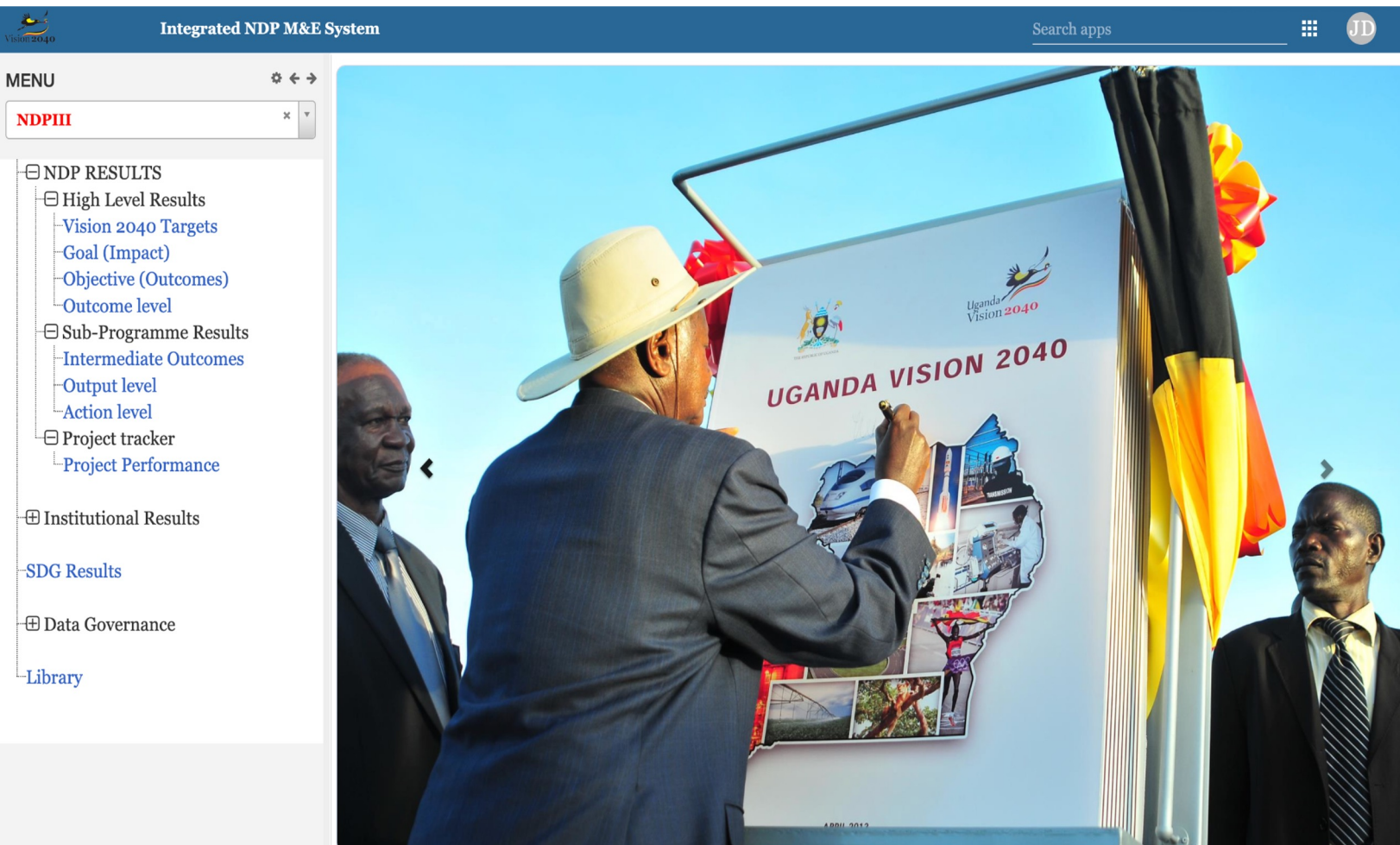


# Integrated M&E systems for harmonised evaluation data/results tracking:

## Uganda's Integrated NDP Web-Based M&E System



Presented by:  
**Roland Bless Taremwa**

**20<sup>th</sup> March 2024**



# Background

Launched by Rt. Hon. Prime Minister  
**Domiciled in Prime Minister's Office**

Based on NDP(III) M&E framework &  
reporting requirements for NAPR/NHAPR

**Programme Implementation Action  
Plans (PIAPS) & DDPs**

Overall system objective :  
“Enhance access to data/information on  
progress made on NDPs, to strengthen  
accountability for results, knowledge  
management and coordination”.

