Introduction to mWater

ACHAP

16 August 2023

mWater

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Training Agenda

Day 1: **16th August** **English: 11am-1pm EAT**	Introduction to the mWater platform (Portal and Surveyor) Designing surveys and deploying surveys for data collection Introducing examples of WASH in HCF and IPC surveys Exercise on survey design
Day 2: **17th August** **English: 11am-1pm EAT**	Review survey design exercise and feedback Data collection: process, troubleshooting, training data collectors. Data viewing, cleaning, analysis
Day 3: **23rd August** **English: 11am-1pm EAT**	Data analysis: dashboards, maps, data grids, consoles Organization structure and management on mWater Custom app configuration: what it does, set up and updating.
Day 4: **24th August** **English: 11am-1pm EAT**	Custom App configuration set up and updating. Other (TBC based on needs)

Day 1 Agenda

15 min - Intro to mWater and its capacities

20 min - Demo of mWater Surveyor and Portal & Questions

10 min - Practice: log in on Surveyor and fill in the survey “Introduce yourself – ACHAP”

30 mins - Designing new surveys: how to create and design a survey

- Questions types & Indicators
- Example of HCF & IPC specific surveys
- Survey Deployment and approvals
- Results viewing
- Exercise: develop your own survey (for Day 2)

20 mins – Organisational chart set up and management

15 min - Questions & Next steps

Users: Governments and utilities

mWater

20 million surveys

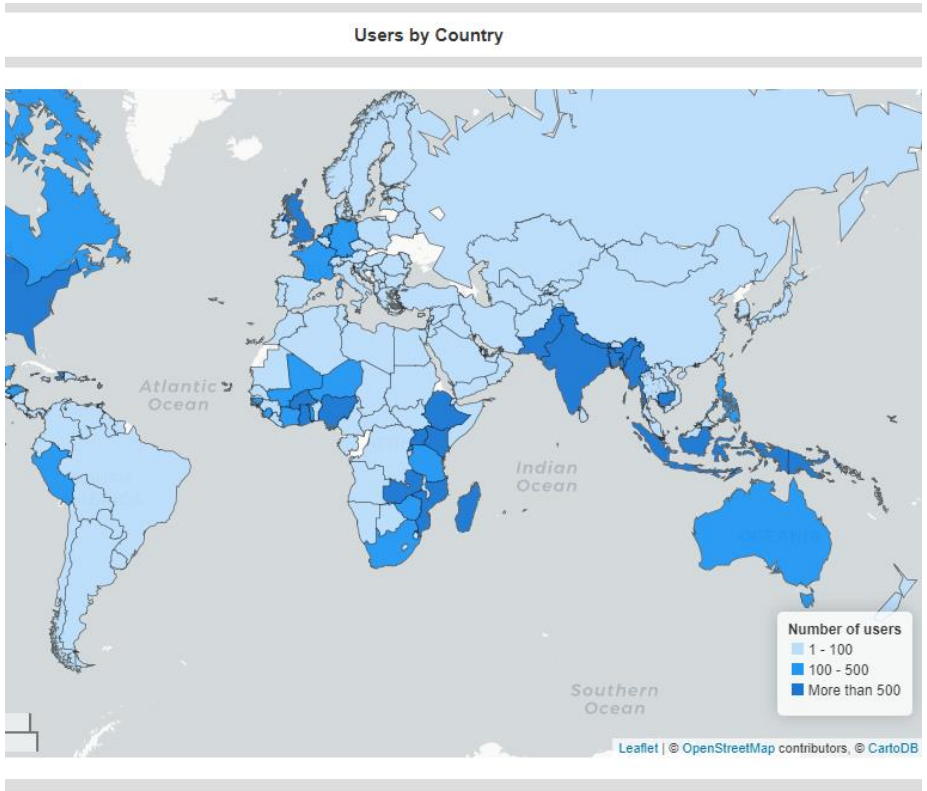
200,000+ users

200 countries

Public Digital Good: free mobile data collection and management platform

Designed by WASH experts

Expanded to cover all sectors



Local NGOs and researchers

International organizations and large NGOs

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About mWater

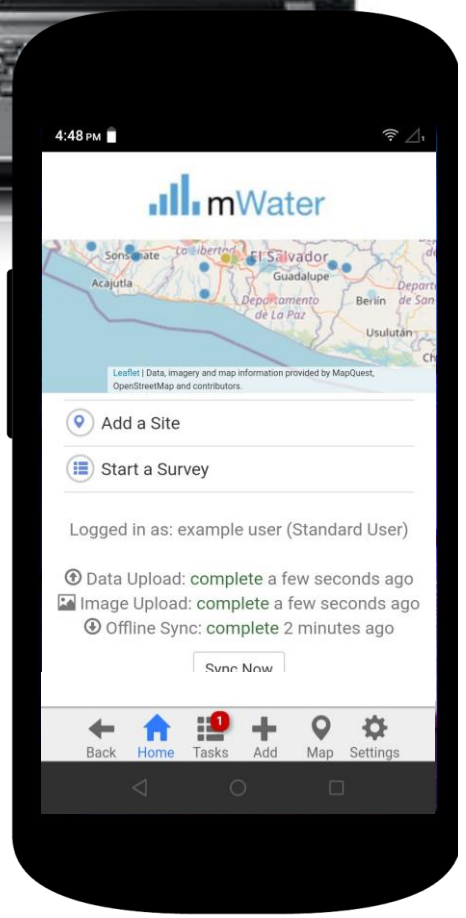
mWater is a mobile data collection and analysis platform which is **free for unlimited use**

mWater consists of two main components:

1. **mWater Surveyor –** Mobile app for Android, iPhone, & web
   - Data collection – Online & offline

2. **mWater Portal** - Website at portal.mwater.co
   - Design of data collection (Surveys, sites, issues, etc)
   - Survey deployment and assignment
   - Data approvals and cleaning
   - Visualization, analysis, sharing and export

mWater Portal



mWater Surveyor

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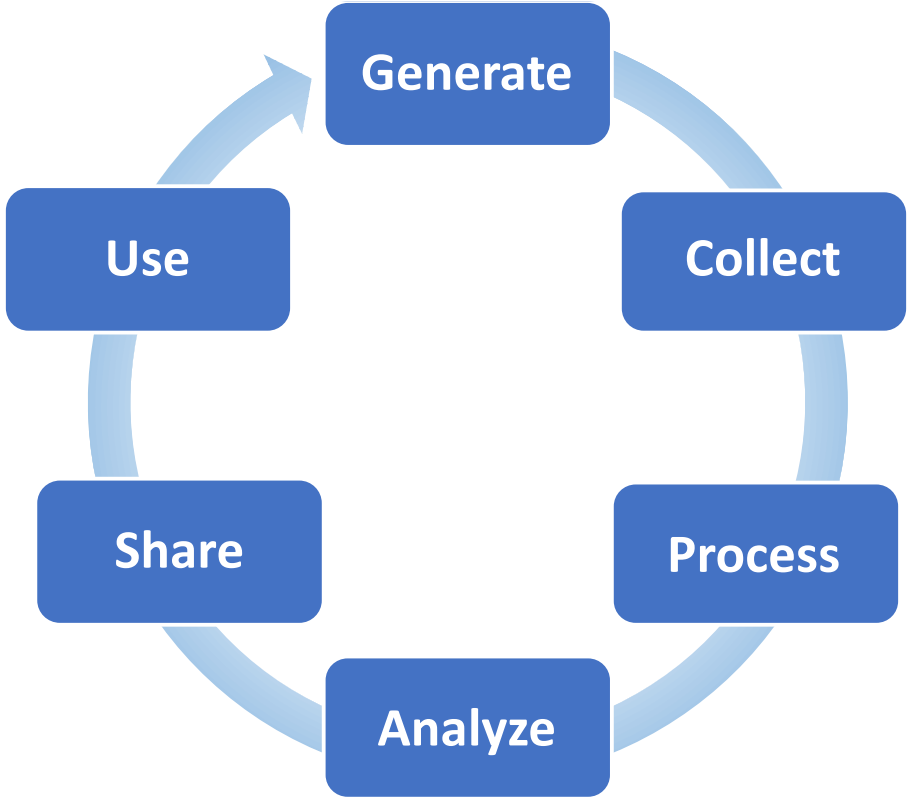
mWater democratizes data analytics

We help governments digitize by overcoming barriers

- **Free software-as-a-service** model to ensure sustainability
- **Open standards** to reduce the technical expertise needed
- **User-owned, exportable data** to ensure portability and avoid lock-in
- **Mobile-first** design
- Digital tools for the entire **data value chain**



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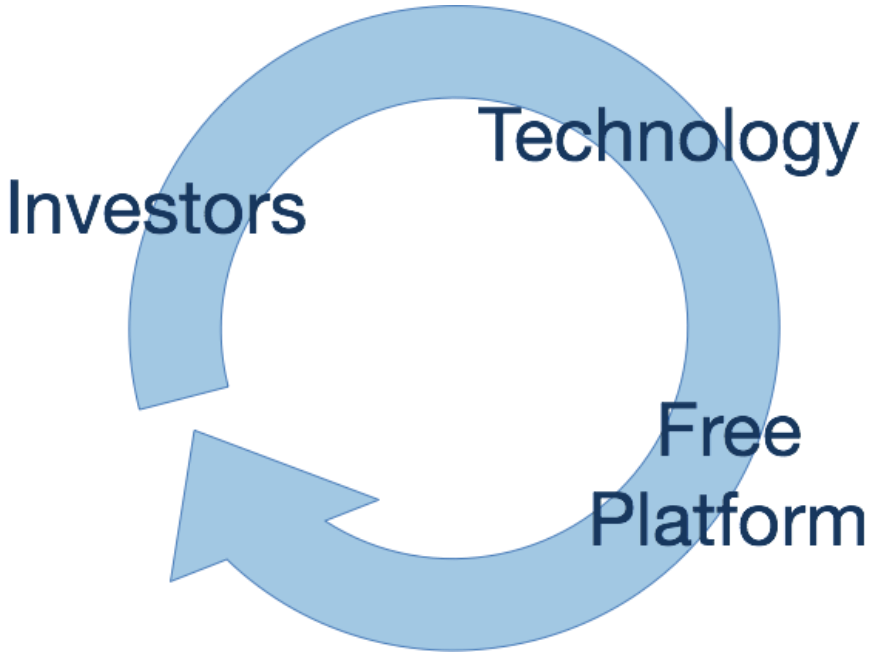
Open access business model

- All **software features are free to the end user** with costs supported by revenue from paying clients
- Large organizations and programs **invest in new features that become available to everyone**
- No ongoing software fees, hardware to maintain, or IT specialists required
- Sustainable data systems handed over at the end of program



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What can you do with the mWater platform?

