Towards a gender-responsive LokOS - Emerging insights

Anita Gurumurthy, IT for Change

17th August 2021

Team

Anita

Nandini

Guru

Khawla

Tanay

Scope

IT for Change's ongoing research:

Integrating gender equality considerations into the design and development of information and data architectures for government programmes, with NRLM LokOS as a test case.

This presentation will share our thinking on the LokOS design with a focus on:

1. What we know about techno-design principles and gender justice
2. The potential risks and benefits of the proposed LokOS architecture
3. Gender equality considerations in the institutional and techno-design choices of LokOS

Part 1. Gender in techno-design

Risks of gendered exclusions

Research by IT for Change in 2018 on Aadhaar seeding of welfare scheme databases revealed that:

- Data entry and processing errors (such as incorrect deletion during de-duplication or bank account number entry) in databases of social security pensions and NREGS led to unfair exclusion from welfare entitlements.
- Women were particularly disadvantaged as their lack of digital fluency and textual literacy meant that they had no starting point to fix the problem.
- Direct cash transfers into bank accounts did not necessarily mean enhanced financial autonomy.
- On the contrary, reliance on banking correspondents and male family members to process withdrawals etc increased. This is also supported by more recent research in the pandemic (CIS 2021).

> The problem with the new digital architecture [for welfare service delivery] is that it is completely **faceless**. Women do not know who is responsible in this new scheme of things. The lower level officials at the district or block level whom they could approach earlier and ask questions have now been completely absolved of any accountability. Women now do not know where to go.

Reflections from Sejal Dand, ANANDI, on loss of last mile agility in step change digitalisation (IT for Change 2018)

Risks of exploitation

Platformisation is transforming the nature of the developmental state.

- Research by Mann and Iazzolino (2021) in Kenya demonstrates how platformisation of agriculture has led to an automatic displacement of the farmer-centred agri extension paradigm with a marketised paradigm of farm support services that often lock in farmers into contractual arrangements that devalue farmers' traditional knowledge and public system expertise, while extracting farmer data for proprietary intelligence generation by transnational capitalist platforms.
- Reports from the UK on health data deals between the NHS and Big Tech companies demonstrates that in public health systems, the poor are expected to pay in data for health service access.

Shape of things to come in India? Agstack and NDHE seem, at least at first glance, to be following this de facto track of digitisation as marketisation of governance.

Elements of Digital Information Systems (DIS)

Information or knowledge

Knowledge encoded into the data, its representation and system adoption policy

Data

Machine-readable data points that are encoded in the system

Network infrastructure

Platform that enables data collection, processing, sharing and algorithmic analysis

Gender equality dimensions of NRLM

DIS should be able to support and sustain a gender-responsive livelihoods approach.

Core values guiding all activities under NRLM:

- Inclusion of the poorest, and meaningful role to the poorest in all the processes
- Transparency and accountability of all processes and institutions
- Ownership and key role of the poor and their institutions in all stages – planning, implementation, and, monitoring
- Community self-reliance and self-dependence

2014 UNWOMEN study of NRLM

Voice and Agency

Security and Freedom from Exploitation

Access to and control over resources and capabilities for self-reliance

Part 2. LokOS through a gender lens

NRLM MIS prior to LokOS

1. Information/Knowledge Layer

1.1. Monthly update of SHG formation, loan linkages, revolving fund disbursement data (data view can be drilled down to specific SHG level)

1.2.Granular transactions information (receipts and payments ledgers) not captured at national level

1.3. SHG performance grading (on which revolving fund eligibility is premised) currently happens at district level, and NOT at national level

