



Open-Source CORE-MIS

Improving Social Protection
Program Management
and Delivery

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WORLD BANK GROUP
Social Protection & Jobs



CORE-MIS Team composition

TEAM LEADER



Melis Guven

TECHNICAL ADVISOR



Ubah Thomas
Ubah

PRINCIPAL DEVELOPER



Lewis Malike
Kendeh

CORE-MIS COORDINATOR



Andrea Martin

COUNTRY FOCAL POINTS

Aditya Jagannath (English)
Yann Paul Bourgeois (French)

DEVELOPERS

Samuel Anertey Addico
Tonte Owuso, Godfred Afful

SPJ GP Delivery Systems GSG

Ines Rodriguez Caillava
Mohamed Bubaker Alsafi Almenfi



Presentation outline



What is the CORE-MIS?



How can existing projects benefit from the CORE-MIS?



What are some of the early lessons learned from the pilot?



Demo of the platform



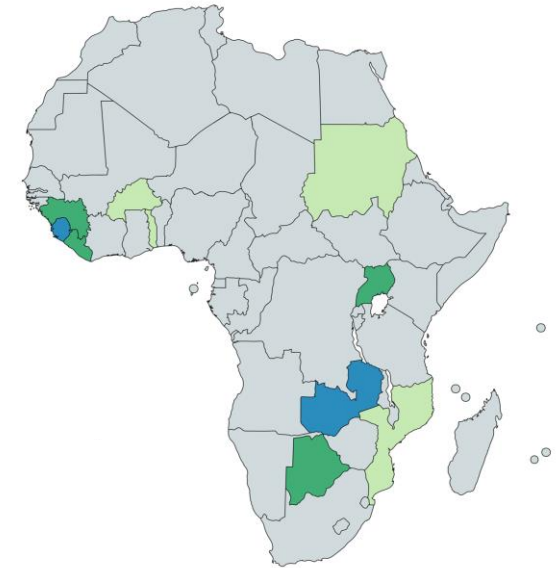
How the CORE-MIS initiative started

- **Access to robust and affordable digital platforms** is critical to the success of complex and large-scale social protection response projects to the COVID-19 crisis.
- However, due to **limited local technical resources** in many countries and the **lengthy development process**, many governments are experiencing delays in creating and deploying such systems.
- The CORE-MIS has been developed to assist countries in the rapid delivery of **emergency cash transfers** to safety net beneficiaries and to vulnerable **informal sector workers** in response to the COVID-19 pandemic, thereby addressing the **need for flexible operational innovation systems**.



A new tool, building on experience

- Design **incorporated lessons learned** from years of engagement in the region
- **New functionalities** are being added based on country demands, and made **configurable** so they can be used in different contexts
- Current version is **already more advanced than established platforms** in use by several programs
- Pilot is focused on Africa region, but growing demand to **expand to other countries and regions**



- Current engagements
- Previous collaborations
- Potential collaborations



Launching of CORE-MIS initiative required internal coordination with several teams

CORE-MIS Initial development

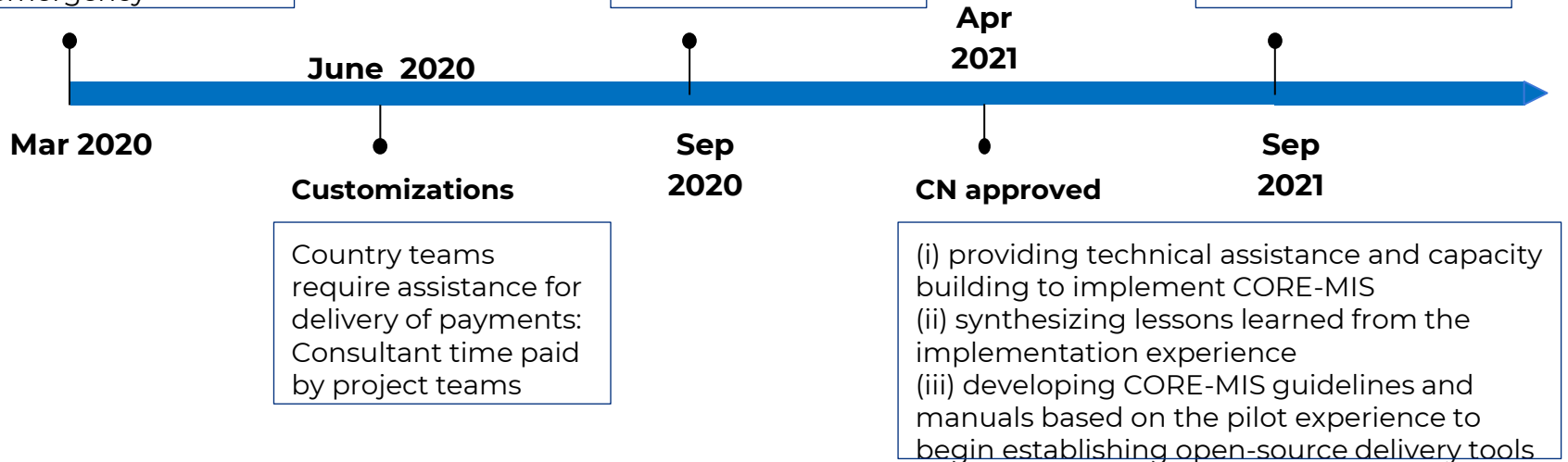
Basic tool developed to deliver transfers during COVID emergency