- **Surveying –** A one-time or infrequent data collection activity

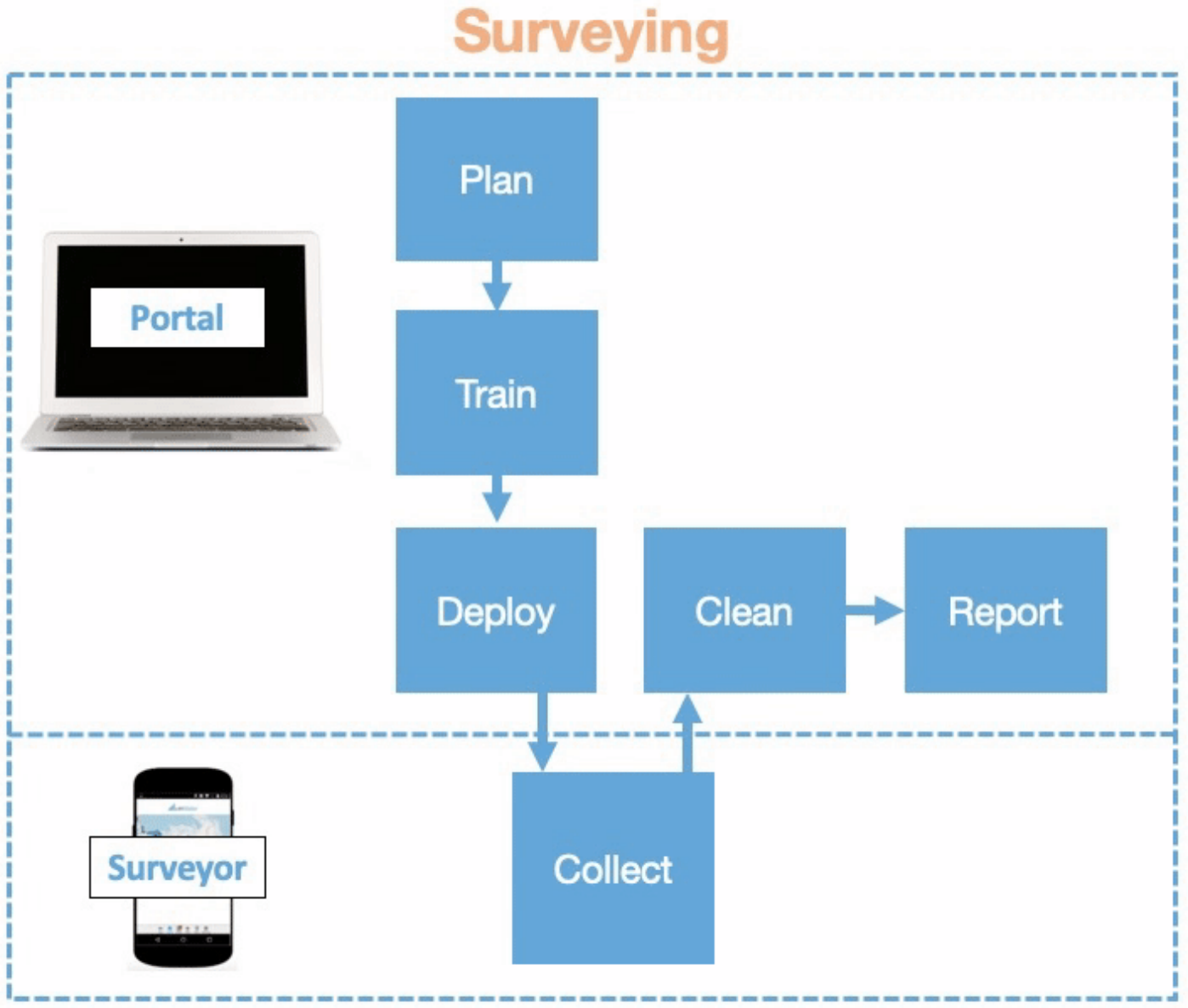
  e.g. sampled household survey

- **Monitoring, evaluation, and learning (MEL) –** A recurring data collection, learning and adaptation cycle

  e.g. annual water point updates

- **Management –** A regular process of identifying, assigning, performing, and responding to tasks (in addition to MEL)

  e.g. water utility maintenance issues



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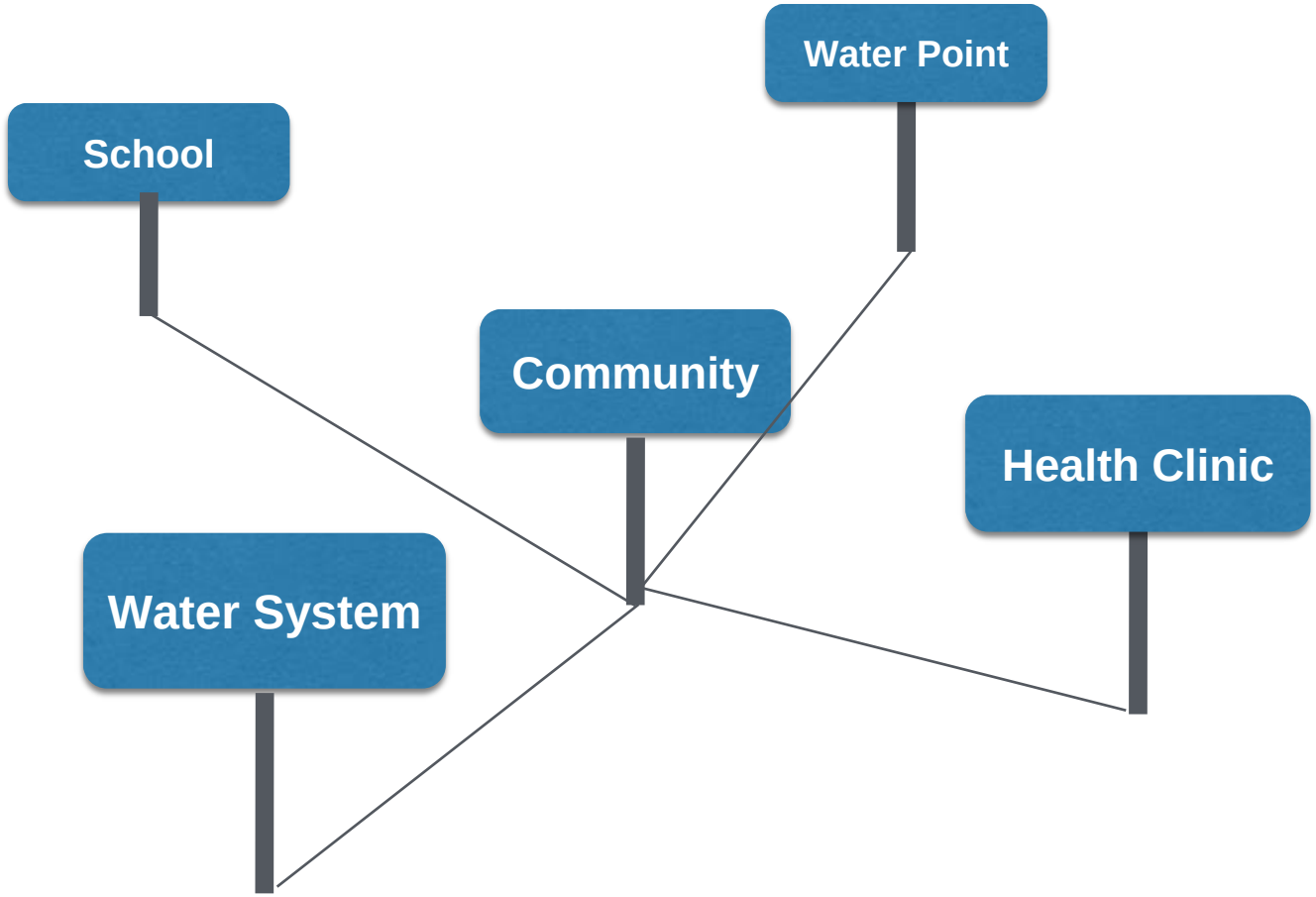
mWater monitoring approach

1. Map physical locations as re-usable **Sites**
2. Attach **Surveys** with baseline data to sites
3. Add updates as new Surveys to existing sites



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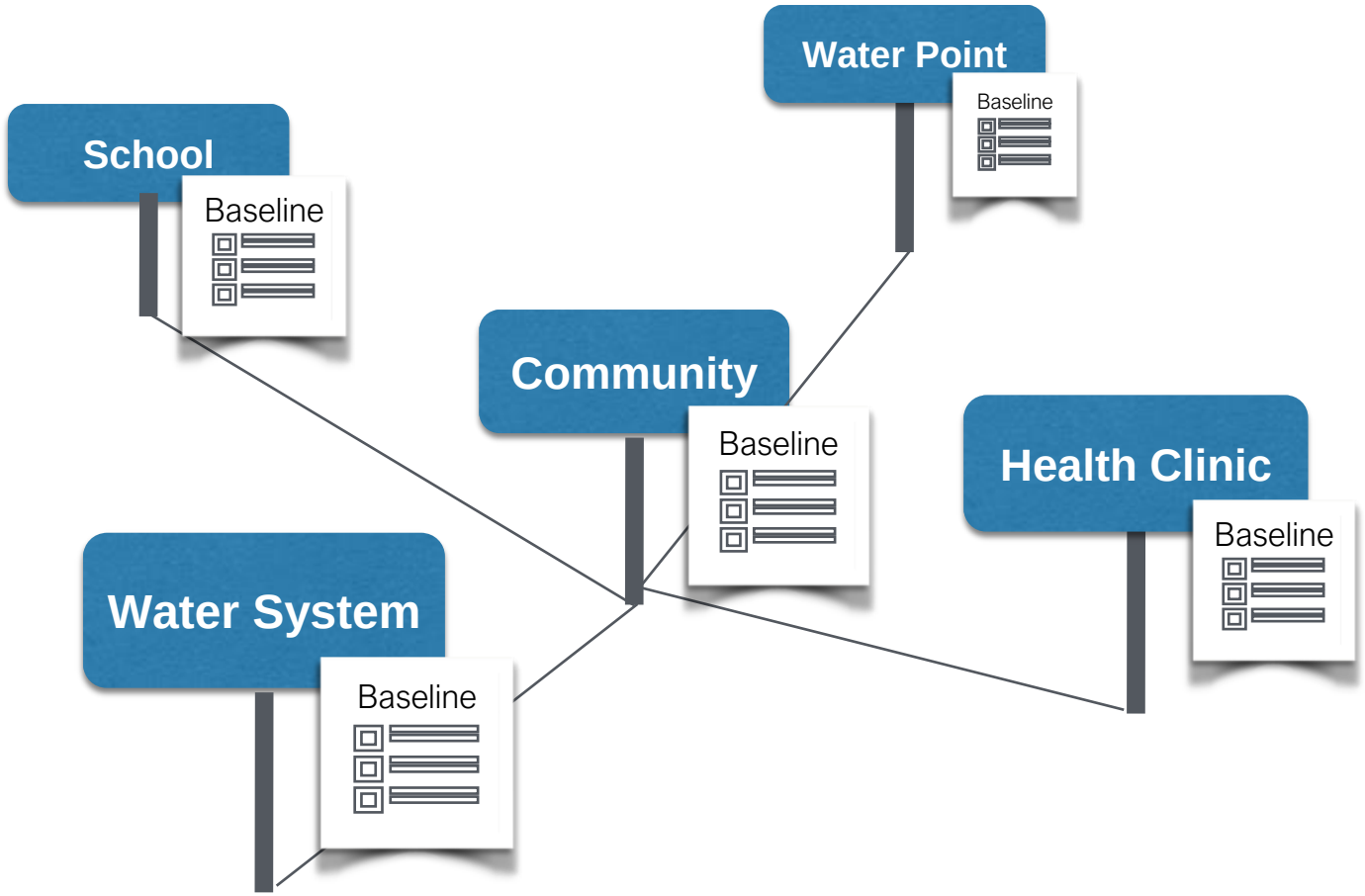