2. Data Layer

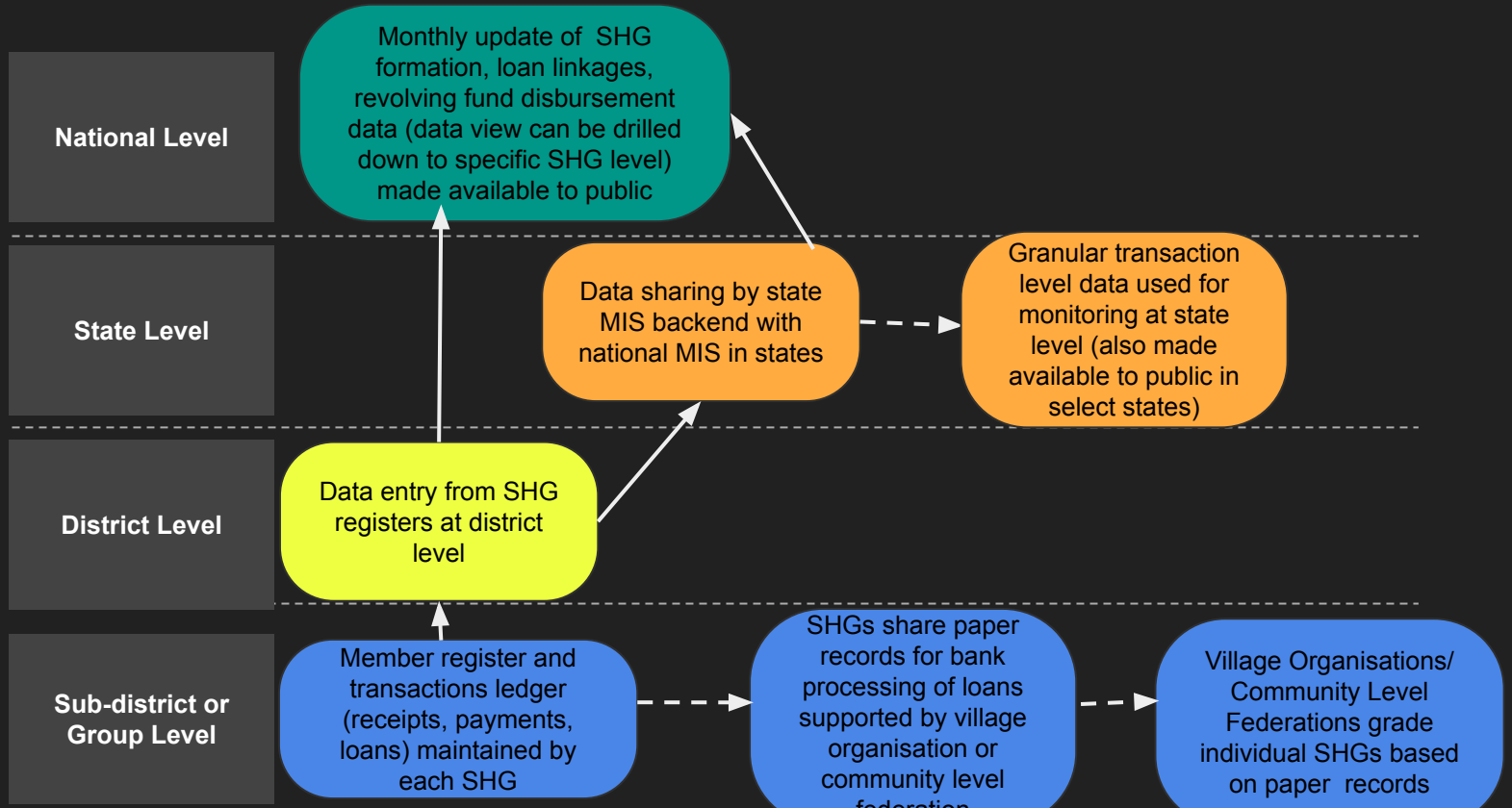
2.1. Manual data entry from SHG registers at district level in non MIS states, directly into national MIS

2.2 Data sharing with state MIS backend with national MIS in states which have their own SRLM MIS

3. Network infrastructure layer

3.1. Management Information System, not a backbone platform ecosystem on top of which other financial services and products have been built (for example, apps offering targeted microloans based on SHG histories are not supportable)

NRLM MIS prior to LoKOS: Information flows



Source: Field visits, key informant interviews.

