SAHEL ADAPTIVE SOCIAL PROTECTION PROGRAM

Dynamic Social Registries for Adaptive Social Protection in the Sahel

Considerations for their design and operationalization

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Presentation Content

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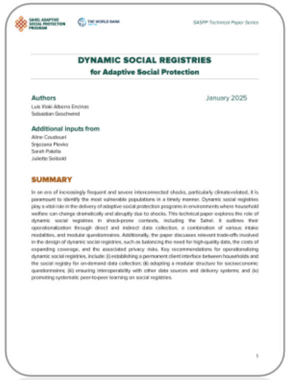
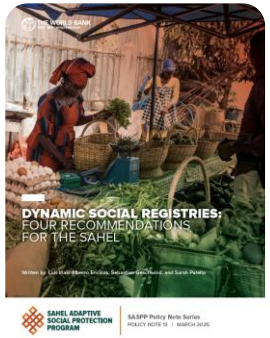
Associated Materials





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1. INTRODUCTION

Introduction

- Countries in the Sahel face increasingly frequent and severe interconnected shocks, particularly those related to climate change and conflict, exacerbating risks and vulnerabilities to poverty, food insecurity, inequality, and low levels of human capital.
- Dynamic social registries — as essential social protection delivery systems — can enable governments to rapidly and accurately identify changes in welfare among poor and vulnerable populations, those affected by climate change, and forcibly displaced groups.

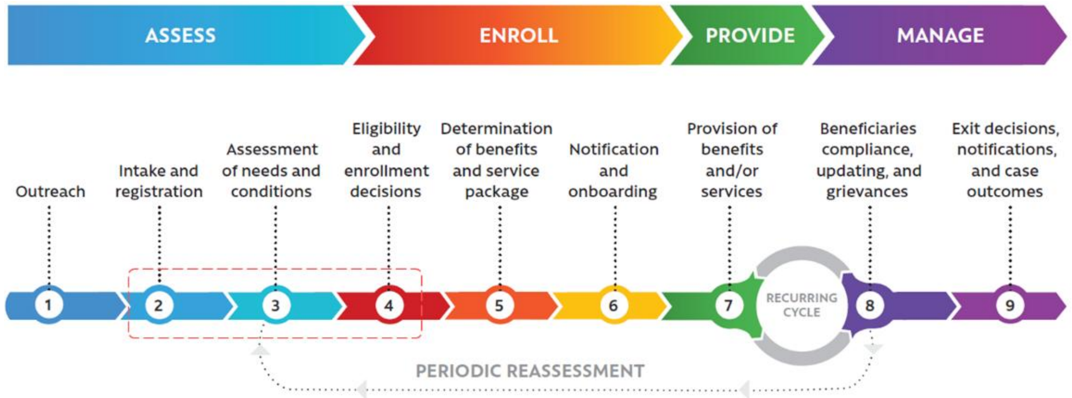
Drawing on global innovations in social registries, including those in the Sahel region, this presentation provides key considerations for the design and adaptation of social registries to enhance their dynamic updatability and scalability. These considerations are particularly relevant in contexts characterized by high exposure and vulnerability to shocks, high levels of poverty, and/or low levels of digital penetration.

Role of social registries

Social registries rely on information systems to serve as gateways to social protection programs.

