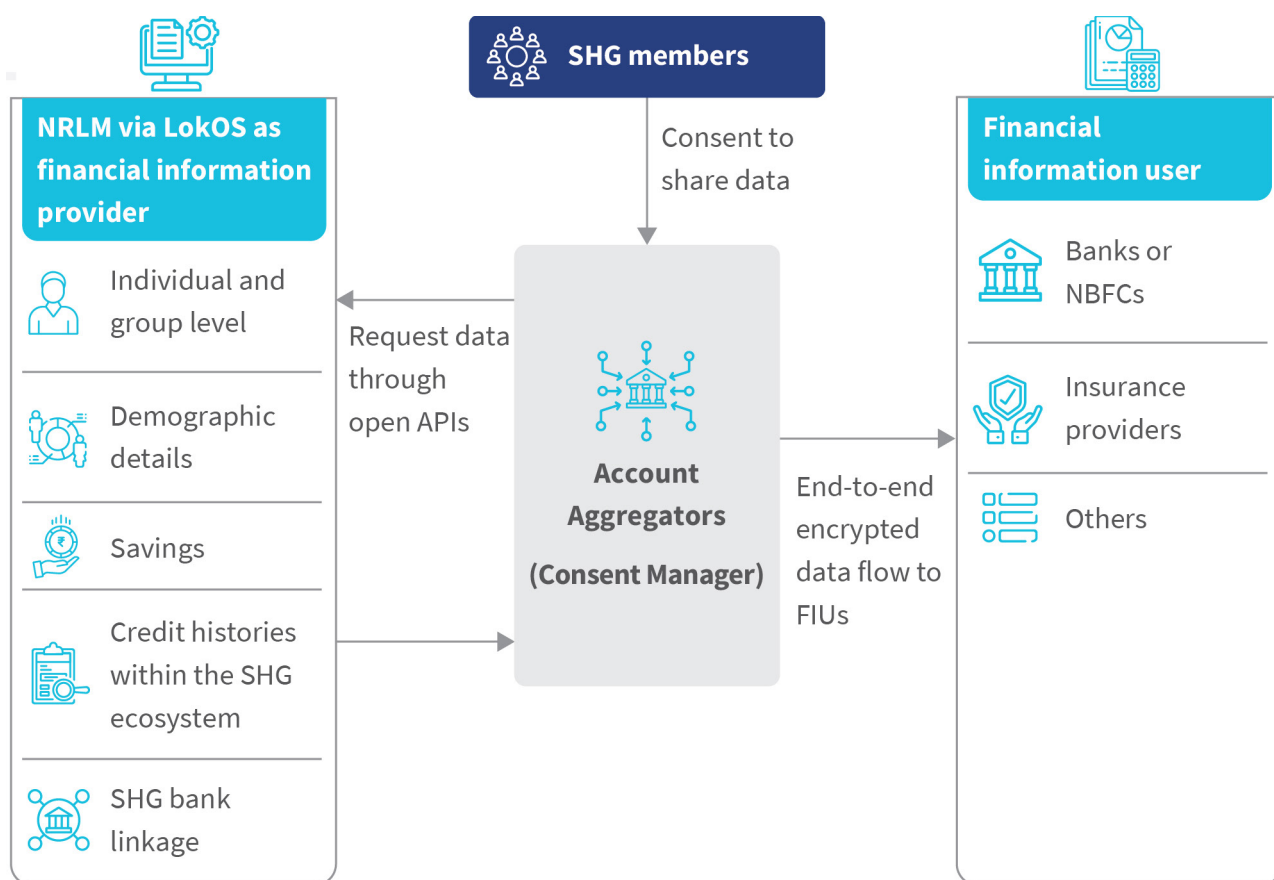


2.2. Idea 1: NRLM via LokOS as financial information provider (FIP)

LokOS, the core digital platform of NRLM, should ideally be positioned to act as a “bridge for NRLM to function” as a financial information provider (FIP) within the AA ecosystem. It contains verifiable data on member-level and group-level transactions across SHGs, VOs, and CLFs. By onboarding NRLM via LokOS as an FIP, this information can be shared securely with regulated entities registered as financial information users (FIUs), which include banks,

NBFCs, and insurers, based on the consent of the SHG or individual member. This data could include savings patterns, repayment history, group-level lending, attendance records, and tenure—all of which are valuable for risk assessment and product design.