RSR Proposal submission

Applied for funding to support piloting in selected countries

Start of implementation

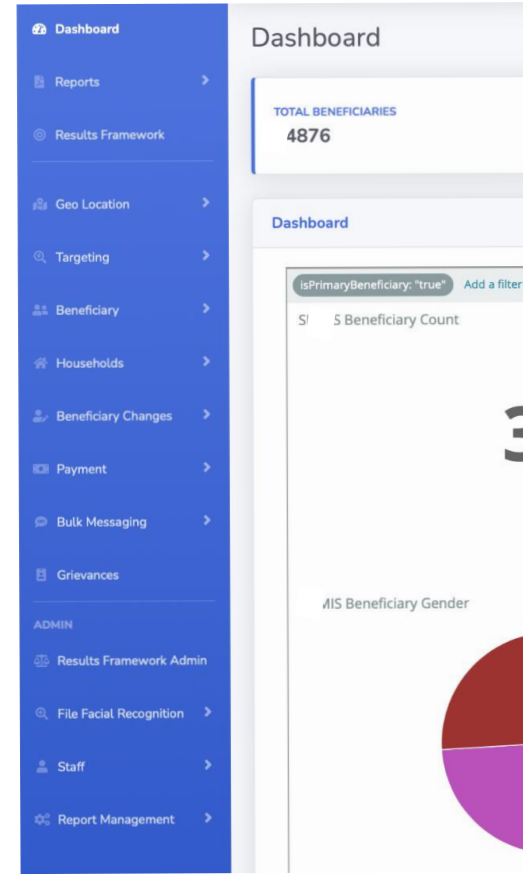
First deployment of the platform (Zambia)





The CORE-MIS is a robust and free tool to support project implementation

- **Web-based application system** designed to support cash transfer and economic inclusion programs
- **“CORE”** alludes to the intention for the tool to serve as a **key building block** for the establishment or enhancement of delivery systems
- Main design elements:
 - **Robustness**
 - **User-friendly interface**
 - **Support to integration**
 - **Open-source components**