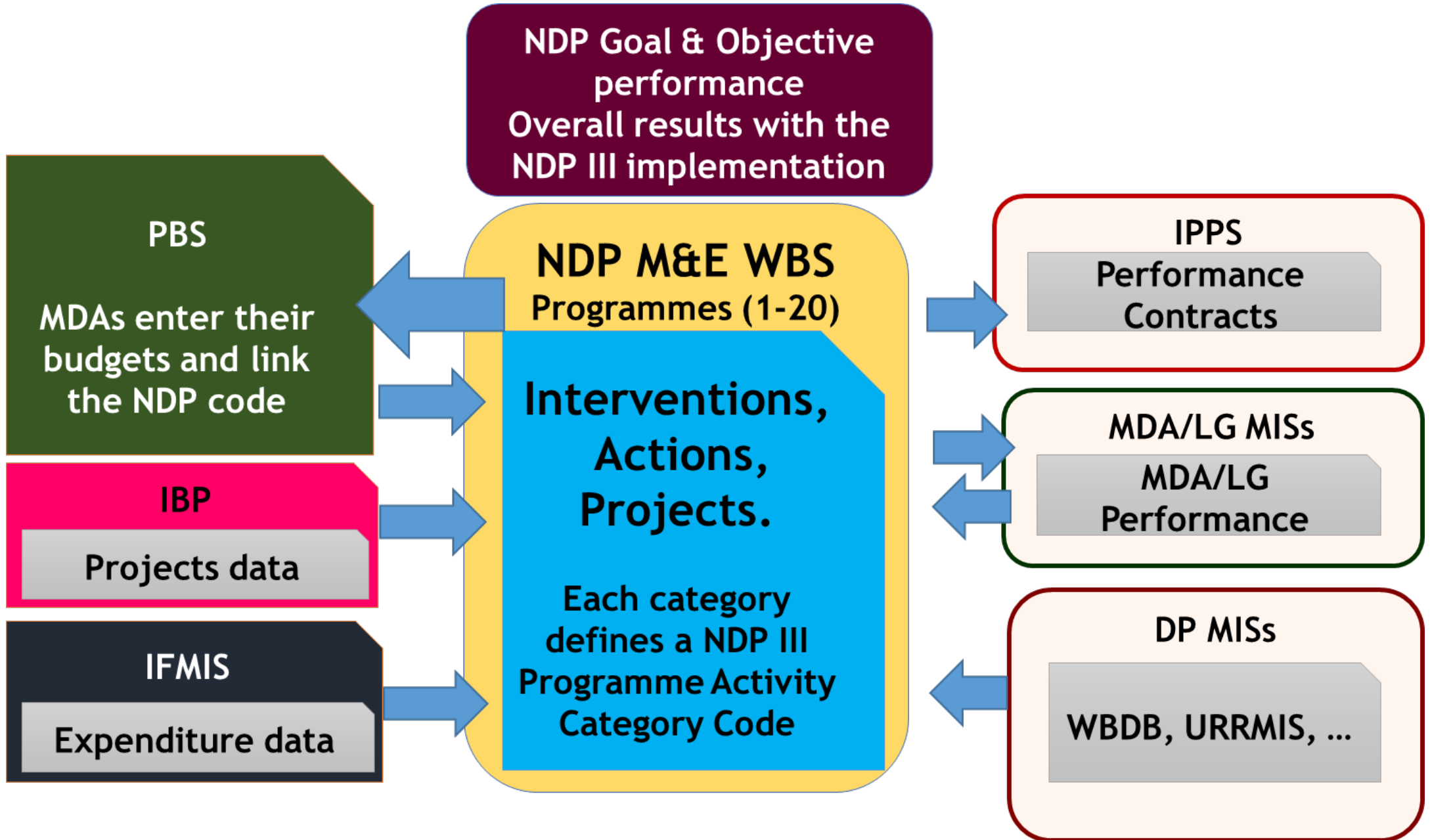
Developed using FOSS technologies  
**ZERO licensing fee**

Built on top of the DHIS2 platform  
**National system across the globe**

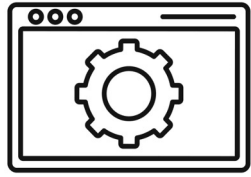
Developed using modular architecture  
**Extendable by building pluggable  
apps**

REST API support  
**Crucial for interoperability &  
system integration**

# System linkages



# Technical Characteristics



## Web-based System

- Only a web browser required to access the system
- Easy to learn; Javascript and web frameworks



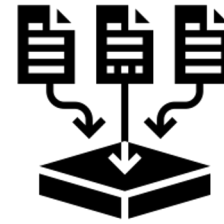
## Modular Architecture

- Can be extended by building pluggable apps
- Target Setting, Performance entry, document Library are all pluggable application



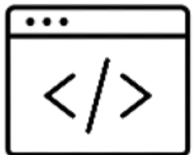
## Customizable Platform

- Content or metadata based,
- Customizable without code programming
- Minimal effort on updates / upgrade



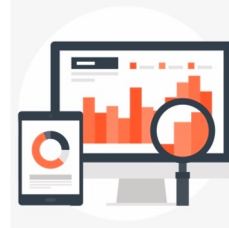
## Mode of Data Capture

- Web browser (Chrome and firefox preferred),
- Android for smartphones and tablets,
- Import or exchange via API for integration



## Integration & interoperability

- REST API for third party system with both metadata and data are accessible through APIs (PBS, IFMIS, PMIS, etc)



## Data Management and analytics

- Manage and analyse data with charts, maps, tables with a dynamic dashboard

# Functional Characteristics

Follows a three step process

- **Interface for metadata definition**
- **Interface for metadata and data protection**
- **Interface for data collection, tracking and reporting**

Users have absolute control!

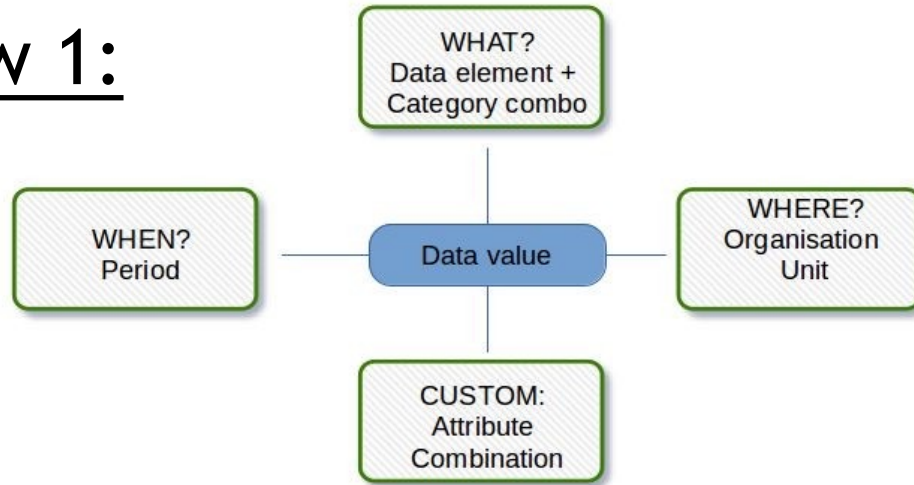
- MDAs' define the metadata (Indicators)
- MDAs' collect, track and report data on the NDP III
- MDAs' define access control; who can see/do tasks in the system