The integration would provide additional data points to the lenders, which would accelerate the appraisal and credit delivery.



Pic: SHG-AA integration blueprint

2.3. Idea 2: NRLM as a financial information user (FIU)

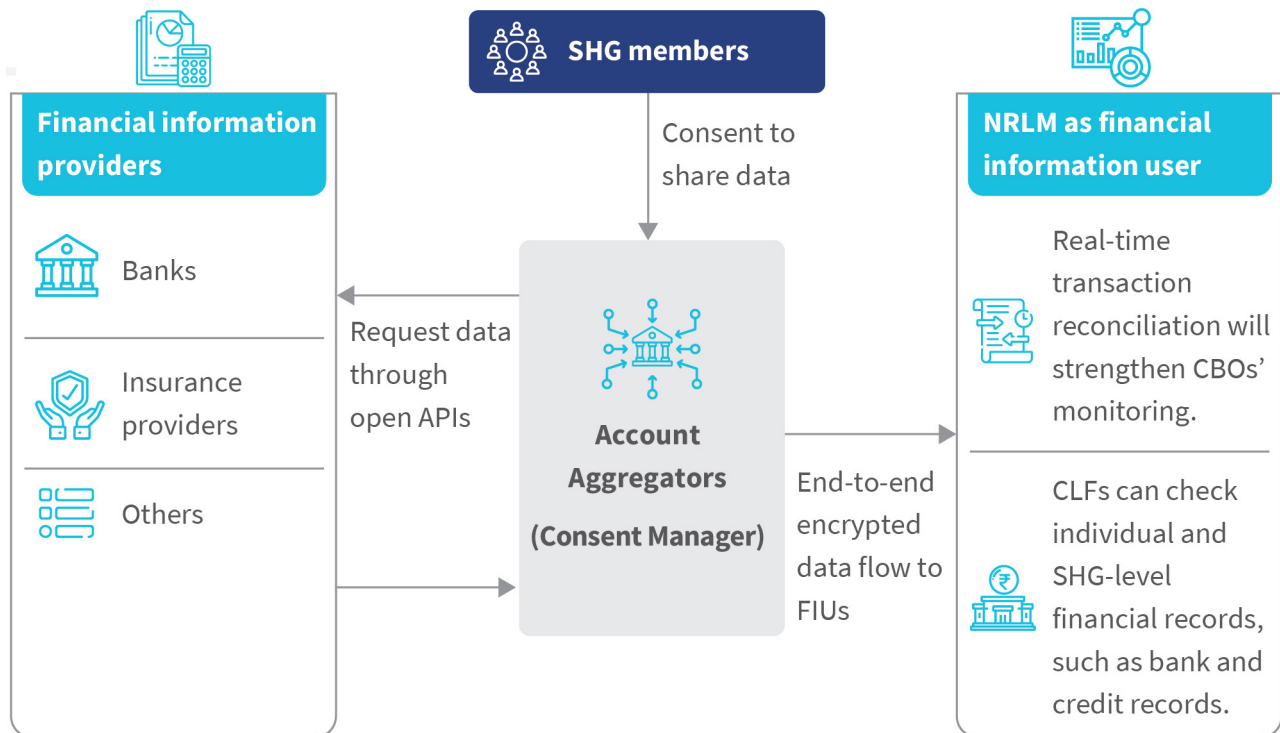
In addition to National Rural Livelihood Mission (NRLM) function as a financial information provider (FIP), it can also be onboarded as a financial information user (FIU) under the account aggregator (AA) framework. This would enable the NRLM to consume financial data from

banks via AA to validate transactions recorded in LokOS.

Currently, data entry into LokOS is manual—SHG office bearers record transactions in ledgers, which are later digitized by *Sakhis* or trained

bookkeepers. To reconcile these entries, the NRLM relies on “bank reverts,” which are statements or reports shared by individual

banks. These reverts take time to arrive and require separate coordination with each partner bank, which delays the verification process.



Pic: Benefits of NRLM as FIU

If NRLM is onboarded as an FIU, it can directly and securely access real-time bank transaction data through AA. This would allow for faster and more frequent reconciliation of debit and credit entries in LokOS, and lead to cleaner, more accurate digital books and timely financial oversight. Over time, the process can be fully automated within the AA ecosystem across all participating banks

to enable the NRLM to confirm transactions and maintain transparent records more efficiently and with significantly reduced operational effort.