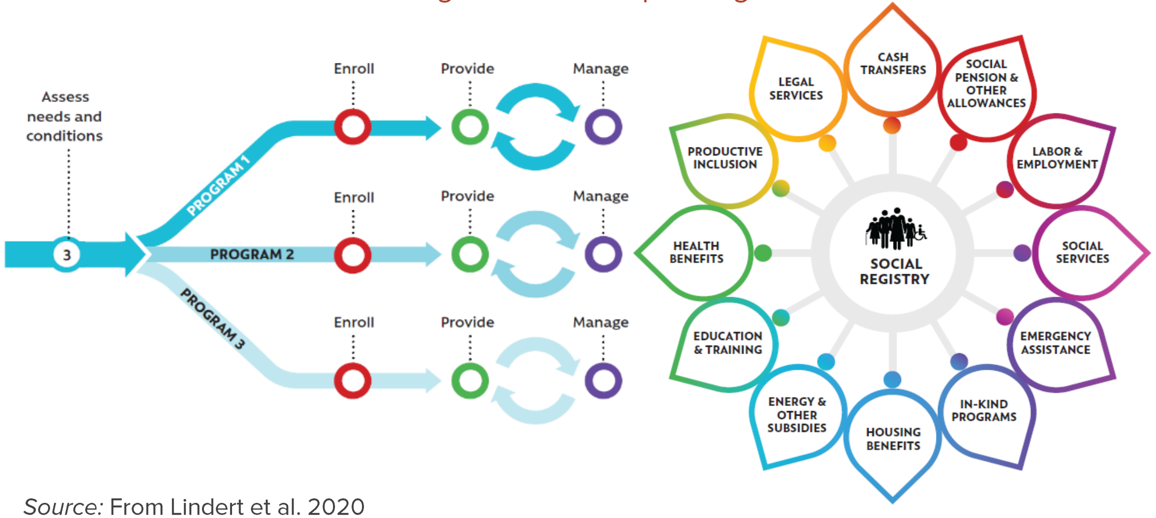
- **Collect and consolidate socioeconomic data on potential beneficiaries** to support the "Assess" and a part of the "Enroll" phases of the social protection delivery Chain.
- **Enable the assessment of a range of welfare indicators**: Monetary and non-monetary poverty, food insecurity, vulnerability to climate shocks, that apply a lens on gender, disability, and other characteristics.
- **Address inclusion and coordination challenges faced by social protection systems** when designed as whole-of government platforms that are inclusive, broad in coverage, and serve multiple programs.

Social Protection Delivery Chain



Source: From Lindert et al. 2020

Social Registries for Multiple Programs



Source: From Lindert et al. 2020

Challenges for social registries in shock-prone contexts such as the Sahel

ASP programs require up-to-date data to effectively select households vulnerable to or affected by shocks.

- Due to the dynamic nature of poverty and vulnerability, socioeconomic data in static social registries become **outdated over time.**
- To date, most social registries in the Sahel are static or updated infrequently, at times combined with **limited coverage**.
- Countries often pre-define fixed registration quotas and undertake administrator-driven 'census-like' efforts to collect and update household data in cycles – **often with several years in-between each cycle.**

Inclusion and Exclusion Errors: Outdated data increases the rate of inclusion and exclusion errors — nonpoor households may be incorrectly included and poor households may be incorrectly excluded, undermining the effectiveness and equity of social programs.

Cost Challenges: Large-scale administrator-driven registration campaigns may not be efficient in the long-term – both in terms of monetary and time cost.

Infrequent updates risk turning social registries into a "closed door" rather than a gateway to social protection programs for households who are vulnerable or may fall into poverty between cycles.

(1/2) Why dynamic social registries?

Dynamic social registries are an essential delivery system for ASP programs.

Two key distinctions between static and dynamic social registries are in the latter's design, enabling it to intake new data dynamically by:

1. Updating data on existing households and registering new ones on-demand.
2. Combining different types of data, such as self-reported information and administrative records.

Five key characteristics of dynamic social registries make them suitable for ASP program in the Sahel:

1. A **unique gateway** for households to be considered by one or more social programs.
2. A **continuous updating** through a permanent interface with households, whether in-person or digital.
3. Intake from **multiple data sources**, including administrative records, through interoperability.
4. Assessment of **household needs and conditions** according to the eligibility criteria of programs.
5. Sharing of data on potentially eligible households with ASP programs so they can reach people with **regular and shock-response interventions.**

(2/2) Why dynamic social registries?