Data points

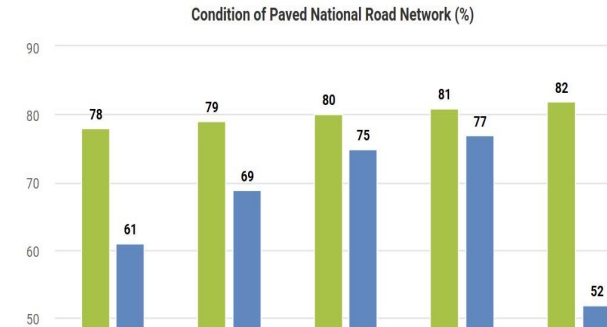
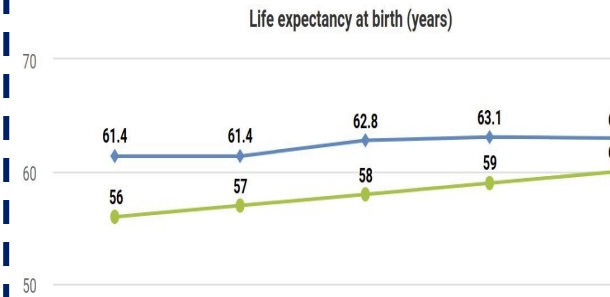
- **Incorporated ~5000 indicators for NDP III including LG M&E results framework and PDM**
- **Uploaded all targets for NDP III for all MDA, LGs**
- **Uploaded NDP III results for previous NDPs (NDP2 II & NDP I)**

# Functional workflows

## Workflow 1:



## Workflow 2:



## Metadata definition - the 3 W's:

(i) What needs to be collected?

⇒ Indicators (+disaggregation dimensions)

(ii) Where is it coming from?

⇒ hierarchy of MDAs, PSOs, LGs, LLGs, ...

(iii) When is it going to be collected?

⇒ fiscal year, quarter, month, ...

## Data aggregation and visualization:

(i) Data validation & quality checks

⇒ Syntax & Semantic validation, Cross-field validation, Consistency, Accuracy...

(ii) Data aggregated

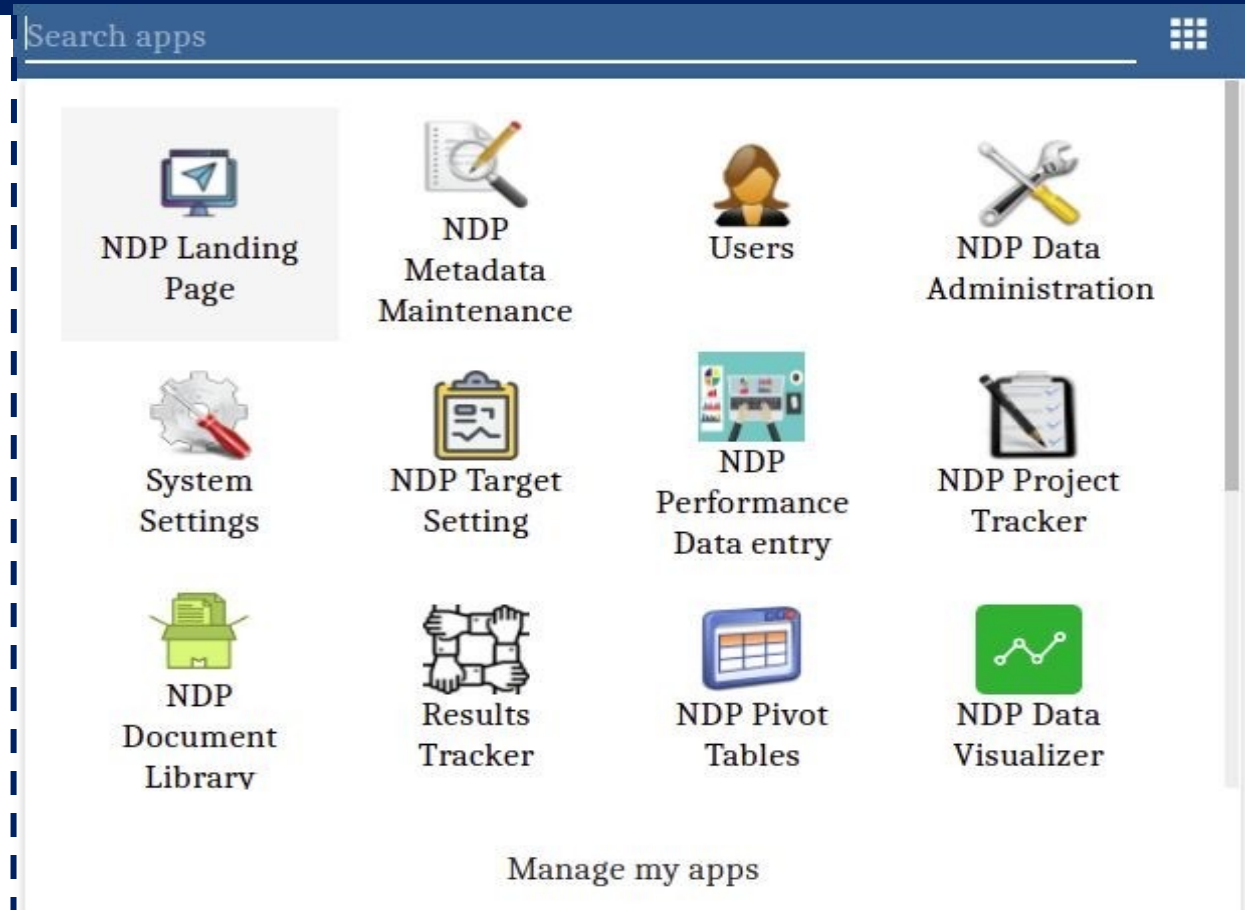
⇒ across reporting units & time

(iii) Data visualized

⇒ tables, charts, graphs, maps, ...