This dual role of NRLM as FIP and FIU creates a robust feedback loop that strengthens data accuracy, ensures timely updates, and enhances overall accountability within the SHG financial ecosystem.

2.4. Benefits of AA integration across stakeholders

The integration of SHG data with the AA ecosystem benefits all actors in the financial value chain. For SHG members, it provides visibility and a financial identity that goes beyond their SHG to other financial institutions. For SHGs and their federations (VOs and CLFs), it creates avenues to access market-based capital as it demonstrates institutional creditworthiness.

Lenders gain access to a credible, alternative data source for underwriting, while NRLM enhances its monitoring capabilities with real-time verification. Regulated entities can use this standardized data to develop tailored offerings, such as crop-linked credit, embedded insurance, or bundled financial literacy tools.

| Stakeholder | Progress so far | Current gaps (opportunities for growth) | What AA integration unlocks |
|--------------------------|---|--|--|
| SHG Members | <ul style="list-style-type: none"> Built strong savings and repayment track records through SHGs Successfully accessed credit through bank linkage | <ul style="list-style-type: none"> Creditworthiness not recognized by external REs Dependence on group-based lending restricts individual choices and flexibility | <ul style="list-style-type: none"> Enables individual financial visibility using SHG participation history Unlocks tailored financial products (credit, insurance, savings) Facilitates transition from NTC to formal finance |
| SHG/VO/CLF (CBOs) | <ul style="list-style-type: none"> Mobilized more than 9.1 million SHGs and institutionalized federations Accessed pooled capital and strengthened governance structures Demonstrated strong community-led financial discipline | <ul style="list-style-type: none"> Credit flow is dependent on government funds Limited pathways to scale for high-performing CBOs Financial data remains underused by FIs for institutional growth | <ul style="list-style-type: none"> Access to market-based credit for well-governed SHGs and federations Greater capital diversification Credibility built through verifiable performance data |
| Lenders | <ul style="list-style-type: none"> Successfully engaged in SHG-bank linkage- Established confidence in group-based repayment models | <ul style="list-style-type: none"> Limited data on individual SHG members Manual field checks increase the cost of underwriting Thin insight into performance variation across SHGs | <ul style="list-style-type: none"> Real-time, consent-based access to reliable SHG and CBO data Streamlined, data-backed underwriting and product design Scalable access to new borrower segments with lower risk |
| NRLM | <ul style="list-style-type: none"> Created the world's largest women-led financial inclusion platform Digitized operations and monitoring through LokOS and supported community institutions Championed credit discipline and livelihood integration | <ul style="list-style-type: none"> Heavy reliance on manual validation of financial data Monitoring dependent on fragmented MIS inputs- Currently, LokOS data is only for internal usage | <ul style="list-style-type: none"> Auto-verification of SHG banking transactions via AA Reduced operational overhead and improved monitoring accuracy Greater institutional credibility for LokOS as a public data utility |

Table: Potential benefits across stakeholders

2.5. Visibility of SHG members: strengthened financial presence

The SHG members currently have limited choices in financial products, and despite having a large and established credit record within the SHG ecosystem, these individuals remain NTC for financial service providers.

With AA-enabled visibility into verifiable financial and behavioral data, financial institutions will be able to rightly assess the credit behaviours of more than 100 million women from low- and middle-income households. This data will open a broader array of financial products for SHG and its members, strengthen their control of financial data, improve their power of negotiation in the market, and allow more choices of financial products, service providers, and platforms.

Over time, this could contribute to the development of SHG-level credit scores, derived from parameters, such as repayment discipline, savings regularity, attendance, and group stability. These scores could complement and feed into initiatives, such as the [Grameen Credit Score Framework](#) to create a unified and credible risk assessment tool for community-based borrowers. Such innovation would allow SHGs and their members to graduate seamlessly into the mainstream financial system, backed by their performance history and not constrained by legacy credit filters.

2.6. Addressing risks and ensuring data dignity

As with any data-sharing model, SHG integration into the AA framework must be done with a strong focus on consent, privacy, and dignity. SHG members should be made aware of how their data will be used, who can access it, and for what purpose. Digital literacy training and informed consent protocols are essential. Additionally, protocols must be developed to handle

multi-party consent at the SHG, VO, and CLF levels. Mechanisms such as biometric validation, offline consent options, or *Aadhaar*-based alternate flows may be required to serve members without mobile access or face digital barriers. Safeguarding data dignity will be key to building trust and adoption.