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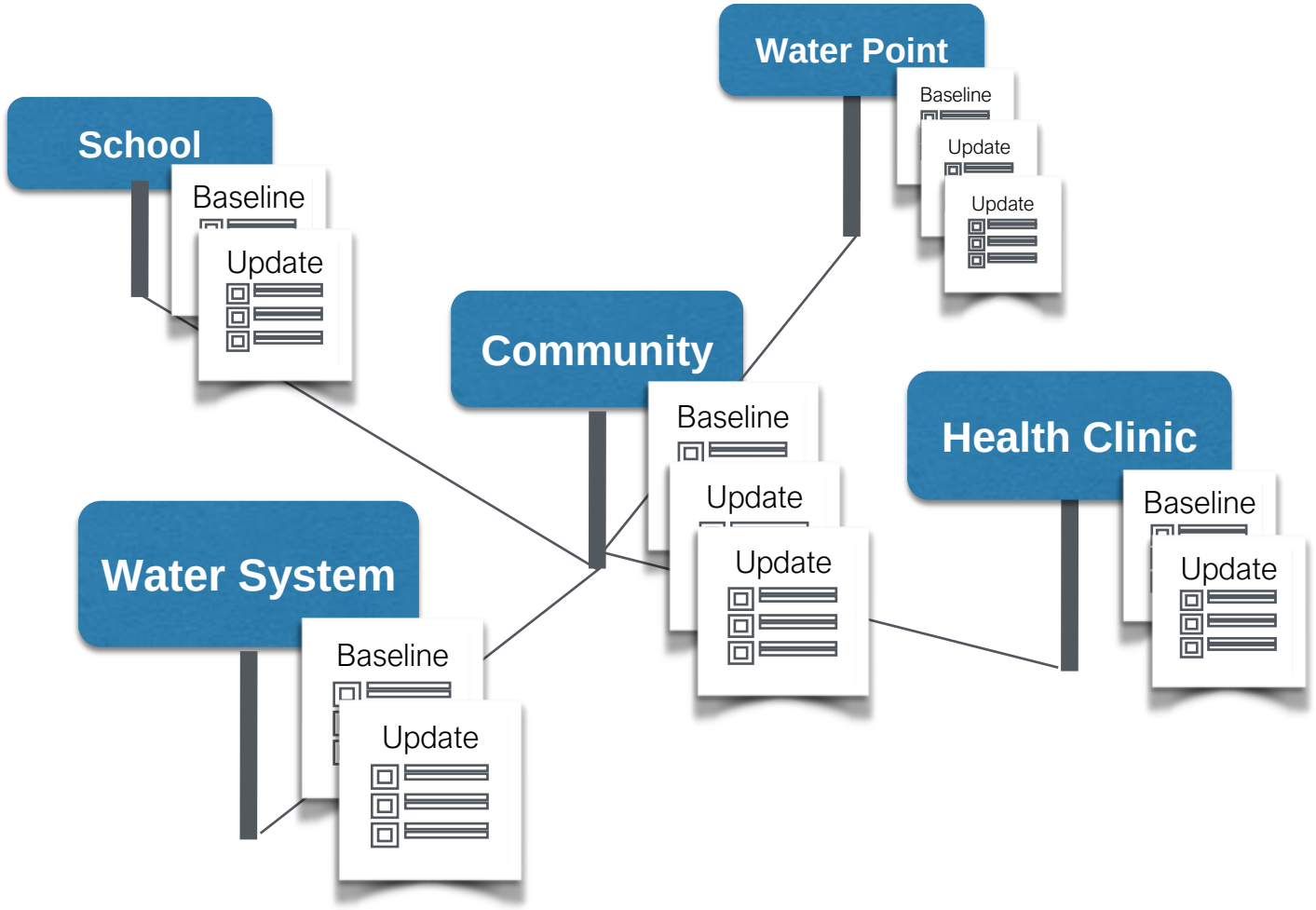

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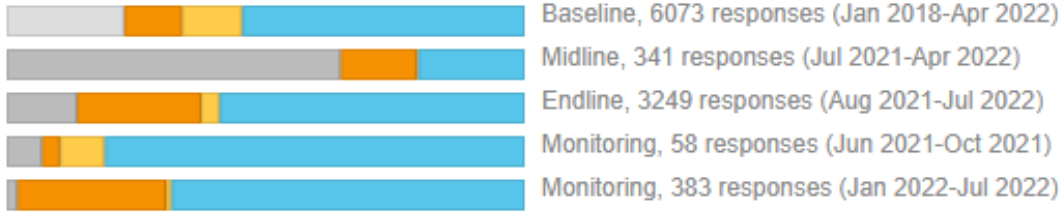
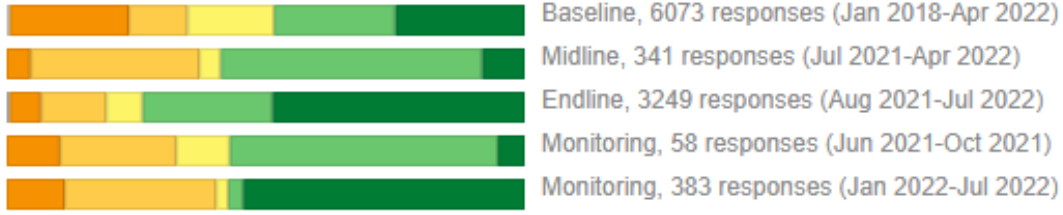
Longitudinal monitoring example - RapidWASH

SDG

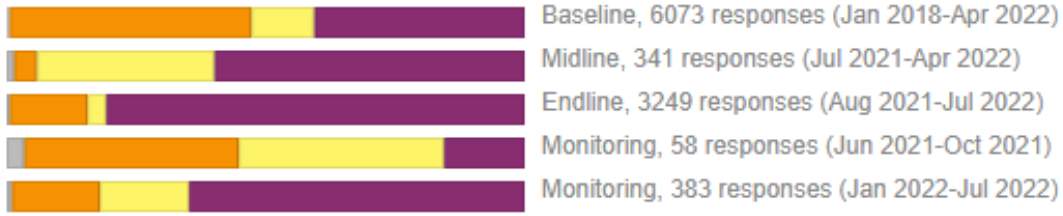
SDG 6.1: Water service ladder RW - Drinking water services refers to the accessibility, availability and quality of the main source used by households for drinking, cooking, personal hygiene and other domestic uses.



SDG 6.2: Sanitation service ladder RW - Sanitation services refer to the management of excreta from the facilities used by individuals, through emptying and transport of excreta for treatment and eventual discharge or reuse.

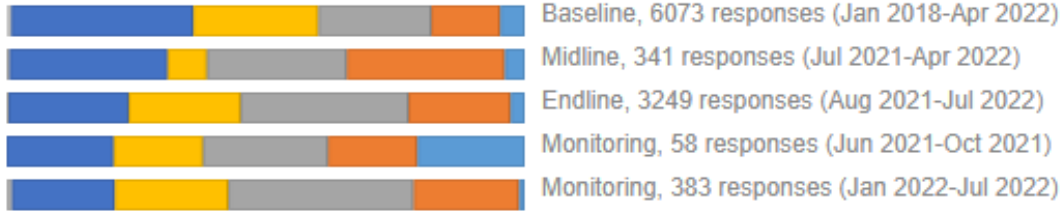


SDG 6.2: Hygiene service ladder RW - Hygiene refers to the conditions and practices that help maintain health and prevent spread of disease including handwashing, menstrual hygiene management and food hygiene.



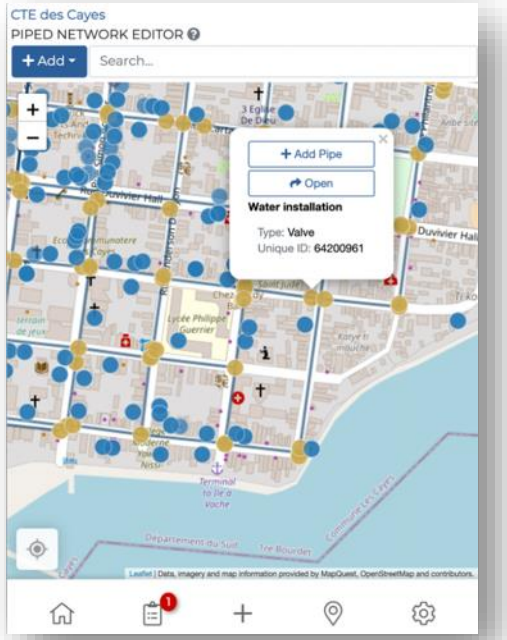
Household Wealth

EquityTool Wealth Quintiles - Tracking which wealth quintile of the country the household belongs to on the basis of EquityTool categories.



Track community progress on SDGs

mWater tools for service providers
Features specifically designed for utilities and water operators

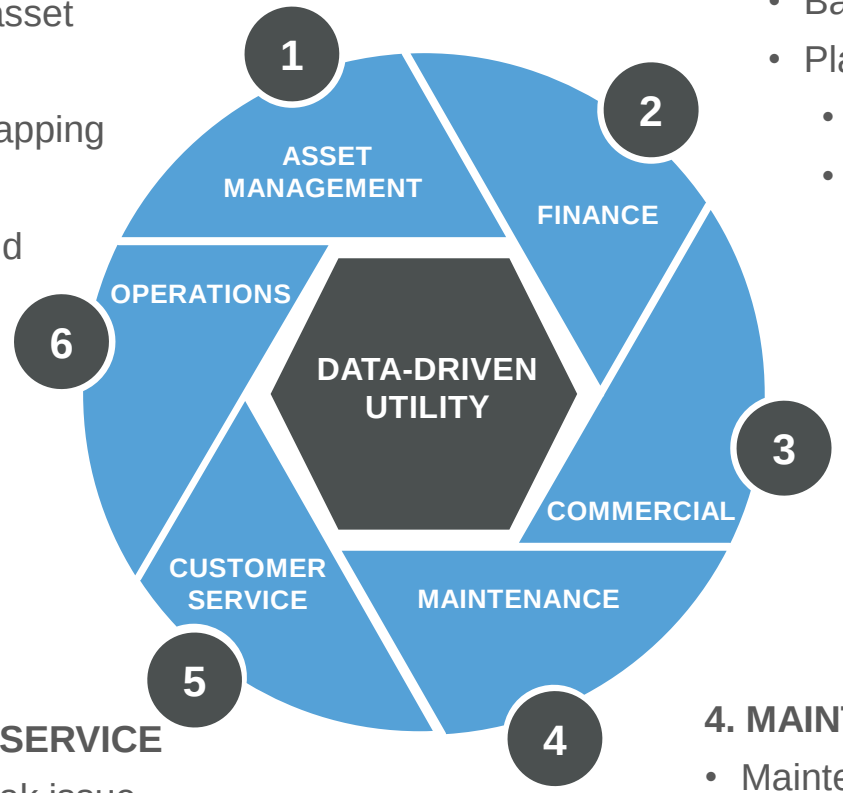


1. ASSET MANAGEMENT

- mWater Global water asset data standard
- Offline mobile asset mapping and updating
- Export points, lines, and polygon data to GIS