# Key modules

- ❑ Metadata management
  - Indicators,
  - KRAs, Outputs, Outcomes
  - Goals, Objectives
  - Programmes, Sub-Programmes, Interventions
  - GIS (LGs, LLGs, Parishes)
- ❑ Data ( +Metadata ) protection
- ❑ Target setting & Performance reporting
- ❑ Data completeness and quality
- ❑ Data aggregation
- ❑ Indicator dictionary
- ❑ Document library
- ❑ User management
- ❑ Vote/MDA management
- ❑ Landing page



- ❑ Data analysis and presentation
  - Pivot, Charts, Maps, Customized reports
- ❑ Dashboard
- ❑ Project tracker (integrated with IBP)
- ❑ Policy Action Tracker (PM, Cabinet,...)

# Data Entry (targets/Results)

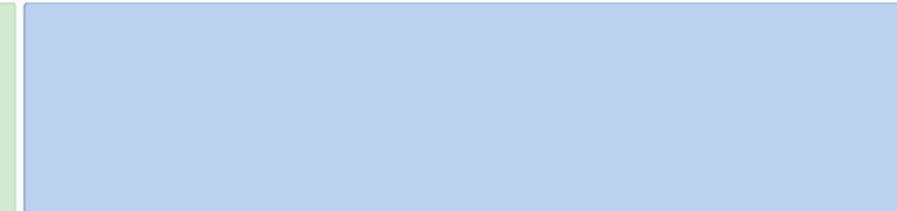


## Performance Data Entry

Search  Go

- Uganda
  - Central Government
    - Vote 001 Office of the President
    - Vote 002 State House
    - Vote 003 Office of the Prime Minister
    - Vote 004 Ministry of Defence
    - Vote 005 Ministry of Public Administration
    - Vote 006 Ministry of Foreign Affairs
    - Vote 007 Ministry of Justice
    - Vote 008 Ministry of Finance
    - Vote 009 Ministry of Internal Affairs
    - Vote 010 Ministry of Agriculture, Animal Industry and Fisheries**
    - Vote 011 Ministry of Local Government
    - Vote 012 Ministry of Lands, Planning and Construction
    - Vote 013 Ministry of Education
    - Vote 014 Ministry of Health
    - Vote 015 Ministry of Trade, Industry and Cooperatives
    - Vote 016 Ministry of Works and Transport
    - Vote 017 Ministry of Energy
    - Vote 018 Ministry of Gender
    - Vote 019 Ministry of Water and Irrigation
    - Vote 020 Ministry of Information and Public Relations
    - Vote 021 Ministry of East African Affairs

Organisation Unit   
 Data set  × ▼  
 Period  × ▼ ◀ ▶



Indicator	Baseline	Target	Actual	Explanation/Attachment
% change in production volumes in priority agricultural commodities		25	<input type="text" value="17"/>	<input type="text"/> <span>⚠</span>
% change in yield of priority agricultural commodities		10.57	<input type="text" value="6"/>	<input type="text"/> <span>⚠</span>
% of food secure households		75.2	<input type="text" value="49"/>	<input type="text"/> <span>⚠</span>
% of water for production facilities that are functional		87.7	<input type="text" value="85"/>	<input type="text"/> <span>⚠</span>
Area under formal irrigation (ha)(outcome)		19776	<input type="text" value="18403"/>	<input type="text"/> <span>⚠</span>
Cumulative water for production storage capacity (Mcm)		54.32	<input type="text" value="40"/>	<input type="text"/> <span>⚠</span>
Post-harvest losses for priority commodities (%)(outcome)		33	<input type="text" value="28"/>	<input type="text"/> <span>⚠</span>
Proportion of agricultural area under production and sustainable agriculture			<input type="text"/>	<input type="text"/> <span>⚠</span>
Proportion of farmers that access agricultural finance		40	<input type="text" value="22"/>	<input type="text"/> <span>⚠</span>
Storage capacity (MT)(outcome)		750000	<input type="text" value="586500"/>	<input type="text"/> <span>⚠</span>

[Submit data and lock](#)

# Project/Policy action tracking



- Central Government
  - Vote 001 Office of the President
  - Vote 002 State House
  - Vote 003 Office of the Prime Minis
  - Vote 004 Ministry of Defence
  - Vote 005 Ministry of Public Servic
  - Vote 006 Ministry of Foreign Affai
  - Vote 007 Ministry of Justice and C
  - Vote 008 Ministry of Finance, Plar
  - Vote 009 Ministry of Internal Affai
  - Vote 010 Ministry of Agriculture**
  - Vote 011 Ministry of Local Govern
  - Vote 012 Ministry of Lands, Housi
  - Vote 013 Ministry of Education an
  - Vote 014 Ministry of Health
  - Vote 015 Ministry of Trade, Indust
  - Vote 016 Ministry of Works and Ti
  - Vote 017 Ministry of Energy and N
  - Vote 018 Ministry of Gender, Labo
  - Vote 019 Ministry of Water and Er
  - Vote 020 Ministry of Information, c
  - Vote 021 Ministry of East African
  - Vote 022 Ministry of Tourism, Wilc
  - Vote 023 Ministry of Kampala Cap
  - Vote 023 Ministry of Science

Project Tracker Lists Search Register

## Enrollment

Enrolling organisation unit: Vote 010 Ministry of Agriculture, Animal Industry and Fisheries  
Registration date: 2023-05-02