Chapter 3:

Roadmap for Integration and Implementation



3.1. Suggested steps for the integration pathway

A deliberate, multi-stakeholder strategy is essential to bring the self-help group (SHG) ecosystem into the account aggregator (AA) framework. Such an integration should align policy intent, technical architecture, and on-ground processes. This chapter outlines a four-step roadmap to operationalize the integration of NRLM (via LokOS) as a financial information provider (FIP) and NRLM as a financial information user (FIU), along with a supporting ecosystem that safeguards consent, privacy, and inclusion.

Suggested steps to build this architecture over time:

Step 1: Define industry schema for LokOS integration

The first step involves developing a standardized industry schema for SHG data that can be shared through the AA framework. This must be done in close consultation with Sahamati, NRLM, AA, lenders, and select SHG federations. The schema should define key financial and non-financial data fields, such as group savings, internal lending, repayment history, attendance, and tenure. It must also specify the consent artefacts, which are the templates and rules that govern what data can be accessed, by whom, and for what purpose. The goal is to ensure interoperability across systems and maintain data integrity and user trust.

Approach for capturing consent for SHG/VO/CLF account needs to be defined: Joint and corporate accounts are not enabled on AA because of the absence of an approach on getting multistakeholder consent. Since SHG accounts are multi stakeholder accounts. Right now banks qualify them under a joint account. NRLM needs to either request RBI to either allow consent to get captured basis the authorised person of SHGs considering that the use case

is in customer interest and is for community empowerment and allows effective government grants delivery. The other way is that when RBI is finalising the approach for joint account the approach for SHG account should also get finalised.

Step 2: Secure NRLM's approval and define dual role

After finalizing the data schema, NRLM should secure approvals for integrating as a Financial Information Provider (FIP) and as a Financial Information User (FIU). At the same time, NRLM must clearly define its dual role as both FIP and FIU, articulating specific use cases for sharing and consuming financial data via the AA framework. This dual role will enable NRLM to both supply and verify data, creating a governance feedback loop that drives accountability and transparency.

Step 3: Regulatory submission and compliance alignment

Once NRLM has internal approvals to participate in the AA Framework, they need to make a formal submission to RBI- to recognise NRLM as eligible FIP and FIU. To bring LokOS into the AA ecosystem, NRLM must make a formal submission to the Reserve Bank of India (RBI), which proposes its recognition via LokOS as an FIP. This would be only the second such case after the inclusion of GSTN. The proposal must be supported with strong justification, governance mechanisms, and a data security framework. NRLM should also collaborate with Sahamati and technical partners to ensure that LokOS aligns with NBFC-AA guidelines on consent architecture, audit trails, and system security. This proposal after approval will finalize the schema and will be released by ReBIT.

Step 4: Technical integration and controlled pilot

The final step is to implement technical integration between LokOS and the AA network through secure API connectivity. This should be followed by a controlled pilot in selected states, which prioritizes:

- ▶ Digitally mature SHGs and federations;
- ▶ Regions with active SHG-bank linkages;
- ▶ Strong state rural livelihood missions (SRLMs).

The pilot should test end-to-end scenarios, such as consent flow, account discovery, data sharing, and validation by the NRLM. Impact indicators could include:

- ▶ Reduction in manual verification efforts;
- ▶ Improved underwriting by lenders;
- ▶ Inclusion of SHG members as data principals.

A successful pilot will serve as proof of concept to scale the integration nationally.



3.2. Enabling field operations and consent mechanisms

For on-field operations, at least to begin with, the use of a registered mobile number linked to SHG members or CBO office bearers can be adopted as the account discovery identifier. This enables OTP-based authentication and ensures that consent is provided by authorized individuals. However, over time, exceptions can be planned

for cases where mobile access is unavailable, which depends on the ground realities. Alternate verification methods, such as biometric authentication, offline forms, or *Aadhaar*-linked alternatives can be piloted in such cases. This hybrid model will allow inclusion without a compromise on consent integrity.

3.3. Building capacity and feedback loops

Alongside the technical rollout, a robust capacity-building initiative is imperative. Field agents (*Sakhis*), CBO office bearers, and SRLM officials need to be trained on the consent process, data rights, and grievance redressal mechanisms. The NRLM can build regular feedback loops from across the stakeholders including SHG/VO/CLF members, office bearers,

mission management units, lenders, and implementation partners (example- NBFC AA, technical service providers) to refine the integration process and ensure it reflects on-ground realities. It can also develop monitoring tools and dashboards to assess adoption, data quality, and transaction volumes over time.