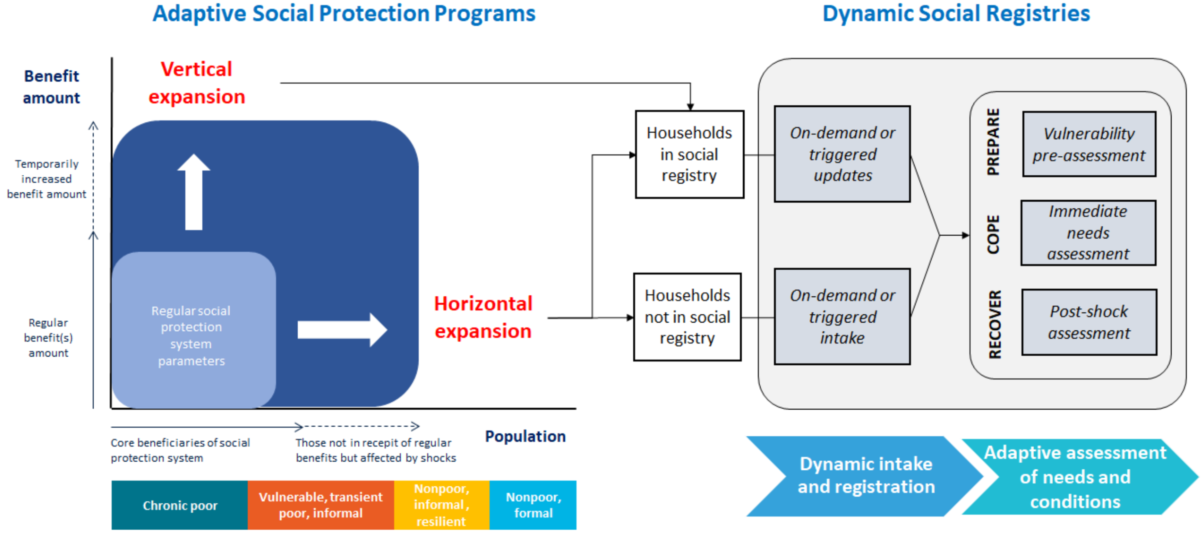
The dynamic inclusion of poor and vulnerable households allows ASP programs to expand their coverage and provide timely assistance during shocks based on updated information.

Dynamic social registries provide relevant and up-to-date data on poor and vulnerable households to support vertical and horizontal expansion of ASP programs.

Enabling households to report changes in their welfare on-demand helps to:

- **Keep the information current and relevant** of already registered households for a vertical expansion.
- **Inform the enrolment of households** already registered in the social registry but not previously enrolled in the program.
- **Register households that have newly fallen into poverty** in times of shock, to be considered during horizontal program expansion.

Dynamic Social Registries for Vertical and Horizontal Expansion



Source: Based on Bowen et al. 2020 and Guven et al. 2020

2. THREE KEY DESIGN FEATURES OF DYNAMIC SOCIAL REGISTRIES

1. A choice of multiple types of data

Dynamic registries take advantage of both direct and indirect data.

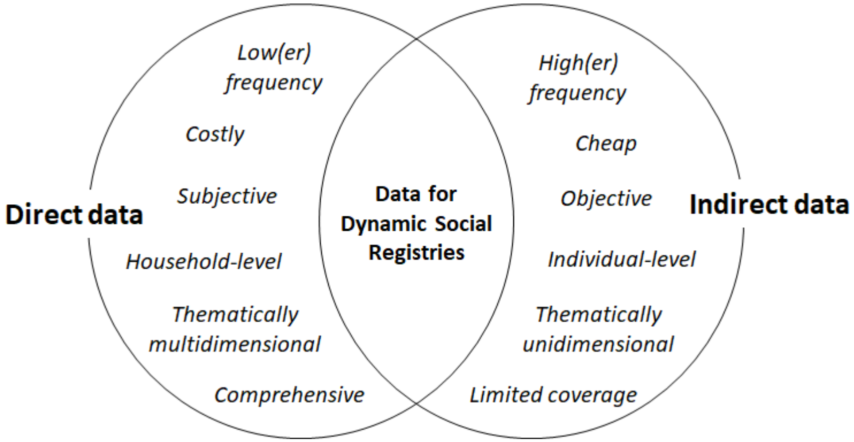
DIRECT DATA

- Self-reported information **provided through household** and/or individual-level questionnaires administered during the intake and registration of social registries
- Provides detailed information on multiple **welfare dimensions**, allowing for the assessment of eligibility criteria for multiple programs
- Challenges include **risk of data bias, costs and duration** of collection

INDIRECT DATA

- Data **held by other entities** and systems without interviewing households directly.
- Offers **cost-efficiencies,** enabling more frequent and timely updates
- Challenges include **limited coverage** and unidimensional welfare data.

Direct and Indirect Data for Dynamic Social Registries



Source: Encinas and Geschwind 2025

2. Continuous data collection through the intake modalities best suited for a given context

Considerations include previous investments in digital literacy, decentralized government infrastructure, mobile phone coverage, and digital public infrastructure, with particular attention to how inclusive or exclusive each intake modality can be depending on each country context.