Modules and functionalities

Currently 15 modules are already operational and more are being developed

TARGETING

GRM

USER MANAGEMENT

KoBo TOOLBOX
INTEGRATION

TIMESHEETS

TASK MANAGEMENT

BENEFICIARY
REGISTRY

TRAINING

PROJECT
DASHBOARD

DATA UPDATE

SAVING GROUPS

REPORTS

PAYMENT AND
RECONCILIATION

SMS NOTIFICATIONS

GEOGRAPHICAL
CODES

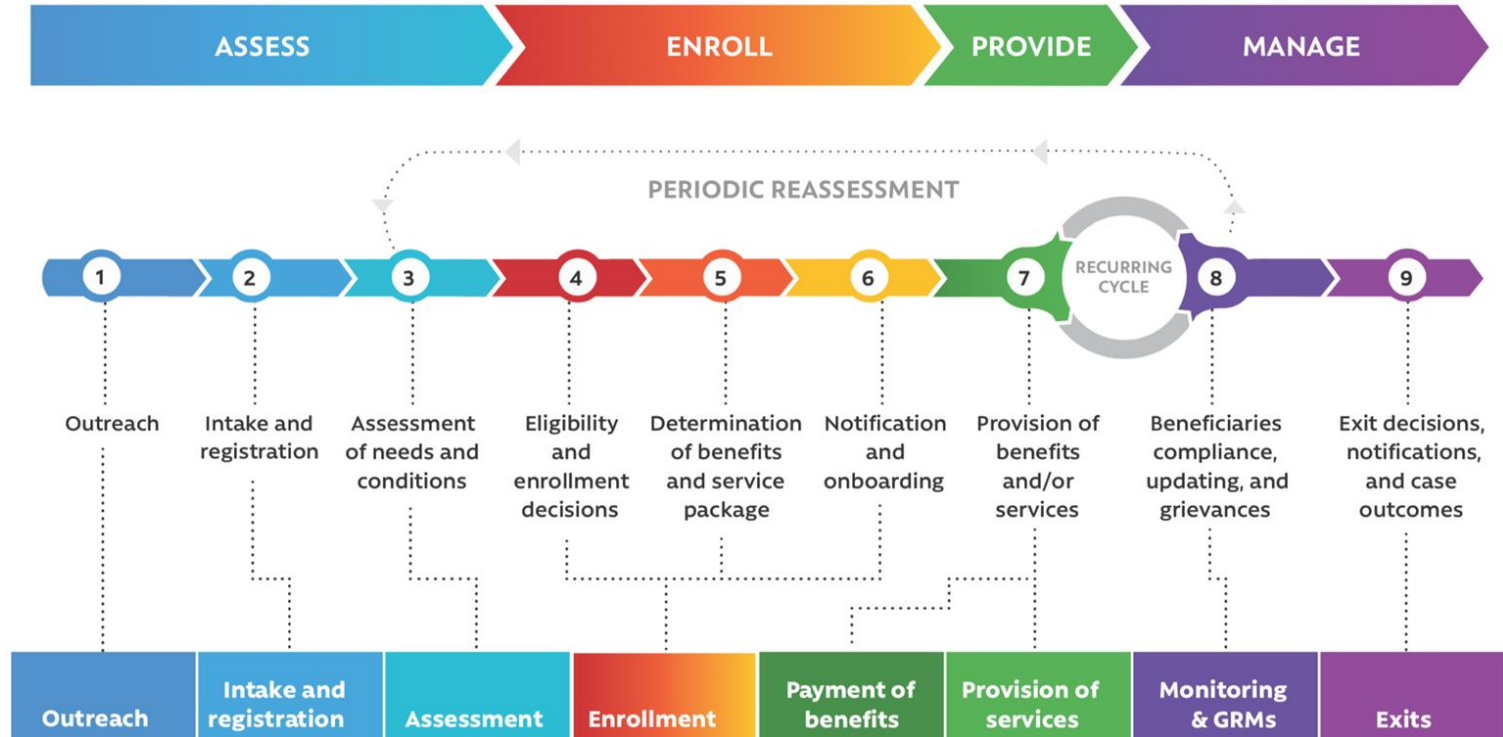


The open source concept and community of practice

- Objective is to create a product which can be **easily and freely modified**
- **Clear documentation** and adherence to standards
- All tools used to develop the CORE-MIS are **free and open source**
- New functionalities to be **shared with the community** so that other users **don't need to "reinvent the wheel"**
- Foster establishment of a **community of practice**
- Avoid vendor-locking practices



System functionalities match and expand the SP standard delivery chain flow





Targeting and assessment



- Supports **multiple data** sources and formats
- **Integration with KoBo and ODK data** collection tools
- **Data cleaning tool**
- Configurable **PMT formula**
- **Eligibility criteria** filters
- “Potential” status
- Beneficiary detailed view
- **Household view** (with member details) *
- **Dwelling** information *
- **Suspension and reactivation** statuses
- Photo ID compatibility

* Depends on dataset availability



CTs and economic inclusion programs

PROVISION OF SERVICES

- System supports **conditional and unconditional cash transfer** programs
- **Timesheets** module to track attendance and calculate payment amount accordingly (public works)
- Tracking of **training** provided to beneficiaries
- **Saving groups** (for both project members and public)
- (Also support to **payroll management** of program staff)
- Additional functionalities being added



Payment management

PAYMENT OF BENEFIT

- Generation of **payrolls**
- Parameters are **fully configurable**
- Repeated payment cycle support
- Integration with **e-payment providers**
- **Multi-level approval workflow**
- Support for over-the-counter **offline payment**
(dedicated android app)
- **Advanced reconciliation** with proof of payments
(e.g. photo evidence)