## Profile

Point on map: Latitude Longitude  
NDP PIP Code  
MoFPED Code  
Project Title \*  
NDP III Programme \*  
Core Project:  Yes  No  
Category: Select or search from the list  
Location  
Start Date (Planned): yyyy-MM-dd  
End Date (Planned): yyyy-MM-dd  
Description  
Department Code  
Department Name  
Function Code

- Central Government
  - Vote 001 Office of the President
  - Vote 002 State House
  - Vote 003 Office of the Prime Minis
  - Vote 004 Ministry of Defence
  - Vote 005 Ministry of Public Servic
  - Vote 006 Ministry of Foreign Affai
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  - Vote 020 Ministry of Information, c
  - Vote 021 Ministry of East African
  - Vote 022 Ministry of Tourism, Wilc
  - Vote 023 Ministry of Kampala Cap
  - Vote 023 Ministry of Science

Policy Action Tracker Lists Search Register

## Enrollment

Enrolling organisation unit: Vote 010 Ministry of Agriculture, Animal Industry and Fisheries  
Enrollment date: 2023-05-02

## Profile

Action ID \*: V01-00003  
Policy action/directive \*  
NDP III Programme \*  
Thematic Area \*  
Priority \*  
Start Date (Planned): yyyy-MM-dd  
End Date (Planned): yyyy-MM-dd  
Source of policy action \*  
Contributing MDAs (vote codes)

Save and continue Save and add new Print form Cancel

# Analytics: Performance review



MENU

NDPIII

- [-] NDP RESULTS
  - [-] High Level Results
    - Vision 2040 Targets
    - Goal (Impact)**
    - Objective (Outcomes)
    - Outcome level
  - [-] Sub-Programme Results
    - Intermediate Outcomes
    - Output level
    - Action level
- [-] Tracking
  - Project Performance
  - Policy Action
- [-] Data Governance
  - Indicator dictionary
  - Workflow & guidelines
  - FAQ
- Library

Targets | Performance | Performance overview | Completeness

Goal: NDP III Goal - Increased household incomes and improved Quality of life

Key Result Area: All

[Display report](#)

Advanced report filters (by FY, by MDALGs)

Achieved (>= 100%)
Moderately achieved (75-99%)
Not achieved (<75%)
No data

Goal	Key Result Areas	Indicators	2020/21		2021/22		2022/23	2023/24	2024/25
			Target	Actual	Target	Actual	Target	Target	Target
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Income per Capita (USD) <i>i</i>	936	936	991	1042	1049	1116	1198
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Real GDP growth rate <i>i</i>	4.5	3.3	6	4.6	6.4	7	7.2
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Population below the poverty line (%) <i>i</i>	25.4	20.3	21.4	20.3	20.6	19.6	18.5
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Population below international poverty line (\$1.9 per day) <i>i</i>	49.5	41.8	30.7	41.8	33.7	32.1	31
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Income Inequality (Gini coefficient) <i>i</i>	0.49	0.41	0.43	0.43	0.42	0.38	0.5
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Gender Inequality Index (GII) <i>i</i>	0.52	0.71	0.52	0.72	0.51	0.51	0.5
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Share of working population (%) <i>i</i>	80.6	78.8	82.2	78.8	83.8	85.5	87.2
NDP III Goal - Increased household incomes and improved Quality of life	Household incomes	Share of national labor force employed less subsistence (%) <i>i</i>	48.5	52	49.4	52	50.4	51.4	52.4
NDP III Goal - Increased household incomes and improved Quality of life	Quality of life	Human Development Index Score <i>i</i>	0.56	0.54	0.58	0.54	0.6	0.62	0.64
NDP III Goal - Increased household incomes and improved Quality of life	Quality of life	Population growth rate (%) <i>i</i>	3	3.1	3	3	2.8	2.7	2.5

# Analytics: Policy Actions/Directives

Programme

Policy Action Tracker



Display report

Filter by MDA



Vote	Priority	Start Date (Planned)	End Date (Planned)	Duration (Months)	Progress status	Performance rating (%)	Delayed
Vote 001 Office of the President	Normal	2023-03-16	2023-03-31	0			
Vote 143 Uganda Bureau of Statistics (UBOS)	High	2023-03-15	2023-03-29	0	In progress	40	Yes
Vote 143 Uganda Bureau of Statistics (UBOS)	Normal	2023-07-01	2024-03-31	9	Not started	50	No
Vote 002 State House	High	2023-03-02	2024-03-15	12	In progress	45	No
Vote 126 National Information Technology Authority	High	2023-03-16	2025-03-06	24	Completed	100	Yes
Vote 003 Office of the Prime Minister	High	2023-07-01	2024-06-30	12	Completed	100	Yes
Vote 003 Office of the Prime Minister	High	2023-03-25	2024-09-13	17	In progress	45	No
Vote 022 Ministry of Tourism, Wildlife and Antiquities	High	2023-06-21	2024-05-21	11	In progress	56	Yes