National DIS after LokOS

1. Information/Knowledge Layer

1.1. ‘Central source of truth’ of member information

1.2.Expansion of data fields pertaining to loans (eg. details of period/processing fees/purpose; intra-group details of loans availed and sanctioned per individual member)

1.3. Group grading at the central level, on the basis of transactions captured.

2. Data Layer

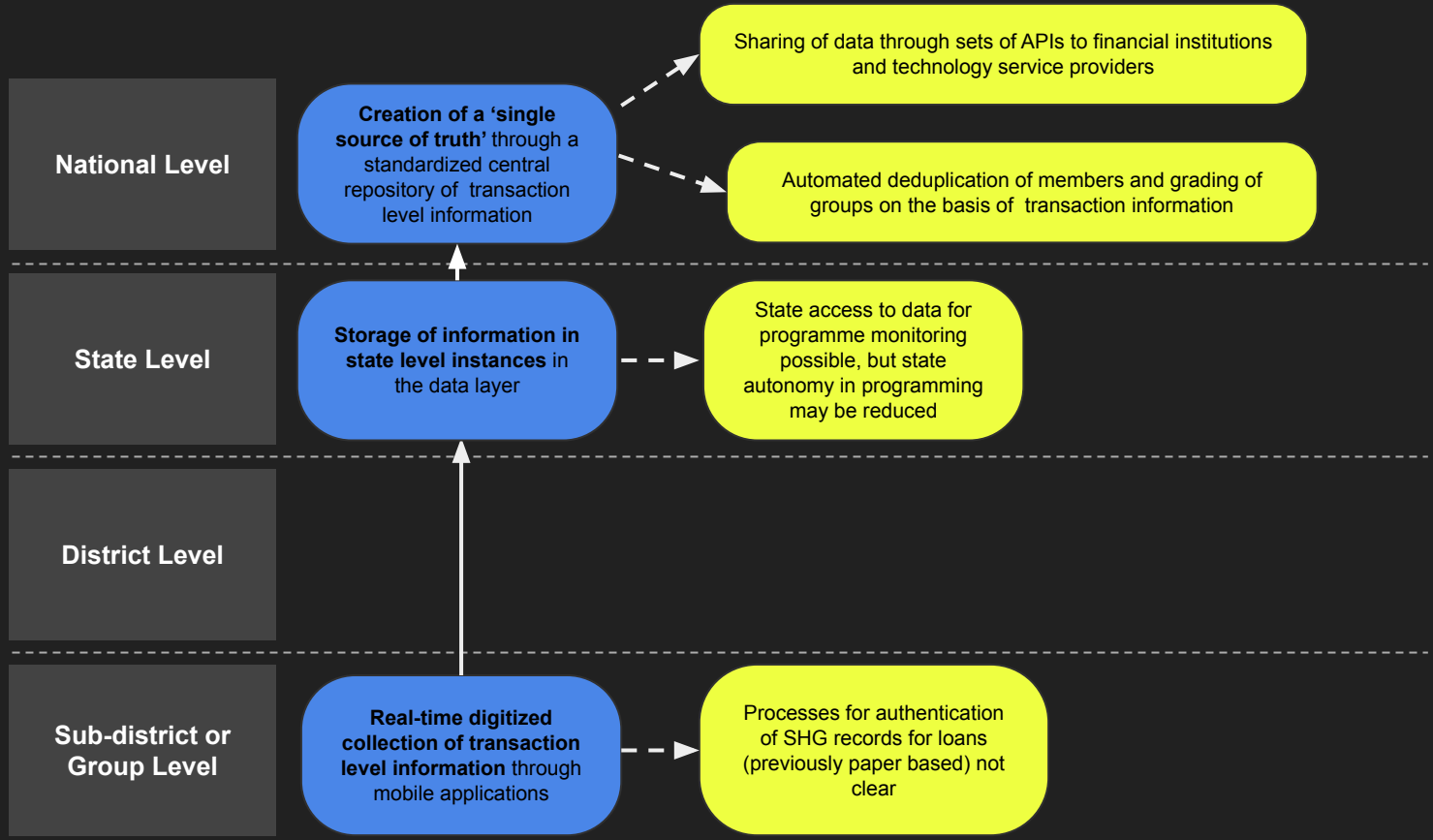
2.1. Digitized data entry using devices given to SHGs

2.2 Updation of member information in a master database which reconciles data across state databases.

3. Network infrastructure layer

3.1. APIs that provide access to LokOS data warehouse for financial service providers and app developers.

Proposed flow of information: LokOS



Source: LokOS design document, LokOS proces study document.