2. FINANCE

- Basic utility accounting system
- Planning tool (coming soon)
  - Budget estimation
  - Capital improvement planning



3. COMMERCIAL

- Customer database and billing system
- Meter reading
- Kiosk sales module

4. MAINTENANCE

- Maintenance issue tracking and follow-up
- Workflows / digital work orders (coming soon)

5. CUSTOMER SERVICE

- Complaint / leak issue tracking and follow-up

6. OPERATIONS

- Key performance indicator monitoring against targets
- Water quality monitoring

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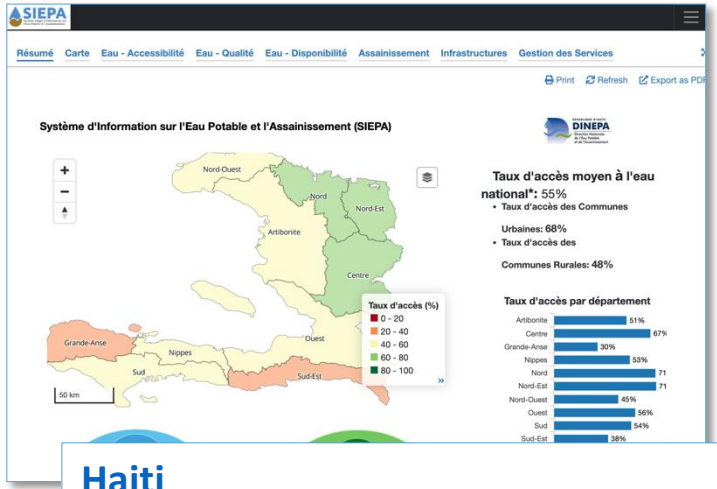
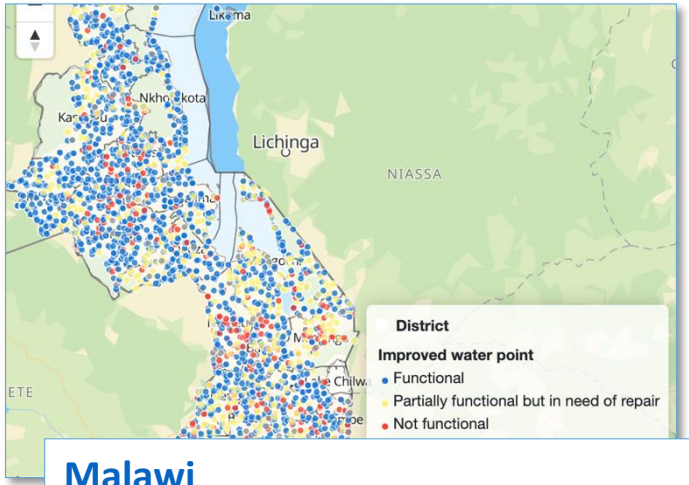
Examples of mWater based MIS from different countries



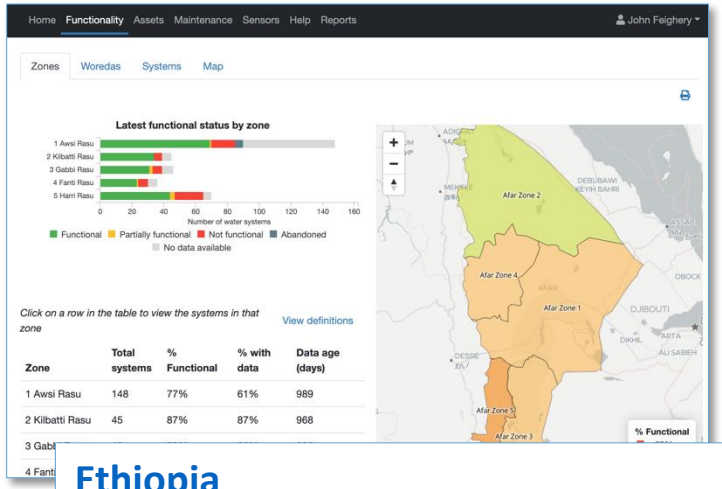
Haiti

National water and sanitation monitoring platform



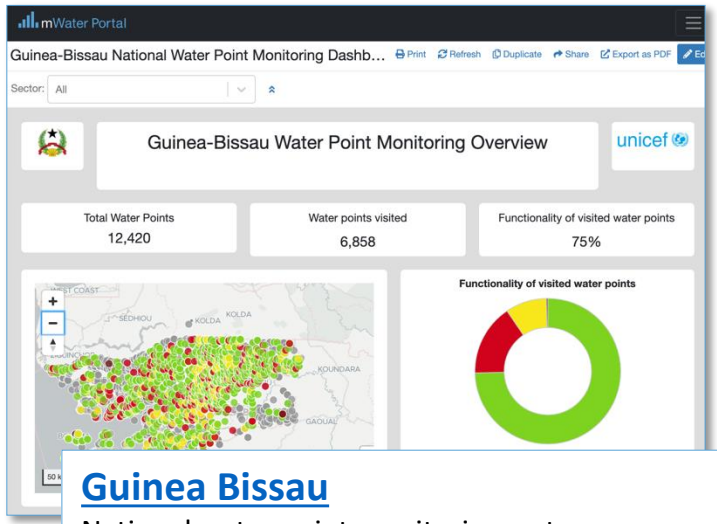
Malawi

National water asset inventory



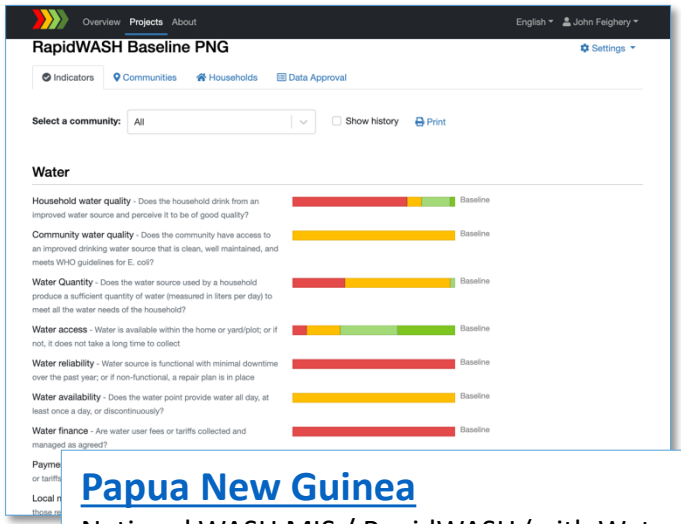
Ethiopia

Regional Water Asset Management System



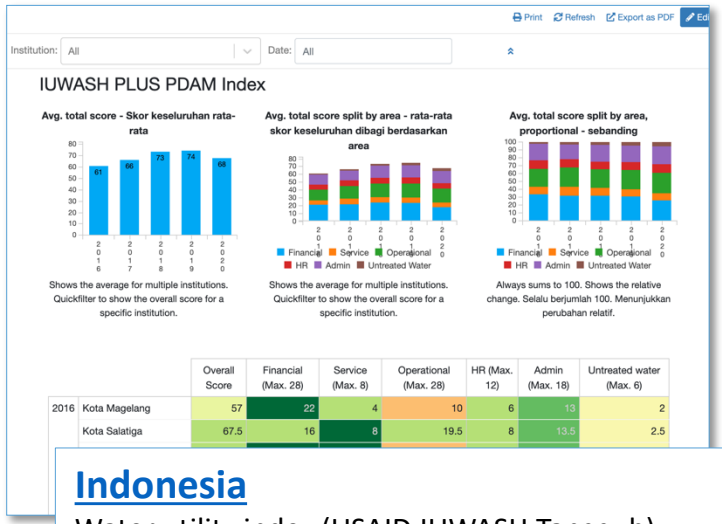
Guinea Bissau

National water point monitoring system



Papua New Guinea

National WASH MIS / RapidWASH (with WaterAid)



Indonesia

Water utility index (USAID IUWASH Tangguh)

Demo - mWater Surveyor and Portal

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Practice - Use mWater Surveyor to fill in Survey

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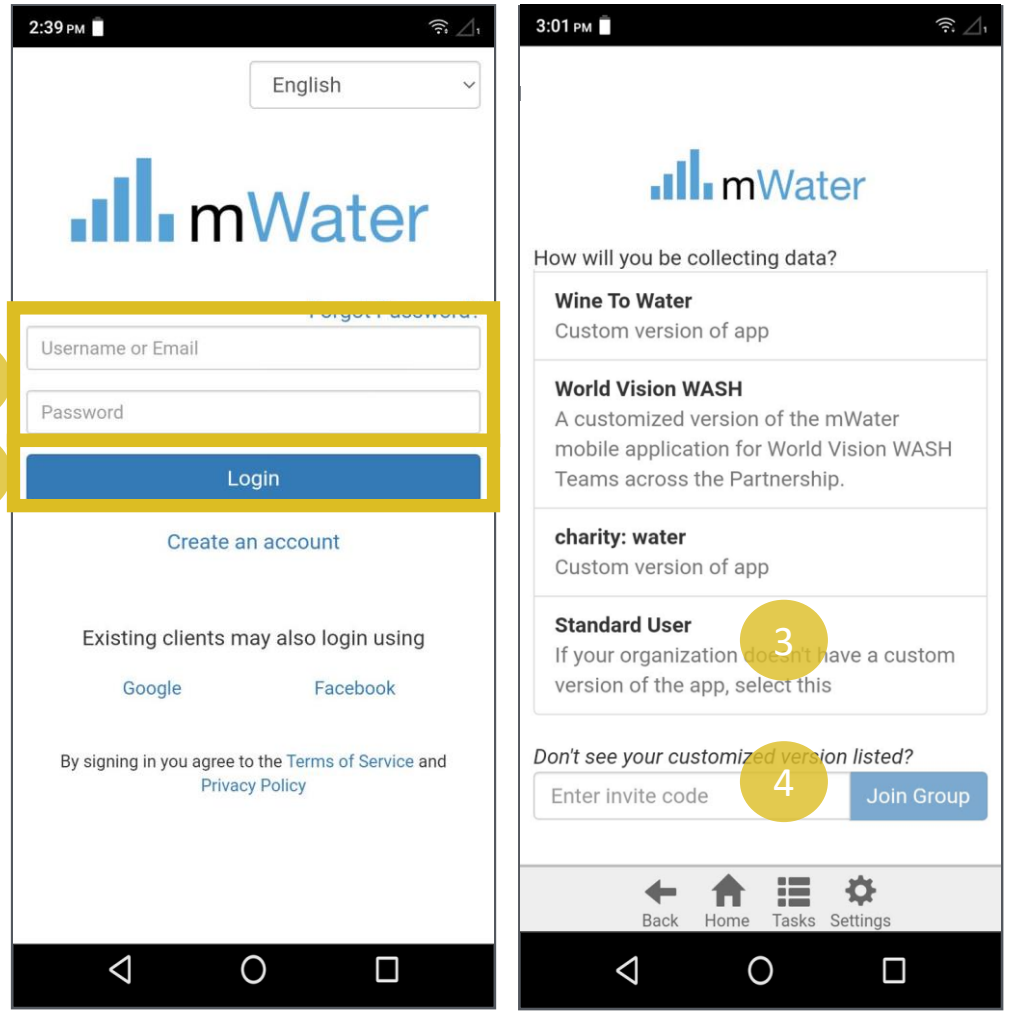
Logging in

1. Enter your **username/email** and **password**
2. Press the **Login** button
3. Select a configuration for the app. Custom configurations are created to streamline the app for a specific organization or use-case. The majority of users will be using the **Standard User** configuration.
4. If you are part of an organization, your survey administrator may provide you with a unique code, which will automatically add your username to their organization.