# Analytics: Dashboards



+ Search for a dashboard

★ NDP III Goals

★ 01 - Agro-Industrialisation

★ 02 - Mineral Development

★ 03 - Sustainable Petroleum Development

★ 04 - Manufacturing

## NDP III Goals ★

Edit

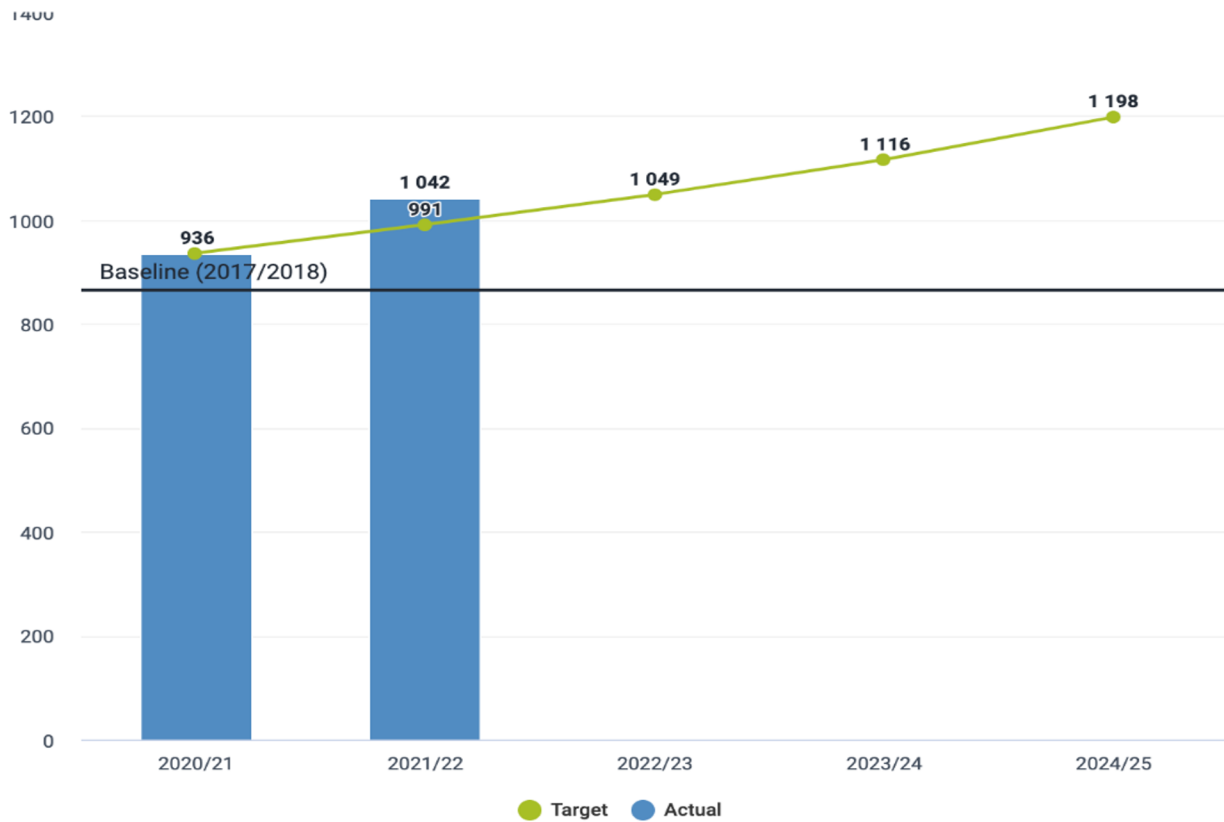
Share

☰ Add filter ▾

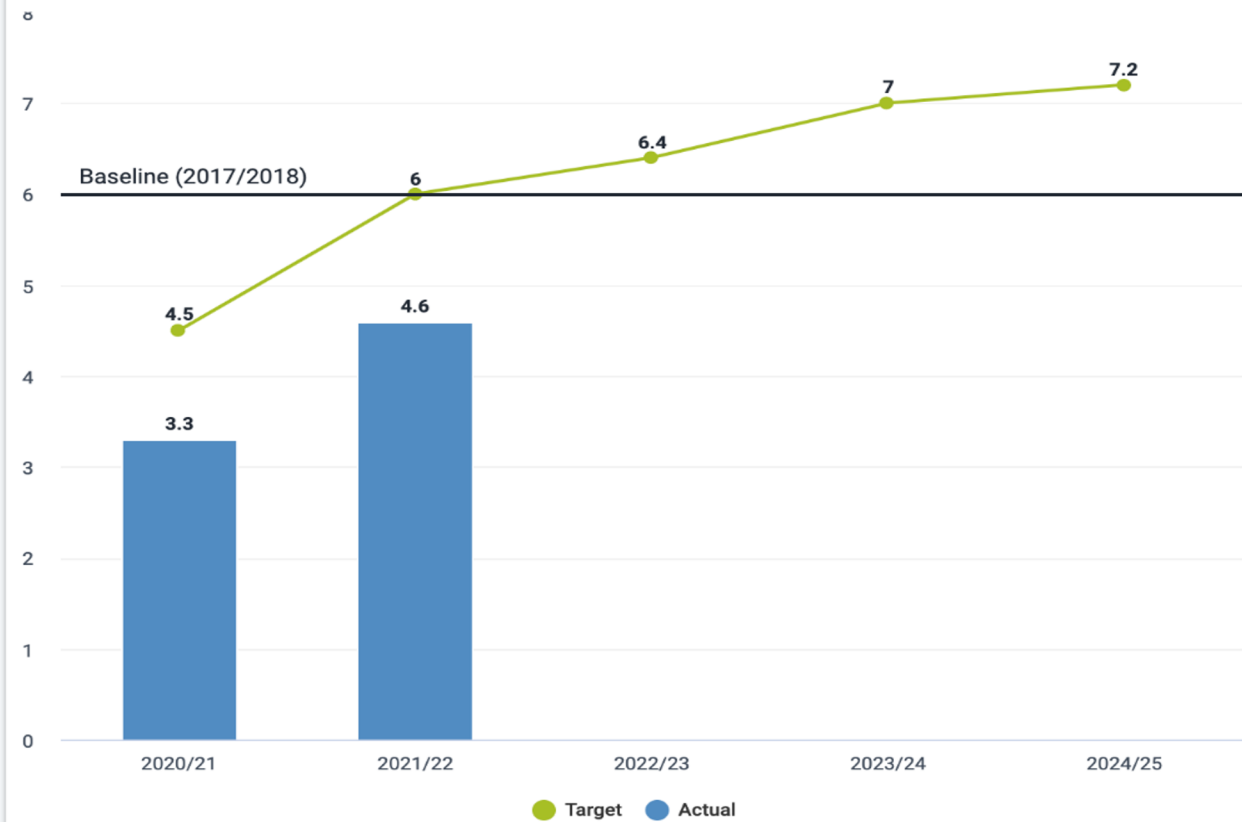
⋮ More ▾

### Key Result Area - Household incomes

#### Income per Capita (USD)



#### Real GDP growth rate



# Analytics: Parish level data



Search for a dashboard

NDP III Goals