Key shifts from the previous MIS to LoKOS

1. Manual entry in physical registers completely phased out, substituted with digitalized entry in mobile apps.
2. Creation of a ‘central source of truth’ of member data and SHG transactions at the national level, with tiered information access (differential access permissions for district/state/block level programme functionaries such that there is increasing visibility the higher up the hierarchy you go). Imaginary of SHG level comparative reports that enable individual SHGS, Village Organizations, Community Level Federations to do peer stocktaking missing, though the technical architecture does not prevent this functionality from being built in.
3. Granular data storage at the national level that facilitates centralised group grading
4. Data sharing with technology service providers through APIs.

Assessing potential impacts on stakeholders

Members

Community Based Organisations (Village Organisations and Community/Cluster level federations)

Community Resource Persons

Members

Impact on Voice and Agency (Members)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers	Members can verify details directly through digital interface, cross-checking entry by book-keepers	Errors in de-duplication processes deployed on member records are difficult to challenge, and may lead to inadvertent exclusion
Network infrastructure layer	Data sharing with technology service providers through APIs		No opportunity for layered consent on third party data sharing

Impact on Security and Freedom from Exploitation (Members)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers	Proactive informational alerts about individual loan status possible to member mobiles	Consent for granular data collection may not be free and informed
Network infrastructure layer	Data sharing with technology service providers through APIs	Being able to share credit history digitally could increase choice for members by removing geographical constraints of lenders.	Unregulated access to information for financial service providers may lead to design of predatory lending products.

Impact on Resources and Capabilities (Members)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers		May increase dependence on male family members Exclusion of women with limited digital fluency
Data layer	Tiered information access with increasing granularity of views at higher levels of hierarchy		Without rights of data access and to correction, and lack of beneficiary-oriented analytics, information flows may not benefit members' decision making

Community Based Organisations (CBOs)

Impact on Voice and Agency (CBOs)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers		Self assessment possibilities in grading don't exist
Network infrastructure layer	Data sharing with technology service providers through APIs		No room for groups to determine the limits of data sharing

Impact on Security and Freedom from Exploitation (CBOs)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Centralised group grading	Scientific group grading may help groups avoid incurring excess debt burdens	Discrepancies or faults in automated grades may lead to exclusion of SHGs in accessing funds and financial services.
	Complete phasing out of manual registers	Digitalisation of intra-group loan records may prevent unaccountable lending practices at the group level	Digitalisation of intra-group loan records may lead to over-formalisation preventing CBOs from responding to member needs in an emergency

Impact on Resources and Capabilities (CBOs)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers	Updated group dashboard views can make future planning more effective	Connectivity and digital fluency barriers may render group's own records inaccessible
Data layer	Tiered information access with increasing granularity of views at higher levels of hierarchy		Tiered information access does not meet informational and knowledge needs of CBOs
Network infrastructure layer	Data sharing with technology service providers through APIs	Loan processing can become less laborious as APIs enable easy sharing of group records	

Community Resource Persons (CRPs)

Impact on Voice and Agency (CRPs)

DIS layers	Design choice	Pros	Cons
Data layer	Tiered information access with increasing granularity of views at higher levels of hierarchy		Top-down design of dashboard views can lead to intensified pressure on CRPs to meet targets, without contextual challenges being adequately factored

Impact on Security and Freedom from Exploitation (CRPs)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers	Burdens of manual register maintenance reduced	Disempowerment of bookkeepers with limited digital skills

Impact on Resources and Capabilities (CRPs)

DIS layers	Design choice	Pros	Cons
Information or knowledge layer	Complete phasing out of manual registers	Granular tracking of member loans could enable CRPs to specifically track and assist members in distress	

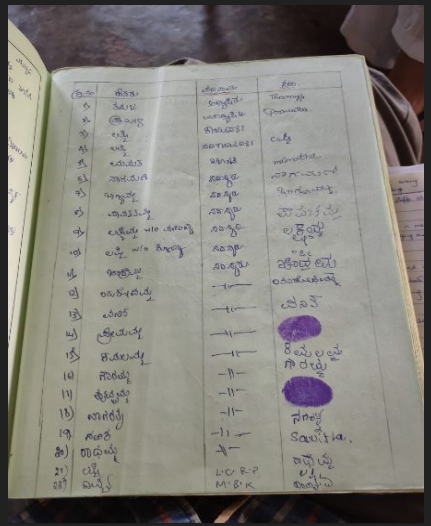
Part 3. Ensuring ‘gender-by-design’ in LokOS: Key considerations