Note: You **must be online** to log in!

Even if you close the app or restart the phone, you will stay logged in.



Using mWater in a web browser

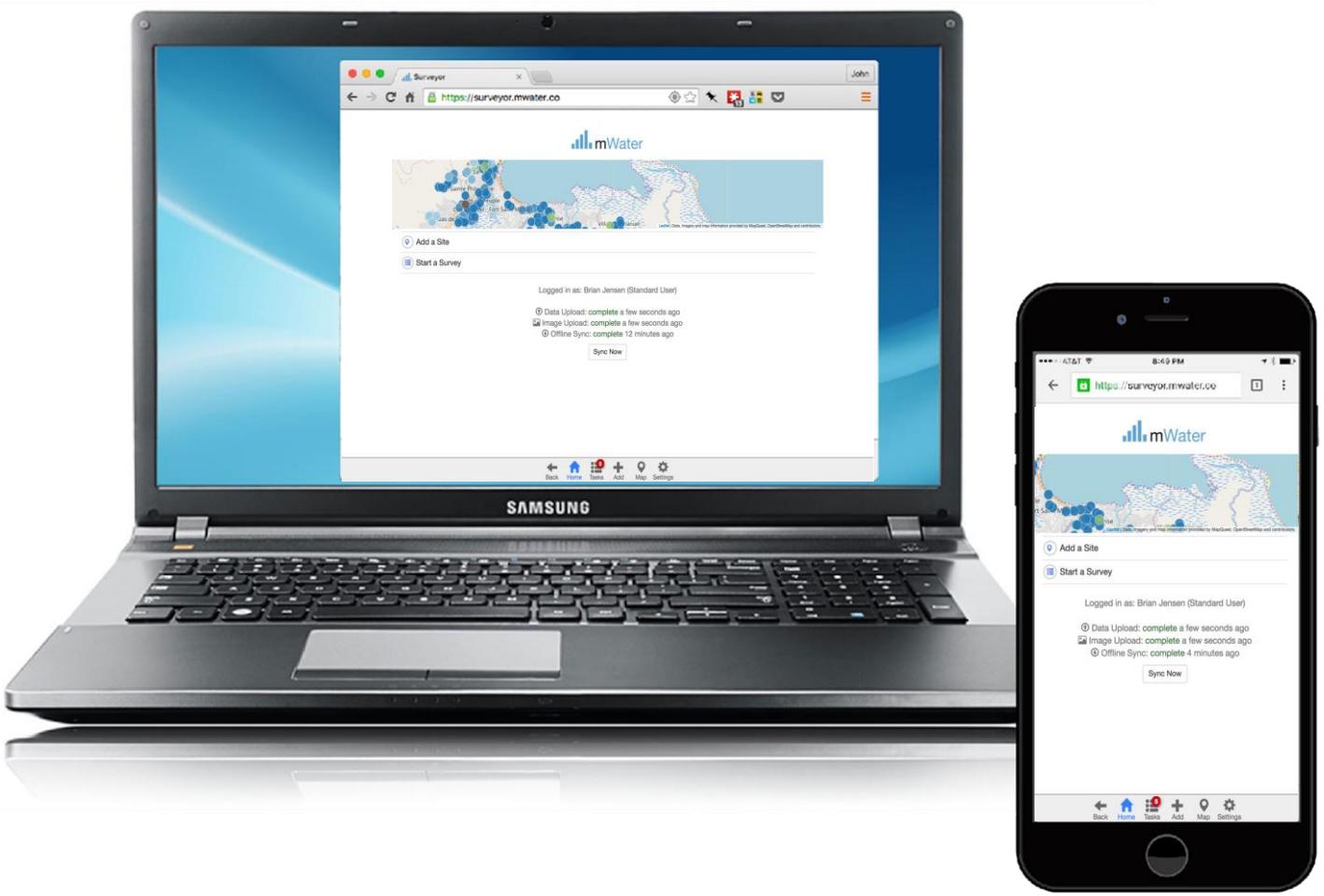
You can open the Surveyor app on non-Android devices by going to:

http://surveyor.mWater.co

mWater recommends using the Chrome web browser.

The web app will work offline *as long as you don't close the window.*

You can have the app open on multiple devices at one time.



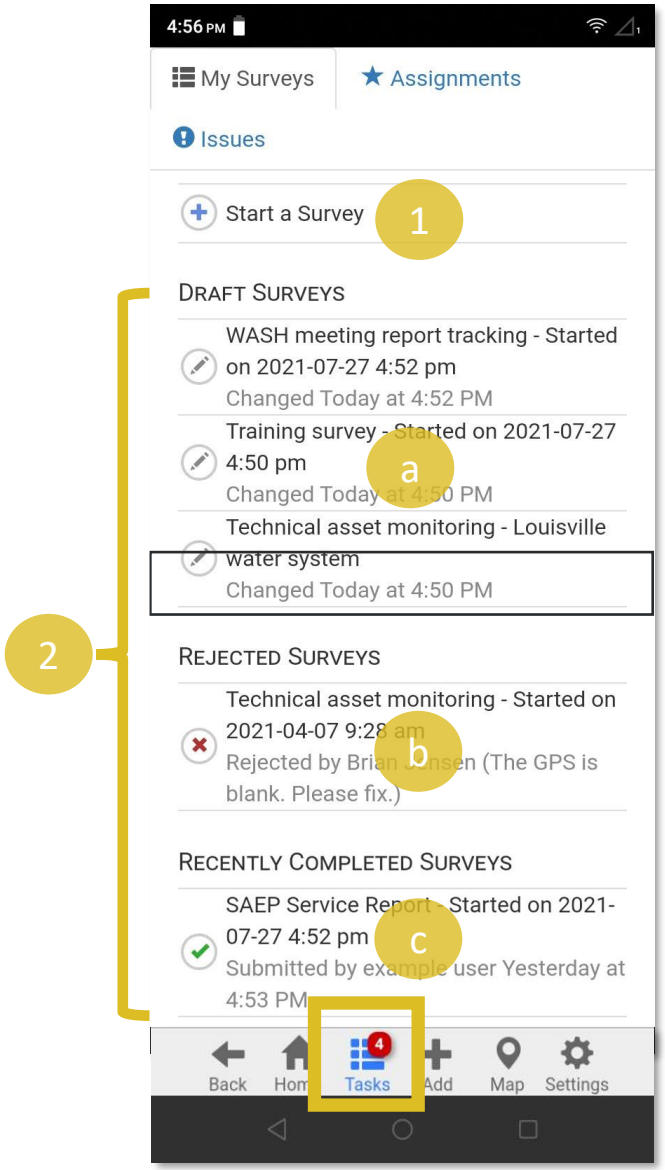
Tasks - Surveys

The Tasks page displays surveys, assignments, issues, and site approvals*

The surveys page contains:

1. A button to start a new survey
2. A list of survey responses and their current status. Each response shows the name of the survey and the draft name (if applicable).
   a) **Draft status –** Also displays the latest date it was updated
   b) **Rejected status –** Also who rejected the response and the message that they wrote which needs correction
   a) **Completed (Final or Pending status)** – Shows the date and user who submitted the survey

*Site approvals is only available for managers who have activated Manager mode in the settings menu



Fill in:

"Introduce yourself – ACHAP"