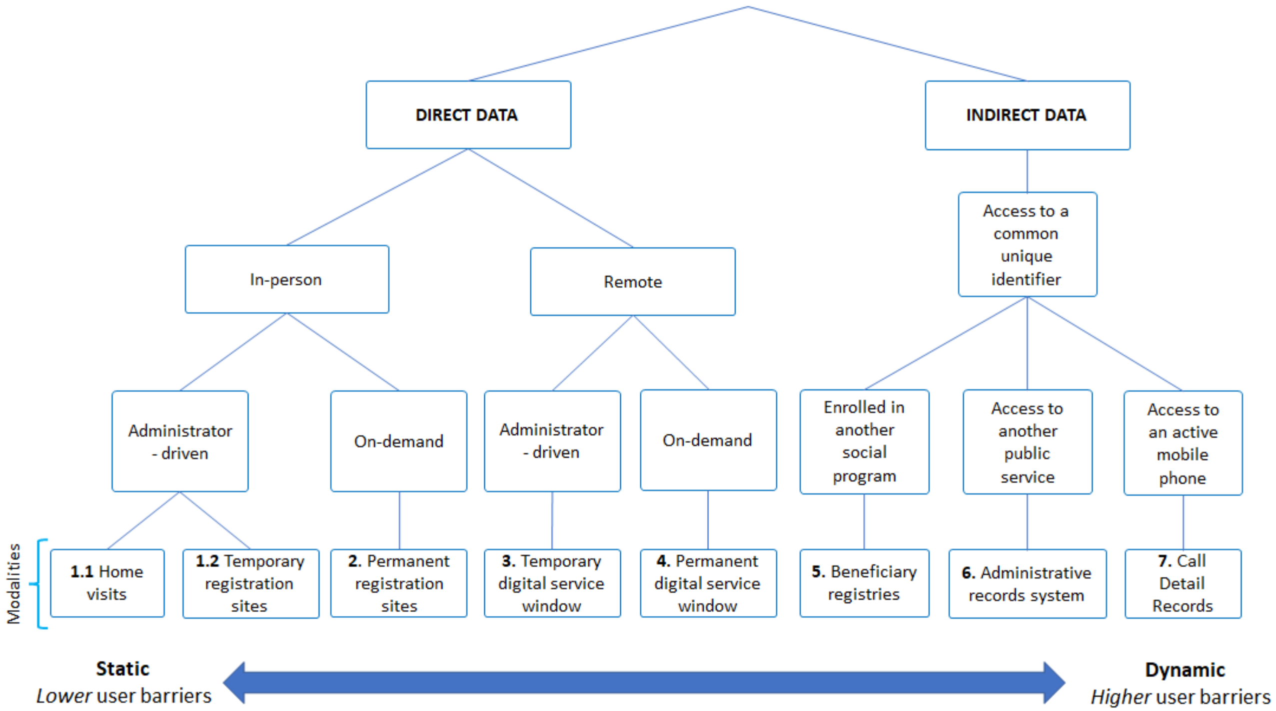
DIRECT DATA collection relies on either:

- **Administrator-Driven Intake:** Social registry initiates data collection within a **specific time** frame, based on budget availability and operational priorities.
- **On-Demand Intake:** Households provide or update their data **whenever** their circumstances change, facilitating dynamic inclusion.

INDIRECT DATA from multiple sources can be a cost-efficient method to **verify, complement, or update** previously self-declared information.

Social registries can employ a combination of intake modalities and data types, leveraging their respective advantages and mitigating limitations.

Intake Modalities for Social Registries



Source: Encinas and Geschwind 2025

3. Modular Questionnaires

Modularizing questionnaires for optimized data management

- Consolidating multiple socioeconomic questionnaires into a single harmonized questionnaire can offer efficiencies for households, programs, and social registry administrators. However, lengthy harmonized questionnaires are not compatible with social registries that require frequent and dynamic updates, such as in the Sahel, as its length impacts data collection costs.
- Harmonized questionnaires can be broken up into multiple modules, with *core modules* being populated for all registrants due to their high re-usability across programs and *complementary modules* populated as needed based on specific program requirements, i.e., only in certain areas, in certain circumstances or certain population groups.

Modular Data - Illustrative

Source: Adapted from Karippacheril et al. 2024

Modular Questionnaires

Case study: Modular Data Collection in the Mauritania Social Registry

In 2023, Mauritania launched an update and expansion of its social registry in two key stages:

1. **Core questionnaire:** 25 questions, administered to all households in a commune — ensuring universal coverage — to calculate commune level Principal Component Analysis (PCA) scores.
2. **Complementary questionnaire:** 110 questions administered to the poorest 40% of households, preselected based on PCA scores and validated by communities.