Program monitoring and administration

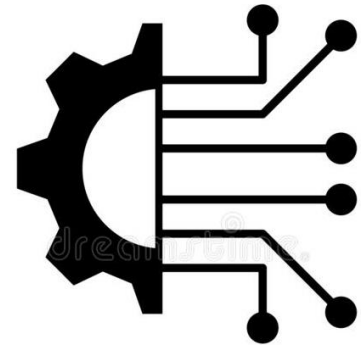
MANAGEMENT

- **Project Dashboard**
- Customizable Reports
- **GRM module**
- Task management with **notifications**
- Geographical codes
- Bulk **SMS notifications**
- **User and profile management**
(with optional geographical restrictions)



Integration with existing system

- System can be linked and/or integrated with:
 - **existing platforms and registries**
 - **e-payment** providers
 - **mobile network operators**
 - data collection tools (**ODK, KoBo**) or other apps
 - **payment gateway**
- Advanced data validation (**ETL**)
- Use of **standard APIs** and protocols





Security and data protection

- CORE-MIS is deployed in **secure servers chosen and managed by the client**
- **World Bank does not store or access the data**
- **Client is responsible** for maintaining integrity of stored data and hosting the platform
- **Customizable user profiles and privileges**
- **Maker-and-checker logic** for all main operations
- **Audit trail** of user activities
- **Multi-level approval** processes
- **Two-factor authentication** supported





Technology stack and architecture

MODULAR MICROKERNEL

FRONTEND:

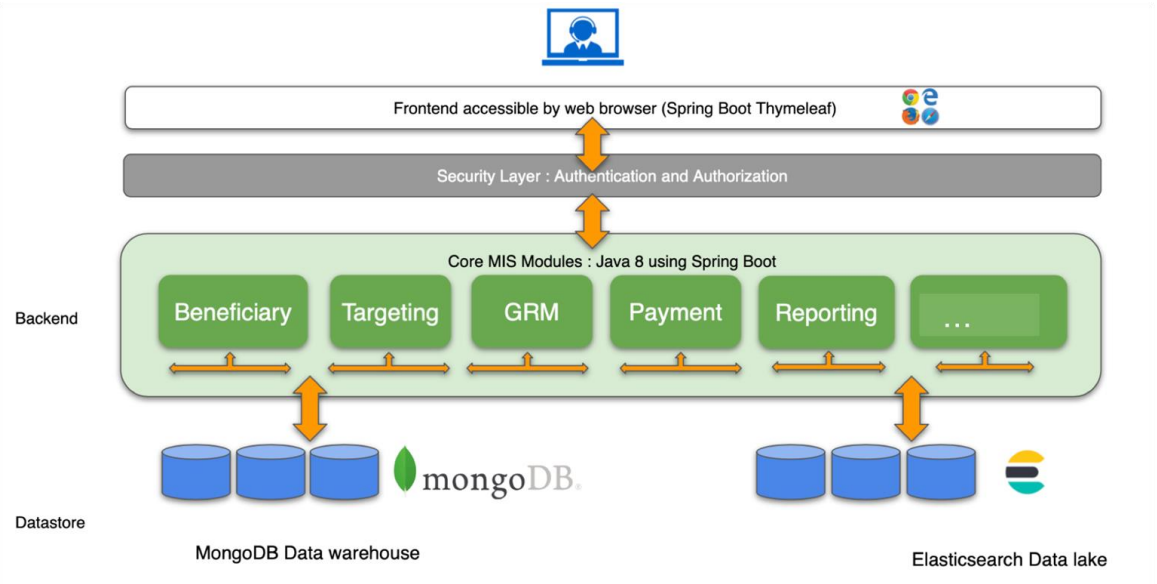
- HTML5
- CSS3
- JQuery
- Spring Boot Thymeleaf

BACKEND:

- Java 8
- Spring Boot
- Jasper Reports

DATASTORES:

- MongoDB
- Elasticsearch





Technical support provided

- Configuration of the platform
- Integration with existing services and platforms
- Testing of the platform
- Deployment of the tool to dedicated servers
- Training of trainers
- Troubleshooting for initial period