Use mWater Portal to develop new Surveys

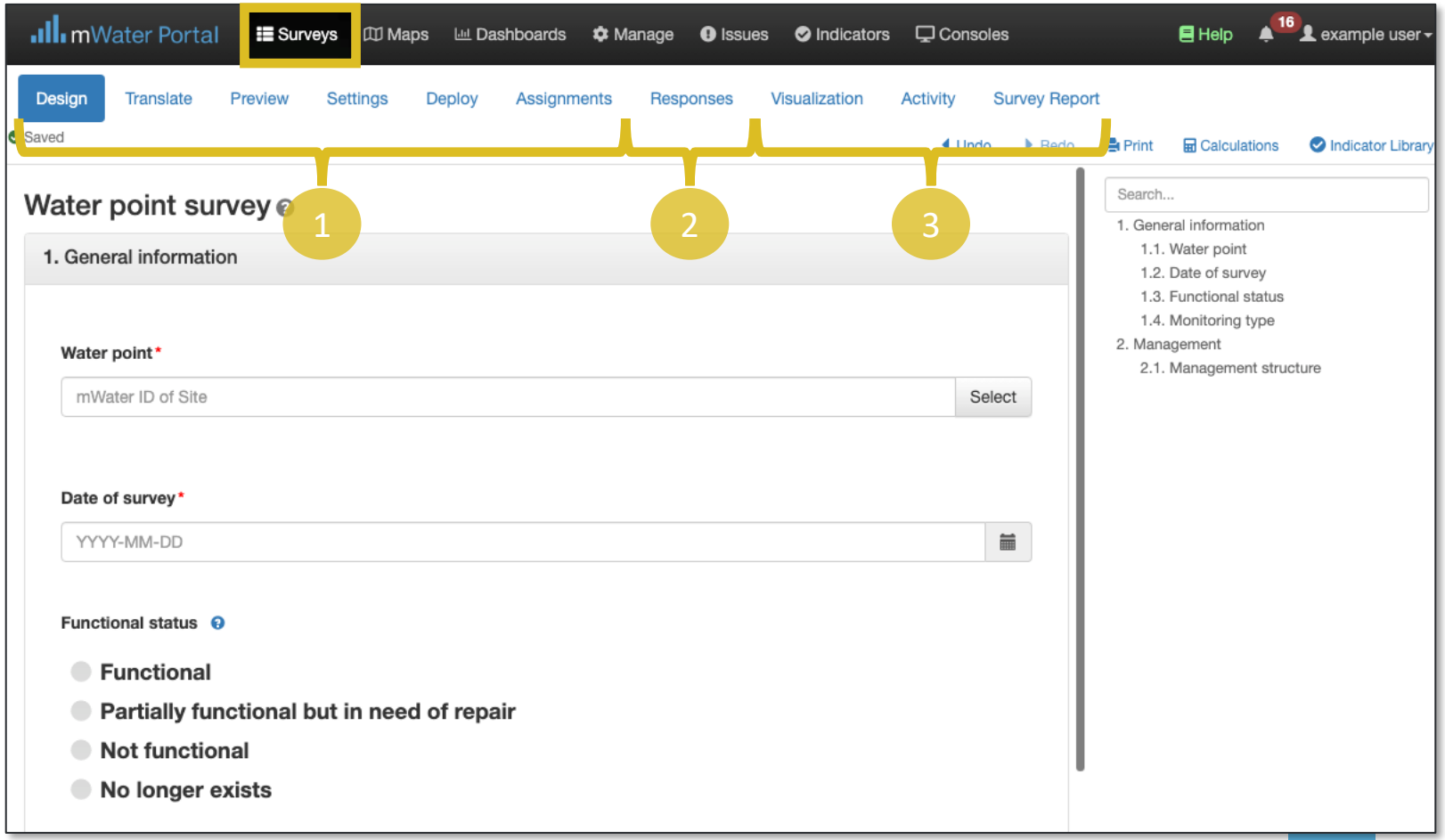
Portal tabs -Surveys

Surveys –

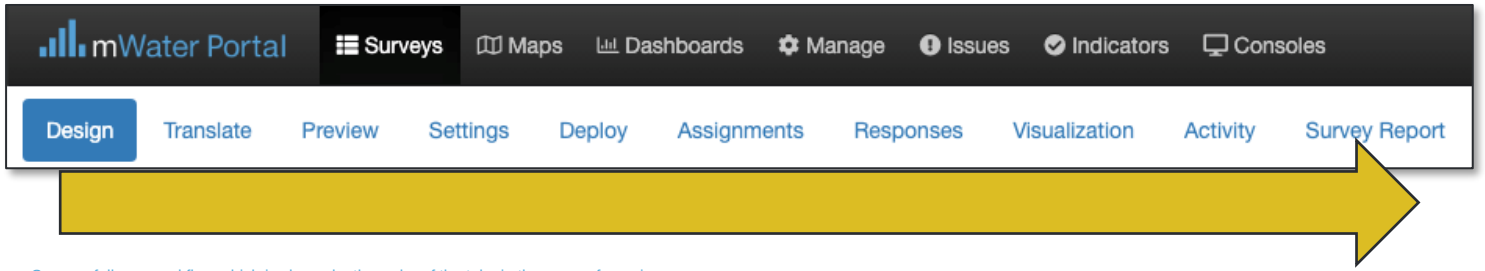
1. **Design, translated, assign, and deploy survey forms**
2. **Clean and approve completed survey responses**
3. **Visualize and report survey data in maps, graphs, tables, and more**

The **Survey** is the questionnaire template that is used when creating new survey responses
e.g. Water point survey

The Survey responses are the individual questionnaires which are created for each visit
e.g. Khamasa well report, March 2020



Surveys workflow



Surveys follow a workflow which is shown by the order of the tabs in the survey form view:

Design - Create the questionnaire that the enumerator will use to collect data

Translate – Set the base language and translate survey text into any other language

Preview – View the survey en the same format at the enumerator will see it

Settings – Set permissions and other options

Deploy – Define roles and permissions for a set of survey responses

Assignments – Delegate enumerators to conduct a specific set of survey responses

Responses – View, approve, reject, and edit individual survey responses

Visualizations – Visualize aggregate data in a standard way

Activity – Track progress and performance of the survey and enumerators

Survey report – Customize a data dashboard for viewing results from the survey

Question types

The question **Type** controls what kind of data can be entered.

Question type	Description
Text	type a response using the keyboard
Number	type a number using the number keypad
Dropdown	pick a single answer from a dropdown
Radio Button	pick a single answer from a list
Checkbox	single checkbox
Multi-check	pick more than one answer from a list
Date	enter a date, time, or both using a calendar
mWater Site	select a site to link to this survey
Location	set GPS coordinates using device or map
Units	number with units of measure included
Image (s)	use camera (or gallery) to capture one or more images
Text List	add multiple items of text in a list
Cascading lists	displays several dropdown questions which are each conditional on the previous ones
Scan Barcode	get text or numbers from a QR or barcode
Matrix	enter data in a table with pre-defined rows and columns
Roster matrix	enter data in a table with pre-defined columns, where enumerators can add rows
Question group	enter a set of questions, grouped together
Roster group	enter a set of questions, grouped together, where enumerators can click +Add to repeat the question group

Survey approvals

To ensure that data collected is reliable, most survey administrators will add a survey approval step which requires the supervisor to approve or reject each survey response before it is finalized.

Approval steps:

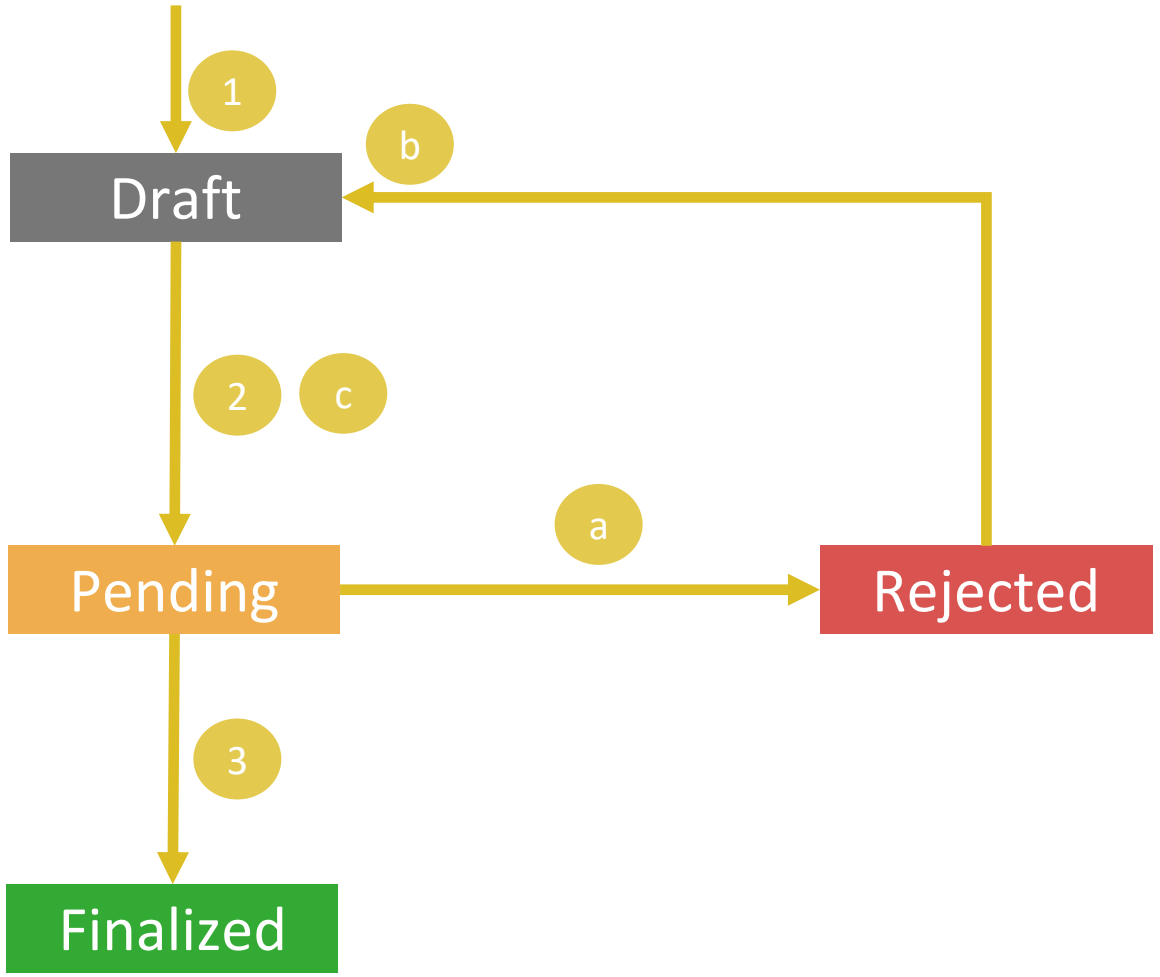
1. Enumerator starts a survey response
2. Enumerator submits the response

If the response has errors:

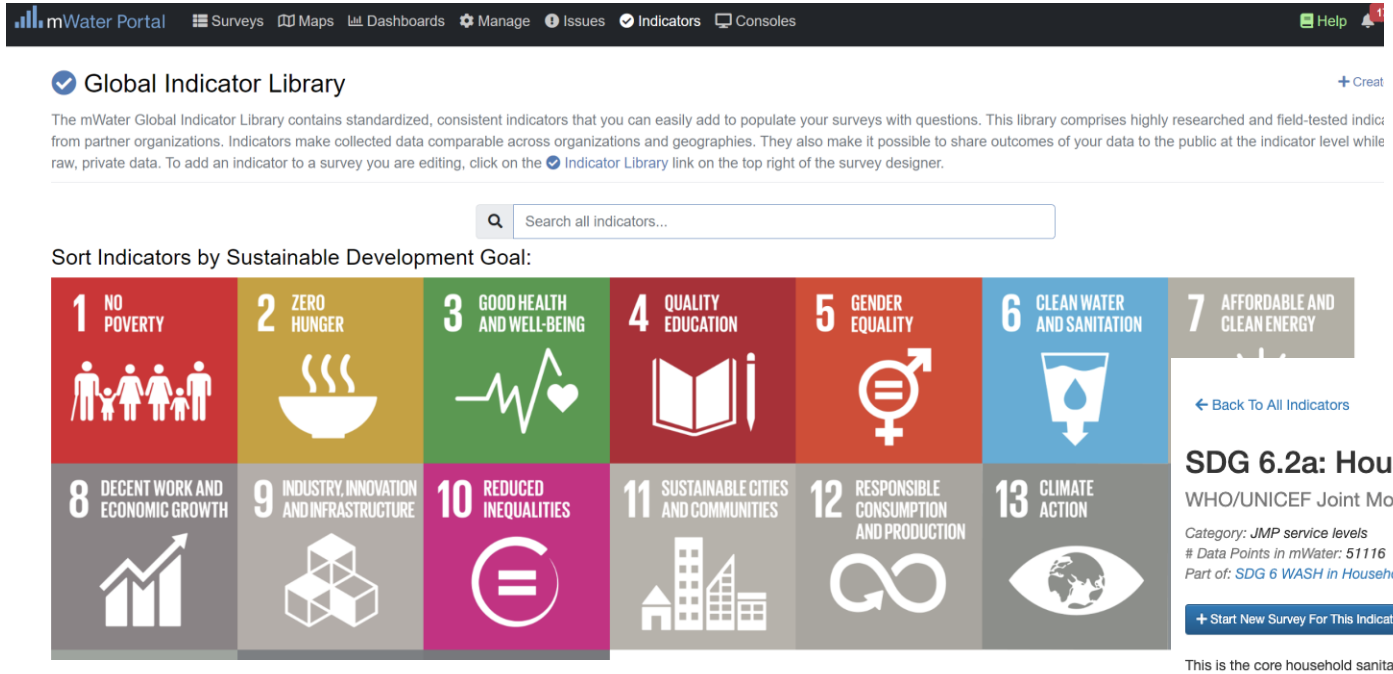
a) Supervisor rejects the response due to errors
b) Enumerator corrects the response
c) Enumerators submits it again

If the response does not have errors:

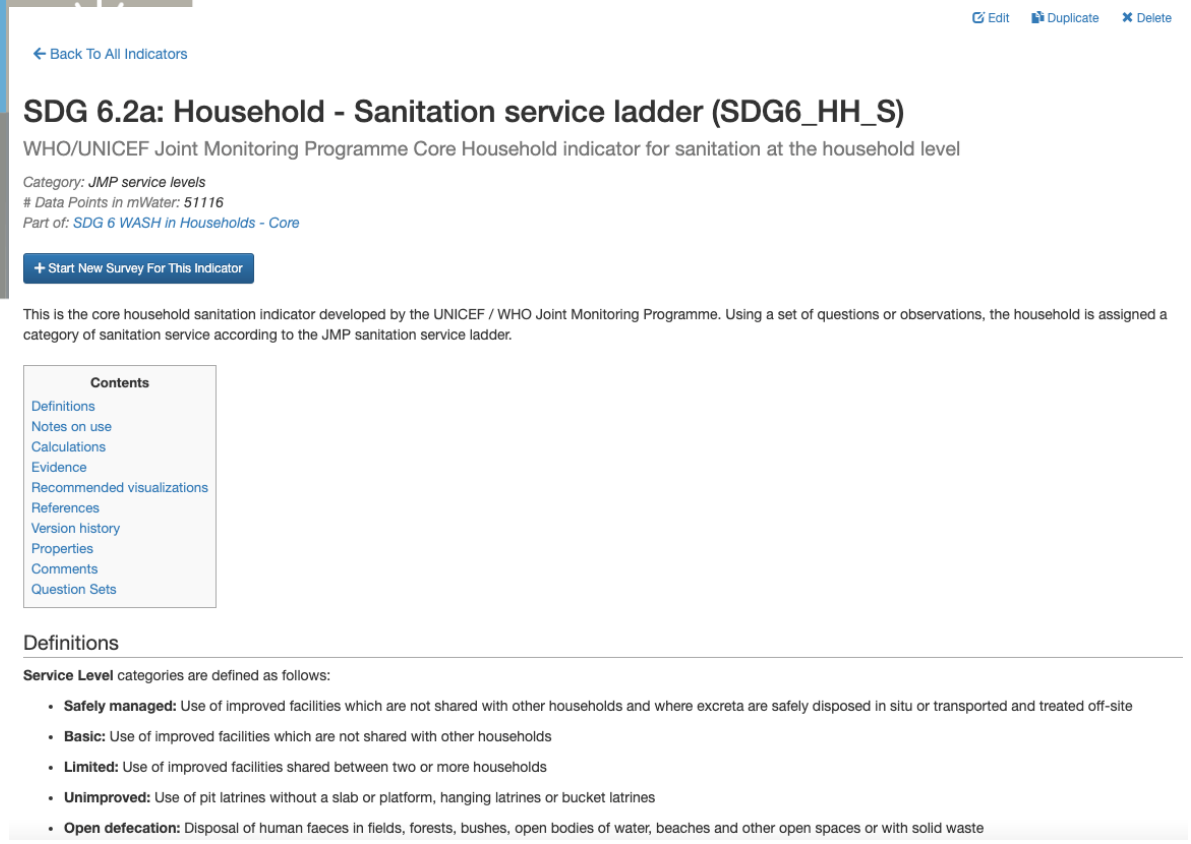
3. Supervisor approves the response



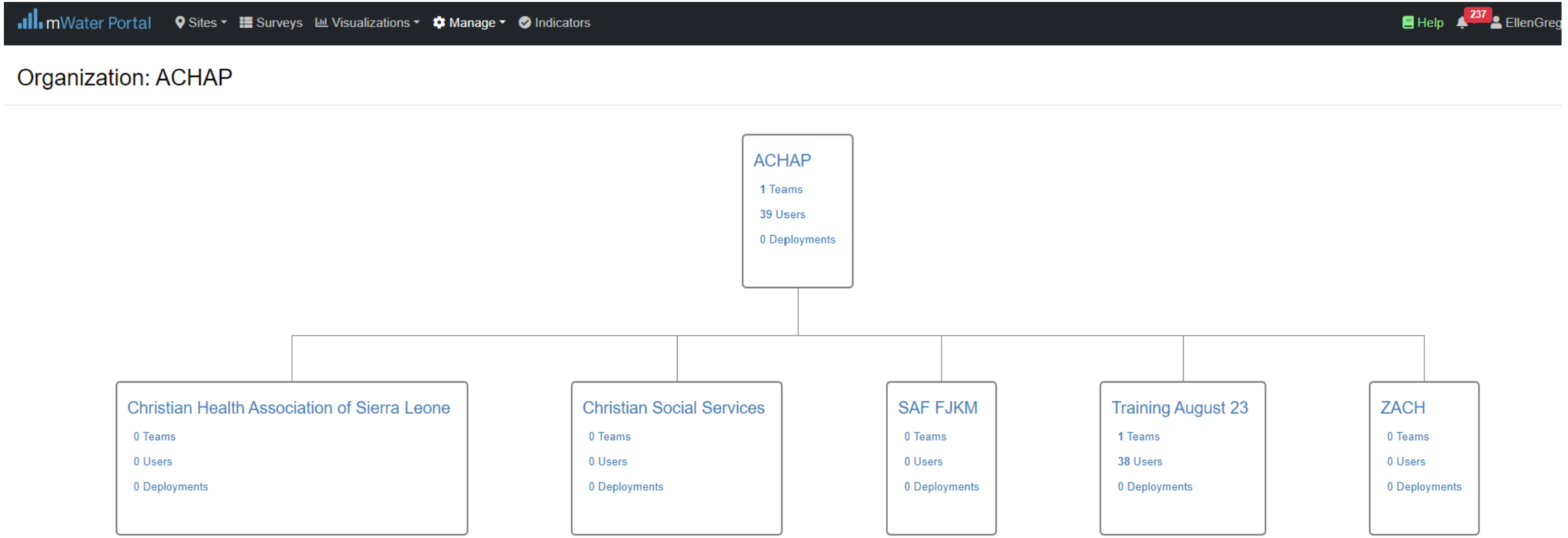
INDICATORS



Standard set of indicators that can be added to any surveys



Organizational structure for ACHAP



Survey
(Design of a form)

Managed by
The organization or organization brand which can see basic information about the survey

Admin
Can edit form design and view and edit all responses

Deploy
Can create new deployments

View
Can view the design of the form

Deployment
(Set of responses to a form)

Enumerators
Can open the form in Surveyor App and submit responses

Approvers
Can approve or reject responses

Managers
Can view, edit, or approve responses at any time

Viewer
Can view final approved responses

Organization
(Structured group of users)

Admin
Can create lower level branches and teams, add/remove users, change settings

Managers
Automatically added as managers to new deployments

Viewer
Automatically added as viewers to new deployments

Site
(Location monitored over time)

Managed By
User or organization that can edit or delete the site data

Site privacy levels:

Protected (recommended): any user can see the basic site data and reference site in surveys

Private: only the Managed By organization can view site

Public: any user can view and edit the site data

Dashboard, Map, Datagrid, & Console
(Data visualizations)

Admin
Can view, edit, and delete visualization and share access to it

View
Can view all data and visualizations on the page

Create Shareable Link
Generates a unique URL to provide view access without an mWater account

Create Shareable Link With Quickfilters Locked
Generates a unique URL to provide view access without an mWater account only to the filtered dataset

Exercise for day 2

- Develop a survey that responds to your organisation's data needs
- Link at least 1 site type (e.g. Health care facility)
- Include at least 1 indicators from library

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16 August 2023

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mWater – What's ahead

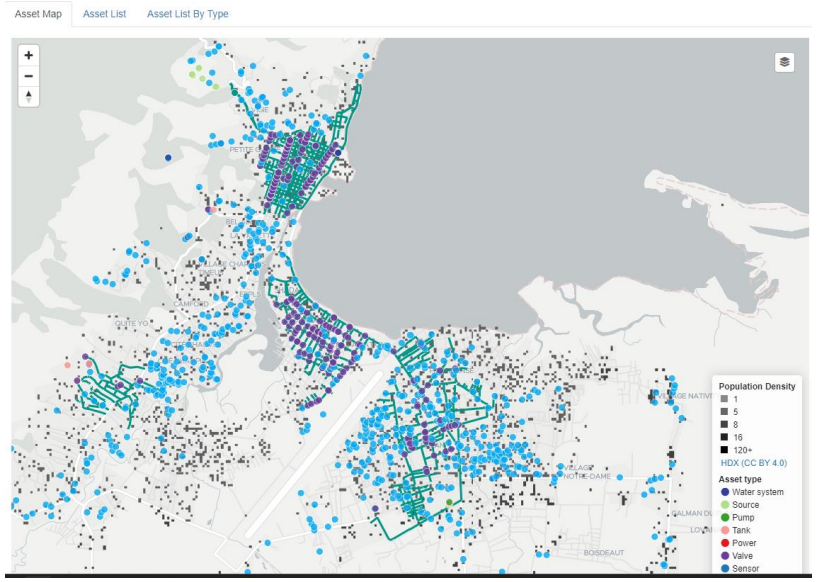
- Features for **water service providers**:
Asset management, planning, accounting, customer relations, operations and maintenance

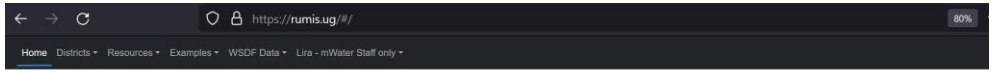
- **Government** collaboration, management information systems owned and operated by govt

- Template websites: For utilities, NGOs, programmes, etc "Custom Portal"

- AI features: Chatbot, data analysis, visualization

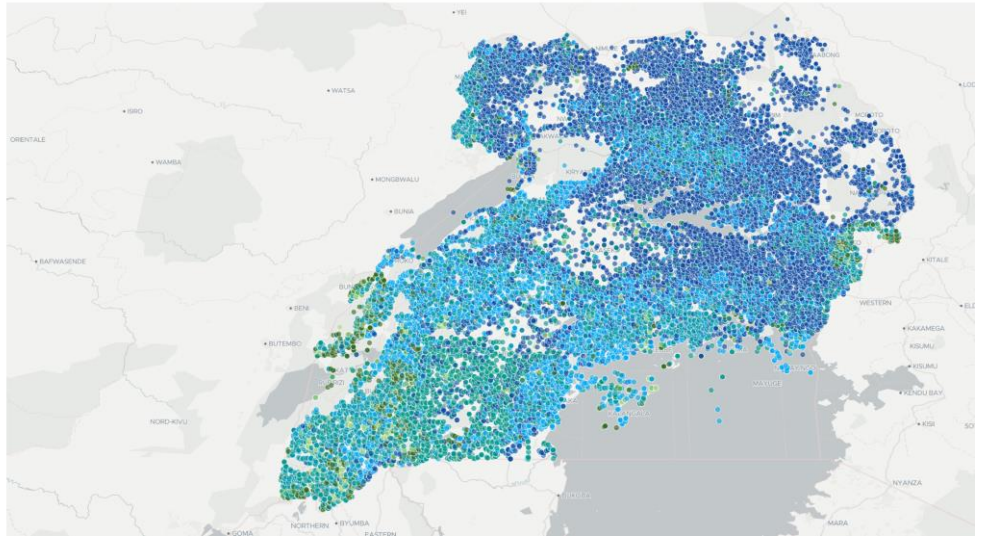
- Adjacent sectors: Sanitation features, energy, health, education, environment, agriculture -> **Solstice**