01 - Agro-Industrialisation

02 - Mineral Development

03 - Sustainable Petroleum Development

04 - Manufacturing

Parish level

Edit

Share

Add filter

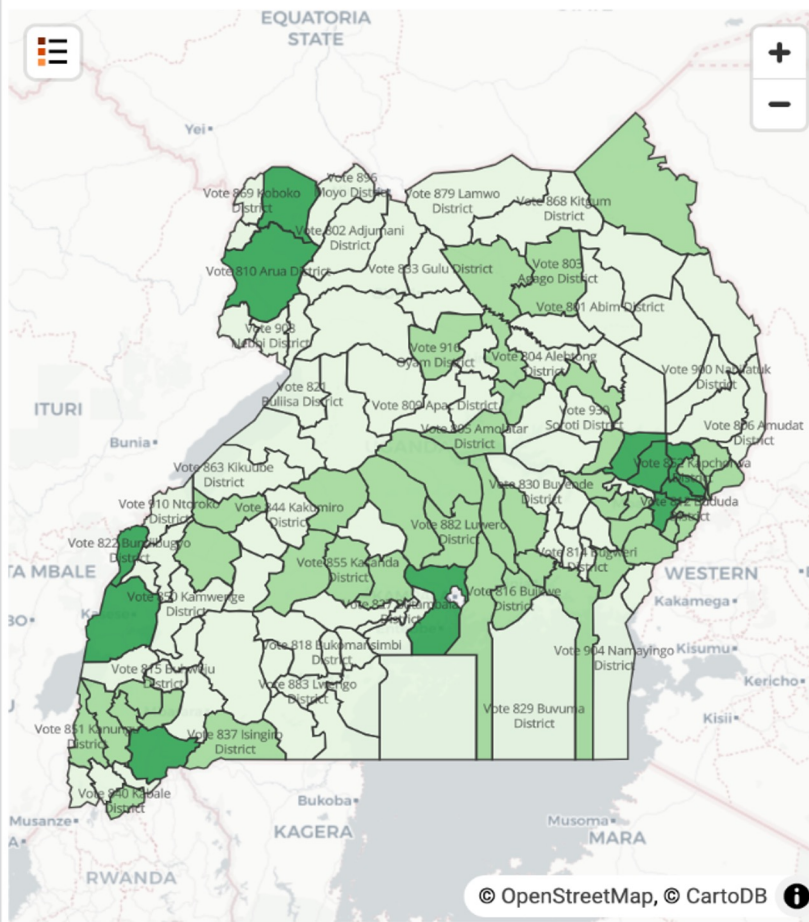
More

## HHs connected to national Grid

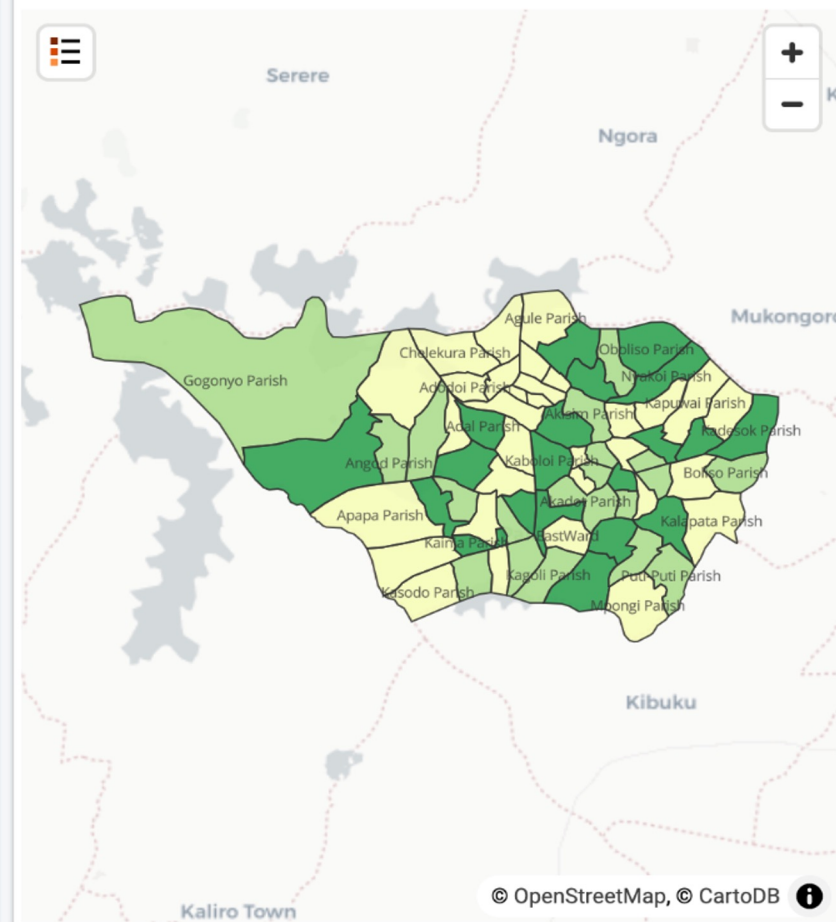
Uganda - PDM - Number of HHs connected to the grid



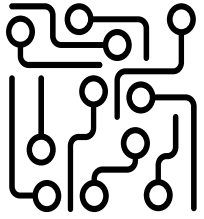
## HH connected to national grid



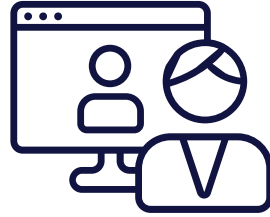
## HHs connected to national grid - parish level