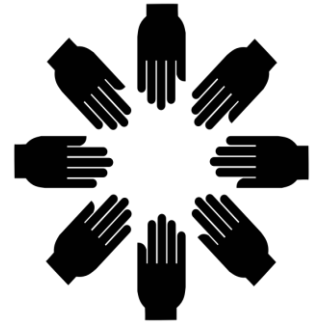


Also design and development of new modules and functionalities



Lessons learned: Enabling factors for quick implementation

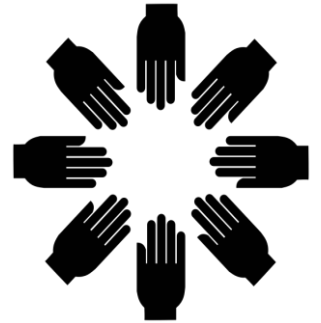
- **Agreeing on the initial (limited) scope and requirements**
 - Important to specify the needs of the project and pin down milestones (to avoid scope-creeping)
- **Clear understanding of processes and field operations**
 - Meet with different stakeholders, including the field staff
- **Dedicated and competent technical counterparts**
 - Transfer knowledge to people who can take over the system





Lessons learned: Enabling factors for quick implementation (2)

- **Availability of technical infrastructure**
 - Servers and connectivity are needed for UAT and deployment
- **Political commitment and support**
 - Important how to involve and get the buy-in at all levels (line ministry, auditor general, etc.)
- **Small and dynamic team**
 - Clear communication and agile approach for collecting feedback
 - Focal point liaising with client and country team





Costs and maintenance

- The software is provided for free to the clients
- The cost of development and configuration depends on requirements:
 - Initial configuration (status of datasets and geographical codes)
 - Optional development of new features
 - Integration with other platforms
- These activities are currently performed by the developers, coordinator and focal points of the CORE-MIS team (funded through BE and RSRs) but could potentially be performed directly by the client or outsourced to third party providers
- Running costs are the servers (UAT, production and backup) and internet connectivity. These are often made available by the IT department or dedicated agency, but can also be set up or subscribed as online service (depending on data privacy regulations in the country)
- Maintenance and version updating would also be required, so it might be advisable for the client to identify a reliable developer (team) that can provide continuous support

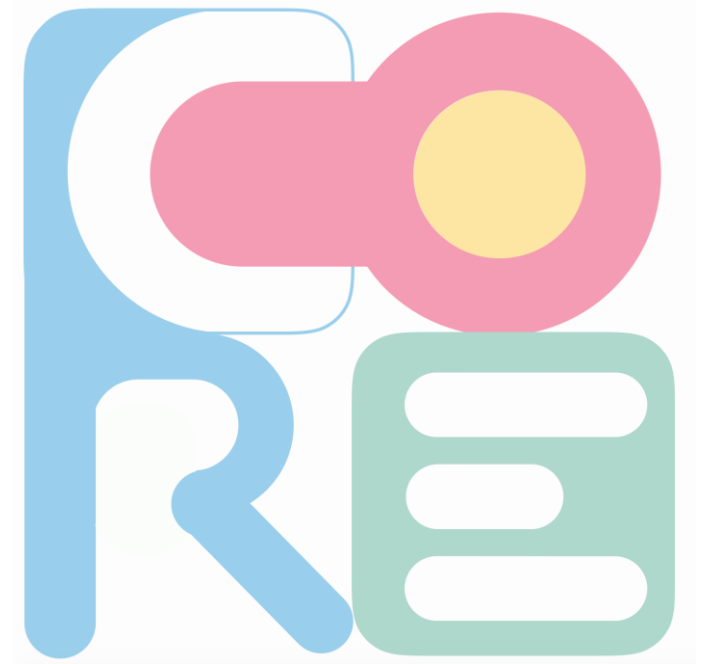


How to request the CORE-MIS and handing over of the source code

- Current process (under pilot):
 - Presentation of the product to the team and the client
 - Discussion on system requirements
 - Client makes official request to the CMU (template letter is available)
 - CMU provides clearance
 - Software deployment on servers identified by the client
 - Source code transfer under written agreement drafted by Legal team
- Expected "standard" process:
 - Tool is published on public repository (together with documentation)
 - CORE-MIS team to maintain the code and support / lead community of practice
 - Client freely decides whether to download and/or customize the tool under FOSS license terms *
 - CORE-MIS team can provide technical support (if requested)

* Expected to be *GNU AGPL v3 License* or new WB license

DEMO



THANK YOU !