Poorest 40% of the population | **Remaining 60% of the population**

Core module (25 questions with 73 variables)

- Identification
- Household data for scoring
- GPS
- Subjective poverty

Complementary modules (110 questions with 130 variables)

- Identification (28 variables)
- Socio-demographics (14x number of HH members)
- Assets (50)
- Economic activity (5x number of HH members 10+)
- SP (23)
- Housing (8)
- Adaptation strategies (2)

Source: Geschwind forthcoming

3. TRADE-OFFS: QUALITY, COSTS AND PRIVACY

Trade-off Considerations for Dynamic Data Collection

QUALITY:

The quality of data impacts the accuracy of the needs and conditions assessment

Accuracy of a needs and conditions assessment: How well the targeted population of a program is identified according to the relevant eligibility criteria. For predetermined policy objectives, accuracy depends on:

1. Quality of the data used (avoiding the GIGO principle: “garbage in, “garbage out”)
2. Performance of the assessment method or mix of methods (e.g., categorical, MT, HMT, PMT, community-based)

Data quality can be evaluated using the following criteria:

- **Data completeness:** *how much of the intended population can be covered by the data*
- **Data relevance:** *how well the data captures the necessary variables for the needs & conditions assessment*
- **Data accuracy:** *how well the data correctly describes the “real-world” attribute it represents*
- **Data currency:** *how up to date the data is*
- **Data uniqueness**: *degree to which data is free from duplicate records*

Trade-off Considerations for Dynamic Data Collection

COSTS:

Dynamic intake and registration is more financially sustainable if it relies on intake modalities that are fixed-cost intensive with low variable costs (e.g., permanent interfaces) as they benefit from economies of scale.

Intake Modality	Fixed Costs	Variable Costs
Home visits	Enumerator training, outreach campaign, equipment (tablets), data processing	Enumerator and supervisor wages, car rental and fuel costs, communication and data transfer fees
Permanent registration sites	Construction costs, salaries of permanent staff, utilities	Supplies and consumables, ongoing training
Digital service window	Software development, servers, call centers set-up costs	Operator fees per call/SMS/USSD/IVR, internet services
Exchange of administrative records	Software development of interoperability platform, servers, networking and storage equipment	Expansion costs when connecting additional agencies for increased data volumes

The number of variables gathered, along with their half-lives, can also influence data collection costs. For instance, for home visits, a longer questionnaire will result in enumerators spending more time per household and thus being able to conduct fewer surveys per day, which will increase the unit cost.

Trade-off Considerations for Dynamic Data Collection

PRIVACY:

Comprehensive legal and regulatory data protection frameworks are essential for dynamic social registries to ensure privacy and security of individuals' information.

General data protection criteria for consideration during design and operation:

- **Purpose Specification:** Define and communicate the specific purposes for which personal data is collected and processed by the social registry and its users. Personal data should not be used for other purposes without the data subject's consent.
- **Informed Consent:** Obtain the data subject's agreement to collect and use their personal data; contextualized and elicited freely.
- **Data Minimization**: Collect only the personal data that is necessary, adequate, and not excessive for the established purposes, to reduce the impact of potential data breaches.
- **Storage Limitation:** Retain personal data only for as long as necessary to fulfill the purposes for which it was collected. Implement policies for the secure deletion or anonymization of data no longer needed.
- **Transparency:** Provide clear and accessible information to data subjects about data usage, the purposes of data processing, retention periods, and any third parties with whom the data may be shared.
- **Security:** Implement appropriate physical, technological and organizational measures to protect personal data from unauthorized access, use, disclosure, alteration, or destruction.

Social registry administrators must evaluate the associated risks of collecting, using, and sharing large amounts of personal data, particularly in low-income and fragile contexts.

4. POLICY RECOMMENDATIONS

Recommendations

Toward dynamic social registries in the Sahel

- ✓ **Establish a permanent client interface between households and the social registry for on-demand data collection — accessible to the most vulnerable — to ensure data remains current and relevant.**
  - → An in-person or digital interface that should be tailored to the conditions of each country and may require different intake modalities in different areas (rural/urban) or for different groups. For the Sahel, an in-person interface may be more appropriate in the short-term, while in the medium-term developing a digital interface will 'future-proof' dynamic social registries.