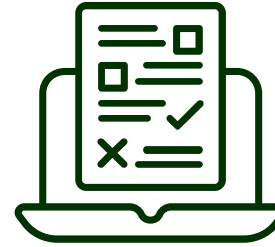
# Lessons



- Varied needs, requirements, expectations on system purpose
- Demystify the NDP3 M&EMIS
  - System scalability & flexibility
  - Data Mapping, Transformation



- In-house capacity inadequacies
- Effective coordination
  - Collaboration



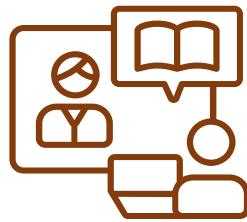
- Data quality issues
- Indicator/Data quality reviews
  - Codified list of indicators



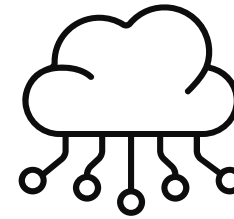
- Data privacy & security
- Standardize Data Formats and Sharing Protocols
  - Codified list of indicators



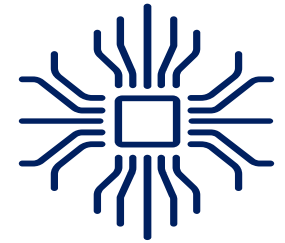
- Dynamic changes in indicators, targets
- Joint performance review and management
  - Align RF to NEA, DPs frameworks, PIAPS, DDPs



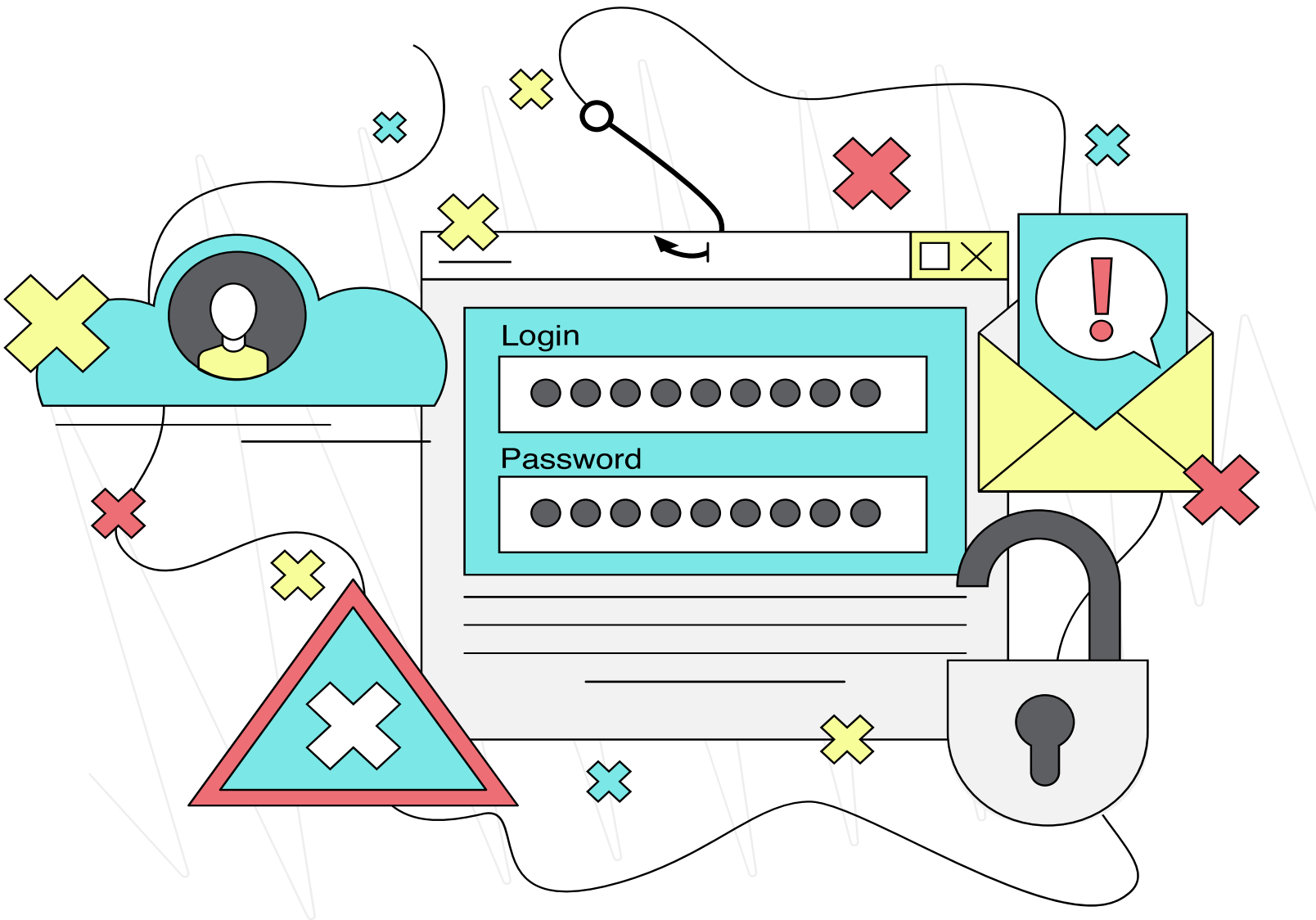
- Low utilization by VOPEs
- Align with Evaluation Agenda
  - Intentional VOPE trainings



- Volumetric data/information
- Integrating AI
  - Evidence synthesis
  - Digital evaluation tools
  - Cloud-based platforms



- Slow integration with relevant MISs
- Evaluation API
  - Master Data Management (MDM)
  - Data warehousing



# QUESTIONS



System link: <https://train.ndpme.go.ug/>