Chapter 4:

Addressing challenges for AA and SHG integration



4.1. The need for policy and regulatory adaptation

To integrate NRLM (via LokOS) into the account aggregator (AA) ecosystem, certain regulatory and institutional boundaries need to be re-evaluated. Currently, only entities regulated by financial sector regulators, such as the RBI, SEBI, IRDAI, and PFRDA, are permitted to operate as FIPs. NRLM, while critical to SHG financial

ecosystems, is not a regulated financial entity under any of the four financial sector regulators. Hence, the integration of NRLM (via LokOS) as an FIP requires a policy expansion or exception, supported by a strong justification and approval from relevant regulators.

4.2. Governance framework for non-financial entities

The inclusion of NRLM, similar to the GSTN's induction, highlights the need to develop a governance framework for nonfinancial entities to operate in the AA ecosystem. This framework

should define the minimum criteria related to data security, accountability, auditability, and institutional integrity.

4.3. Data quality and reconciliation mechanisms

A significant share of LokOS data is entered manually by field functionaries, which introduces risks, such as entry errors, delays, and discrepancies between physical and digital records. While LokOS has inbuilt mechanisms for error correction, these can be further strengthened through auto-validation features. By enabling NRLM to act as a financial information user (FIU), LokOS entries can be cross-verified against real-time bank transaction logs.

In particular, entries that involve direct transactions between CBOs and their bank

account-holding members can be automatically validated, which adds a layer of trust and accountability. This targeted verification will enhance data accuracy, reinforce confidence in digital records, and improve usability for downstream applications. Going forward, LokOS can explore enabling direct and real-time entries from SHG members, either by directly linking debit and credit transactions from members' bank accounts or through other mechanisms. This would enhance transparency and improve data accuracy by establishing a reliable digital trail.

4.4. Addressing limited penetration and digital gaps

While LokOS has made impressive progress in digitizing the profile data, transaction-level data coverage is a mammoth task and will take a notable amount of time. The rollout of the AA integration will require a phased approach, which focuses on high-performing states and

stronger federations with higher adoption of LokOS. Targeted digital literacy efforts will also be crucial for the expansion of both the supply and demand for data sharing through AA over time.

4.5. Enabling consent for group accounts

The current account aggregator (AA) framework is designed around individual consent. However, community-based organizations (CBOs) typically operate through group-based or jointly held bank accounts. To onboard these CBOs into the AA ecosystem, consent protocols need to be designed that reflect their collective decision-

making structure. Possible approaches include requiring consent from a minimum number of office bearers to enable biometric co-authentication or developing a consensus-based digital workflow. These mechanisms will ensure that data sharing is transparent and authorized internally.

4.6. Safeguarding privacy and dignity

To ensure that SHG members are not exploited due to data asymmetry, every participant must have the right to informed consent, the ability to revoke it, and visibility into how their data is used. A phased implementation approach, coupled with sustained handholding support, will be essential to ensure data privacy at every stage. Beginning with individual-level consent and then a gradual transition to group-level consent management will help build a consistent understanding and enable effective adoption across the ecosystem.

To ensure accessibility and clarity, communication materials must be developed in local languages, and field staff should be adequately trained to explain the consent process in simple, relatable terms. Additionally, clear protocols for grievance resolution related to data misuse must be established. Ultimately, safeguarding data dignity is not just a regulatory obligation, it is a moral imperative to foster trust among marginalized communities and uphold their rights in the digital ecosystem.



Conclusion: Unlocking the next frontier in community finance

India's self-help group (SHG) ecosystem—anchored by the National Rural Livelihoods Mission (NRLM)—has played a transformative role to mobilize millions of women into vibrant community institutions. With structured governance, strong financial discipline, and growing digital maturity, SHGs have facilitated access to credit and promoted social capital, resilience, and livelihood growth at scale.

At the same time, the emergence of the account aggregator (AA) framework within India's digital public infrastructure (DPI) presents a powerful opportunity to build on this foundation. Through the integration of platforms, such as LokOS, with the AA ecosystem, we can strengthen the financial ecosystem, reward the credit performance of SHG members, enhance accountability, and verify financial behavior.