- ✓ **Adopt a modular structure for socioeconomic questionnaires to enhance data collection efficiency.**
  - → Defining core modules for all households and complementary data modules added as needed to optimize questionnaire length.

- ✓ **Ensure interoperability with other data sources and ASP delivery systems to verify, complement, and update data and to facilitate coordination among actors.**
  - → Including with unique IDs, program management information system (MIS)/Beneficiary Operations Management System (BOMS), grievance redress mechanism, payment systems, and early warning systems.

- ✓ **Promote systematic cross-country learning to enhance national capacity to design and implement dynamic social registries in the Sahel.**
  - → Strengthening knowledge exchange platforms through regular South-South fora – within the Sahel and globally – will be crucial to identifying workable solutions to strategic and operational challenges.

References

References

Aiken, Emily, Tim Ohlenburg,, and Joshua Blumenstock. 2023. "Moving targets: When does a poverty prediction model need to be updated?" *ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS '23).*

Aiken, Emily, and Tim Ohlenburg. 2023. "Novel Digital Data Sources for Social Protection: Opportunities and Challenges." Bonn and Eschborn: GIZ

Aiken, Emily, Suzanne Bellue, Dean Karlan, Chris Udry, and Joshua E. Blumenstock. 2022. "Machine Learning and Phone Data Can Improve Targeting of Humanitarian Aid." *Nature* 603 (March): 864–70.

Barca, Valentina, Corinna Kreidler, Sebastian Silva-Leander, Saidou Ouedraogo, Lavinia Blundo, Rodolfo Beazley and Ana Ocampo. 2023. "The challenge of coordination and inclusion: use of social registries and broader social protection information systems for capturing multiple vulnerabilities in West Africa". UNICEF & WFP.

Barca, Valentina , and Madhumitha Hebbar. 2020. "On-Demand and Up-To-Date? Dynamic Inclusion and Data Updating for Social Assistance." Bonn and Eschborn, Germany: GIZ.

Barca, Valentina , Madhumitha Hebbar, Charles Knox-Vydamanov, and Ida Brzezinska. 2023. "We Have the Data, Let's Use It Better: Pushing Boundaries of Social Protection Administrative Data Analysis and Use." Bonn and Eschborn, Germany: GIZ.

Bowen, Thomas, Carlo Del Ninno, Colin Andrews, Sarah Coll-Black, Ugo Gentilini, Kelly Johnson, Yasuhiro Kawasoe, Adea Kryeziu, Barry Maher, and Asha Williams. 2020. "Adaptive Social Protection: Building Resilience to Shocks." Washington DC: World Bank.

DAMA NL. 2020. Dimensions of Data Quality (DDQ) Research Paper, version 1.2.

Encinas, Luis Iñaki Alberro, and Sebastian Geschwind. 2025. "Dynamic Social Registries for Adaptive Social Protection." *SASPP Technical Paper Series*. Washington DC: World Bank.

Geschwind, Sebastian. Forthcoming. "Balancing Inclusiveness, Quality, and Costs: The Innovative Modular Intake and Registration Strategy of Mauritania's Social Registry." Washington, DC: World Bank.

Guven, Melis, Himanshi Jain, and Clement Joubert. 2021. "Social Protection for the Informal Economy: Operational Lessons for Developing Countries in Africa and Beyond." Washington DC: World Bank.

Hoogeveen, Johannes, and Utz Pape, eds. 2020. "Data Collection in Fragile States: Innovations from Africa and Beyond." Cham, Switzerland: Palgrave Macmillan.

Karippacheril, Tina George, Luis Inaki Alberro Encinas, Ana Lucia Cardenas, Martinez, Conrad Daly, and Satyajit Suri. 2024. "Playbook on Digital Social Protection Delivery Systems: Towards Dynamic Inclusion and Interoperability." Washington, DC: World Bank.

Lindert, Kathy, Tina Karippacheril, Inés Rodriguez Caillava, and Kenichi Nishikawa Chavez. n.d. 2020 "Sourcebook on the Foundations of Social Protection Delivery Systems." Washington DC: World Bank.

Wagner, Ben, Carolina Ferro, and Jacqueline Stein-Kaempfe. 2022. "Implementation Guide - Good Practices for Ensuring Data Protection and Privacy in Social Protection Systems: A Guide for Practitioners Working and Advising in Low- and Middle-Income Countries." Social Protection Inter-Agency Cooperation Board (SPIAC-B).

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