3.1. Information/knowledge layer

Design consideration:

Self-reliance in maintenance of group records

Community members have a sense of pride that they are able to maintain their own financial ledger books on their own. They have access to these books all the time for view and updates. Most of the users may not have a mobile / tablet / internet connection to access their data on the cloud / MIS systems so they prefer to keep the books updated for ready reference - LokOS design document



- Investment in last mile capacity building to prevent CRPs from being disempowered
- Record trails for individual members who may not be comfortable with “no paper”. Print outs by CRPs? IVR acknowledgment?
- Ease of correction and updation of individual and group information (procedural smoothness)

3.1 Information/knowledge layer (contd.)

Design consideration:

Capture of multi-dimensional indicators of SHG strength/robustness

Issues of domestic violence or child abuse are taken up at the federation level - however, this is qualitative information that is captured in the resolution books, and not transferred into the MIS. Whatever we do in the resolution books is not captured into the MIS - Insight from interview with SHG member, Karnataka

Group solidarity must be given as much weightage as balance sheet health. And the Panchsutras need to be expanded to account for this.

3.2 Data layer

Design consideration:

Challenging godview

> “ We should look at each data field and assess who is going to be the user? what are they going to use it for? Does it even need to be stored and how should the storage change? Women don’t even keep a passbook at home because they are worried that men will find out..
>
> - Sejal Dand, ANANDI

Overcentralisation and tiered information access that privileges increased visibilities at higher levels of power do not serve transparency and accountability at the edges

Also, overcentralisation of granular information needlessly compromises data security without serving information and knowledge needs for decentralised decisionmaking that brings greater effectiveness

3.3 Network infrastructure

Design consideration:

Data sharing conditionalities and rules

"Consolidated information on SHG money transactions is very useful for private MFIs who are coming up with products that are very attractive to women SHG members - but eventually lead up to an exploitative situation..."

- Sajith Sukumaran, COO, Kudumbashree

LokOS design document states that the control of 'credentialing for access to APIs may be handled centrally.'

There is also no clear indication of obligations and conditionalities for third party data sharing that will prevent data value capture. Even eligibility criteria for third parties bidding to access NRLM data have not yet been spelled out and have been left to the future.

Thinking gender by design

- Data embodies and exercises power. Choices of what information gets captured and what gets left out are systemic acts through which social power hierarchies are either reproduced or disrupted.

- Gendering information systems is not just about counting women; it is about capturing the nuances of how gender power shapes opportunity structures and life chances, and the consequences for social inequality, in order to evolve programme and policy directions for transformative change (UN DESA 2016)

- Algorithmic decision-making building on inputs from such systems should effectively address individual and systemic gendered exclusions from governance processes (World Bank 2021)

Thinking ‘gender by design’ is the constant endeavour of fine-tuning techno-design and institutional-design choices in the operationalisation of digital information systems (DIS) in specific contexts - to achieve the right balance between agency, legitimacy and representativeness.

Elements of a DIS architecture for a gender-responsive livelihoods program

	Voice and Agency	Security and freedom from exploitation	Resource access/control and Self-reliance
Information and knowledge layer	• Individual and collective participation of women in design and review of information taxonomies • Information taxonomies focused on capturing women's full economic citizenship (work and livelihoods, community leadership, institutional linkages)	• Integrated information design that maximises member/SHG access to services, claims and entitlements	• Accessibility guarantees at the last mile. • Digital capacity and fluency of members/CRP • Informational transparency and integrity for women's voice and system accountability
Data and intelligence layer	• Free and Informed consent • Right to access and correct personal data and conditional access in aggregate data • Guarantees against gender bias and discrimination in data-based decisionmaking	• Privacy (and data minimisation) in data processing with purpose and time limitation • Rules for data re-use and sharing to prevent abuse and value capture • Guarantees against data breaches	• Individual and collective claims in aggregate data and intelligence generated (for SHGs to implement data stewardship models) • Algorithmic explainability
Network infrastructure layer	• Platform interoperability to ensure freedom of choice to SHGs/local govts in services innovation • Federated architecture corresponding with political decentralisation	• Fiduciary duty of govt and third party vendors vis-a-vis data security and data sharing	• Access to device and data allowance • Public ownership of/ stewardship models for platform, data and AI (to prevent vendor lock-ins.)

Thank you