This integration would allow SHG members—many of whom are “invisible” to the formal financial system—to unlock new forms of value from the data they already generate through their group participation. It would also enable CBOs to access diverse capital sources, financial institutions to make better-informed lending decisions, and the NRLM to strengthen its oversight and governance functions.

To achieve this, we need a phased, collaborative approach involving:

- ▶ Regulatory openness to onboard non-financial public platforms, such as LokOS;
- ▶ Efficient technical and consent frameworks for group-based accounts;
- ▶ On-field operational strategies to address inclusion, digital access, and training needs.

The vision is to go beyond enabling more credit and reshape how trust, performance, and dignity can translate into opportunity for rural women and community institutions. If implemented thoughtfully, this convergence between AA and the SHG ecosystem can serve as a global model for community-first financial innovation—one that is digital, data-driven, and deeply inclusive.





Annexes

1. Progress of LokOS in the digitization of the SHG ecosystem


LokOS has become a key pillar of NRLM’s efforts to digitize the SHG ecosystem in India. Initially focused on capturing profile and demographic data of SHGs, VOs, and CLFs, LokOS has progressively scaled to include financial transactions. It records both one-time **cut-off entries**—which establish historical financial baselines—and **regular entries** that

track ongoing savings, loans, and repayments. As 5.3 million+ CBOs have been onboarded and transaction data flows across multiple states, LokOS provides a structured, verifiable system that supports real-time financial reporting, improved governance, and future integration with frameworks, such as account aggregators.

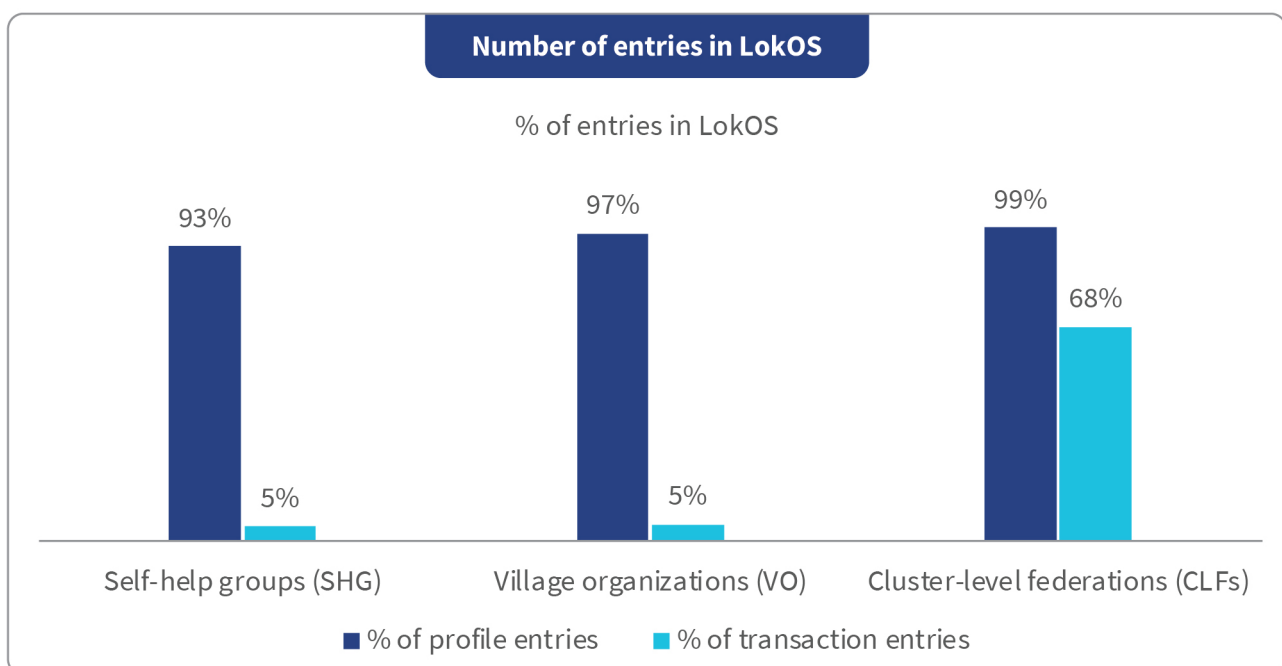
 **LokOS numbers** LokOS was implemented in phases. It started with profile entry in pilot blocks, followed by transaction entry in one block per state.