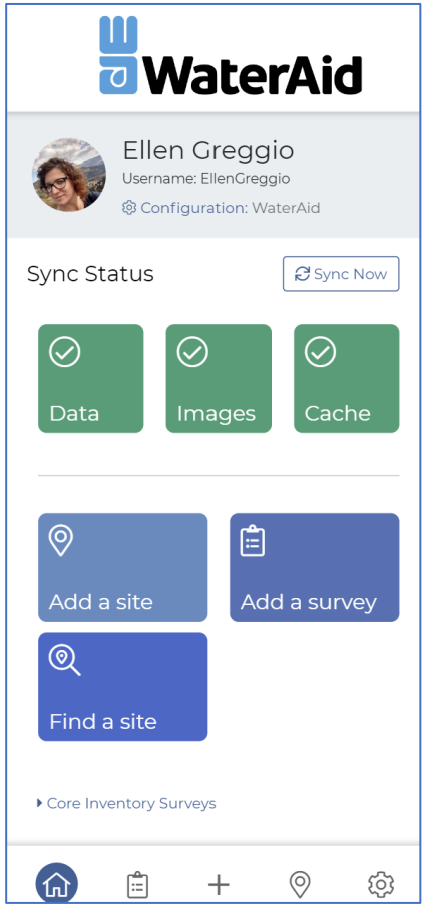


Uganda Real Time Water Supply Atlas in mWater

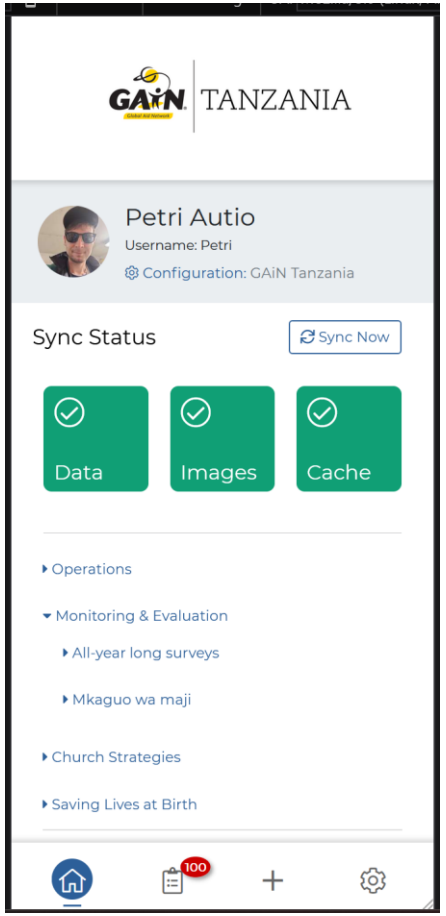
This site is under development.



Custom App Configuration



WaterAid



Thematic focus

mWater

mWater use in WaterAid: Quality Programme Standard

Project, Programme, Strategy

Device Preview

Introduction

Region *

West Africa

Country *

Ghana

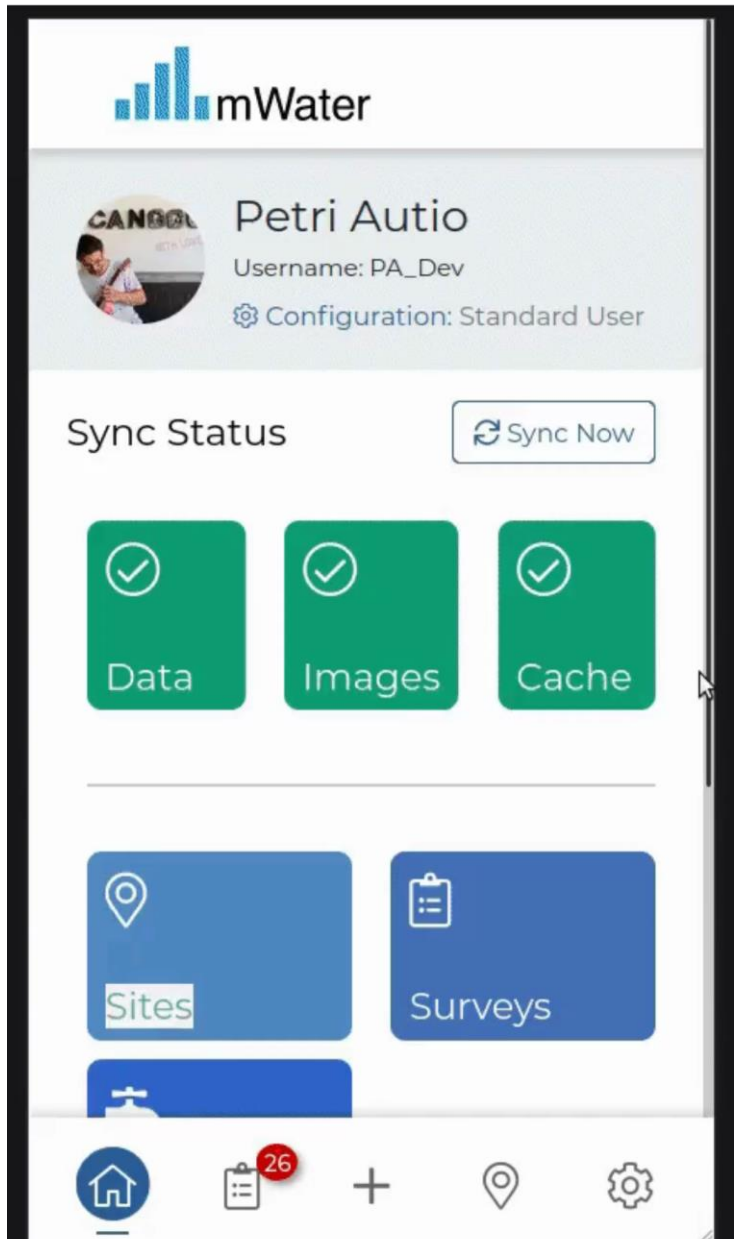
Standard to assess *

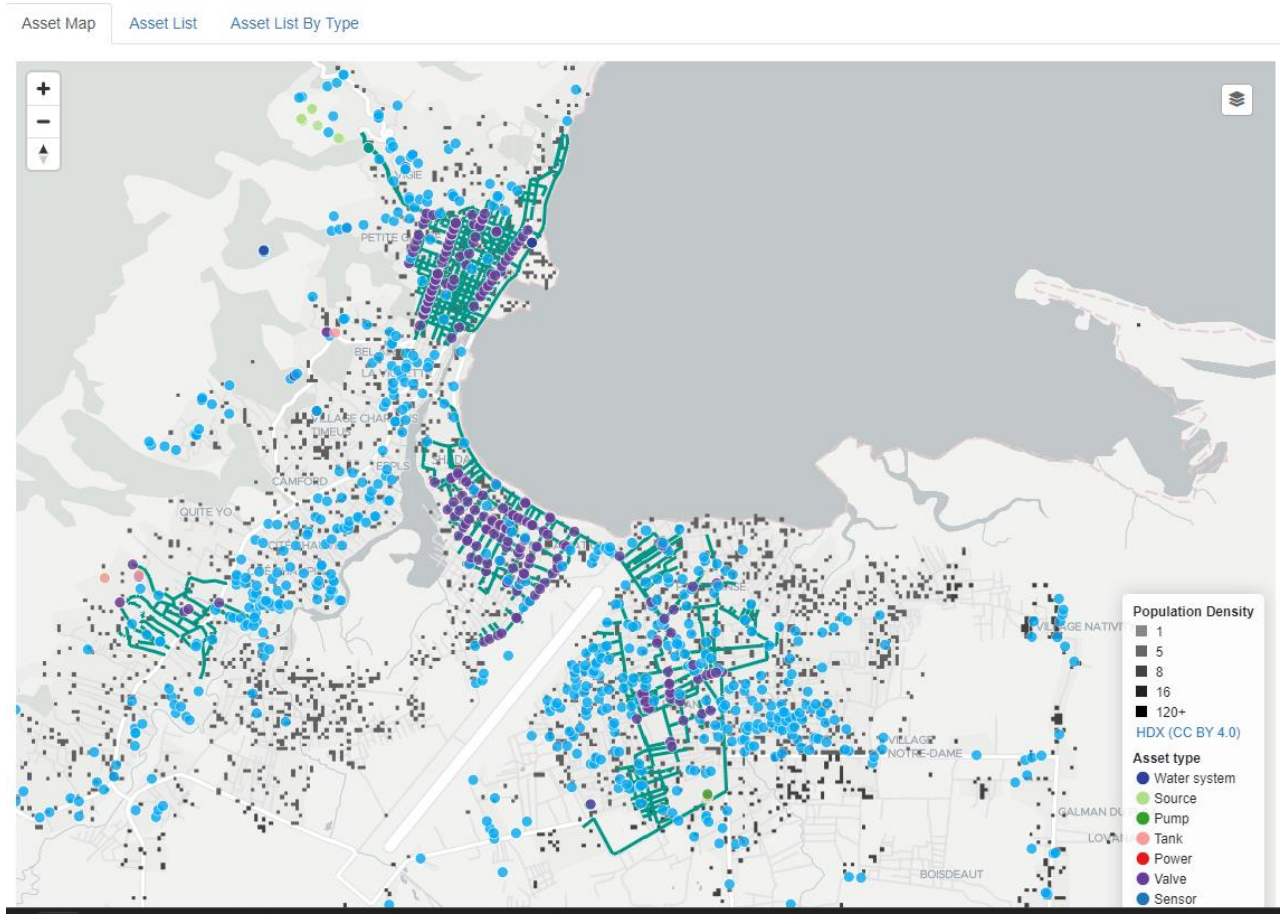
- Risk critical
- Minimum Standards
- Full quality programme standards

Levels *

- Country Program
- Programme
- Project

Mapping Assets on mWater





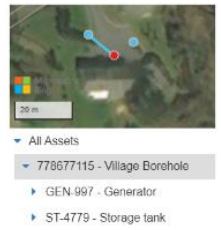
Asset Management on mWater

- mWater has evolved from mapping water points and water systems to developing a **standard for asset mapping**

[mWater Asset Standard Reference]

- **Map of all components of a water system** from source to tap- stands and to create **flexible hierarchical child-parent relationships**

From individual boreholes to large utilities



Individual boreholes
+Tanks, Power supplies,
Pipes, Treatment units, etc

Rural Water
Supply Systems

Large urban utilities

Asset classes:

System	Facility	Vertical	Horizontal	Natural

Asset types:

Water system	Water facility	Source	Pump	Tank	Power	Pipe	Canal	Reservoir	River or stream
		Treatment	Meter	Electrical	Valve			Aquifer	Riparian zone
		Hydrant	Junction	Sampling point	Sensor			Infiltration zone	Forest
		Analyzer	Structure	Water point	Other			Wetland	Water-shed