 **Profile Entry**

LokOS enables structured profile entry for SHGs, VOs, and CLFs, which captures member details, formation dates, registrations, and supporting documents to ensure organized and accessible data.

 **Transactional Entry**

Transactional entry enables financial recording across SHGs, VOs, and CLFs. SHGs track member savings, loans, and repayments. VOs manage inter-loan transactions via an Android module. And CLFs use the web portal to capture financial transactions.



Profile data LokOS captures the names, age, occupation, income, and expenses details of all SHG members, SHGs, VOs, and CLFs.

Technical architecture

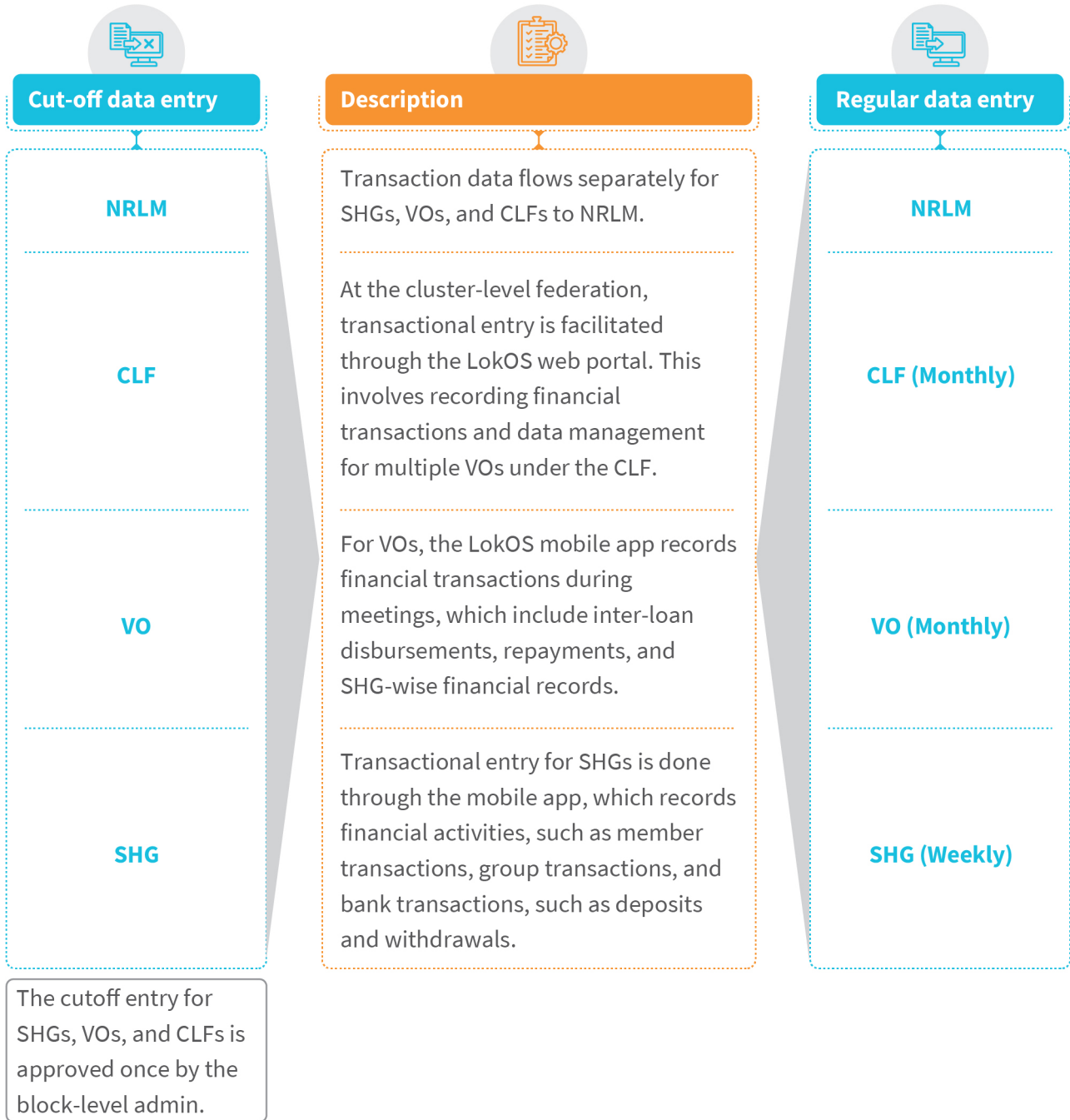



Step 1: Data entry
The e-bookkeepers enter the demographic details into LokOS at all levels.

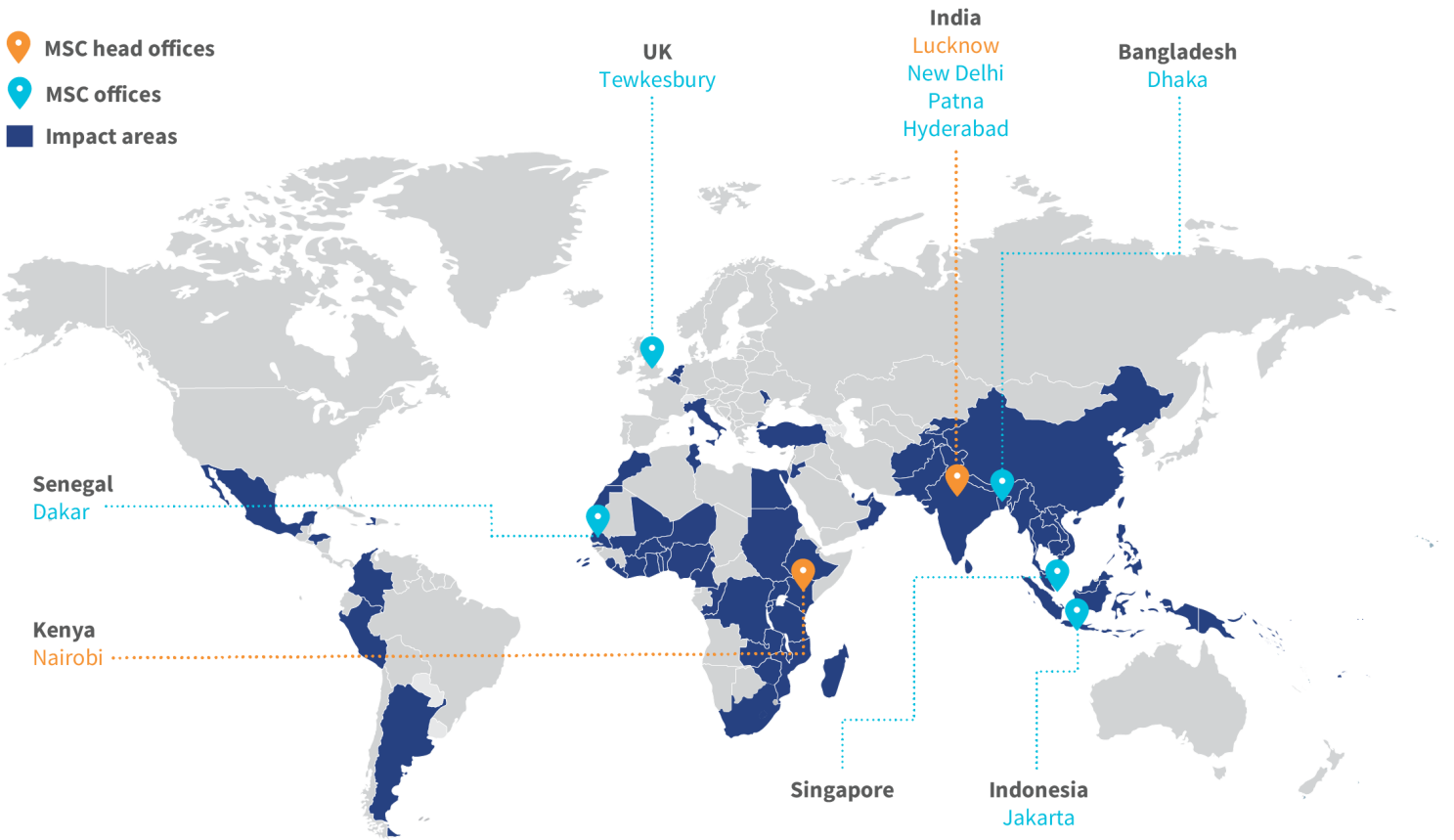


Step 2: Data approval
The block officer checks the details filled by the e-bookkeepers

Transactional data | Currently, transaction data is recorded for both cut-off and regular entries at all levels.



-  MSC head offices
-  MSC offices
-  Impact areas



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