

water for people



Country-led Asset Management Systems to Improve WASH Services

SIWI World Water Week | Stockholm | Aug 30, 2018

#manageWASH

Voting...

From mapping to management

~~#mapWASH~~



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From mapping to management

Water Point Mapping

- Large, once-off national surveys
- Donor-driven
- Difficult to maintain
- Local officials don't use or update the data

Asset Management

- Continuous improvement process
- Manager-driven
- Integrated with business practices
- Primarily used by local/regional staff

What is asset management, exactly?

- A planning process that ensures that you get the most value from each of your assets...
- *And* have the financial resources to rehabilitate and replace them when necessary¹

The Asset Management Process:



Why asset management?

- Increased system knowledge, leading to better financial decisions
- Reduced downtime and emergency repairs
- Accountability to investors and the public
- Better credit-worthiness and investability



Plan for the session

Part 1: Focus on Malawi

- *Video presentation by Zion Uka*, Chief Groundwater Development Office, Ministry of Agriculture, Irrigation, and Water Development, Government of Malawi
- **Beyond mapping: National asset analysis to underpin SDG6** – Alexandra Miller (University of Strathclyde)
- **Boots on the ground: Lessons from the national asset mapping effort in Malawi** – Muthi Nthelema (BASEflow)
- Question and answer

Part 2: Other countries

- **National water point monitoring system in Guinea Bissau** (Fredrik Asplund, UNICEF)
- **Using asset data in Haiti to evaluate demand for coverage and plan next steps in infrastructure investments** (Petri Autio, mWater)
- **Taking a systems approach toward improved functionality and WASH services in Ethiopia** (Haimanot Assefa, UNICEF)
- **Integrated asset management in the Lebanon Water Establishments** (Heather Skilling, DAI)
- **Panel Discussion**

Video presentation by

Ms. Zione Uka

Chief Groundwater Development Office, Ministry of Agriculture,
Irrigation, and Water Development, Government of Malawi

Beyond mapping: National asset analysis to underpin SDG6

Alexandra Miller, University of Strathclyde

Beyond mapping: National asset analysis to underpin SDG6

Climate Justice Fund Water Futures Programme (2011 – 2030)

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Underpin SDG6: meaningful data

Management Information Systems (MIS) are essential to evolving *sustainable* decision-making for SDG6



WASH
infra-
structure

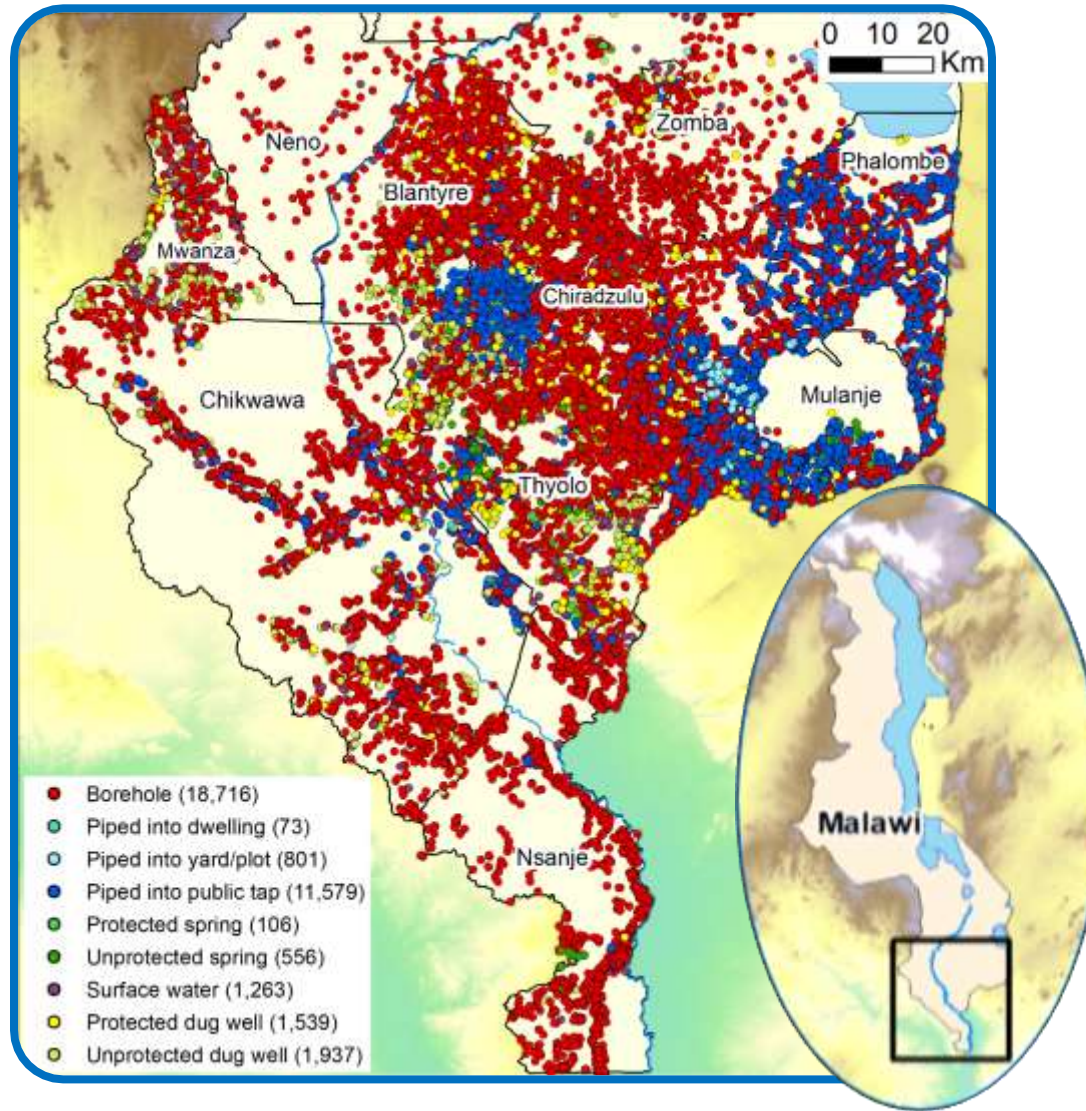


Traditional
database



SDG6

National Asset Register



- Availability
- Reliability
- Access
- Environment
- Management

	Water points	Pit latrines
Sites	53,882	95,880
Surveys	51,065	91,359
Data per survey	67	22

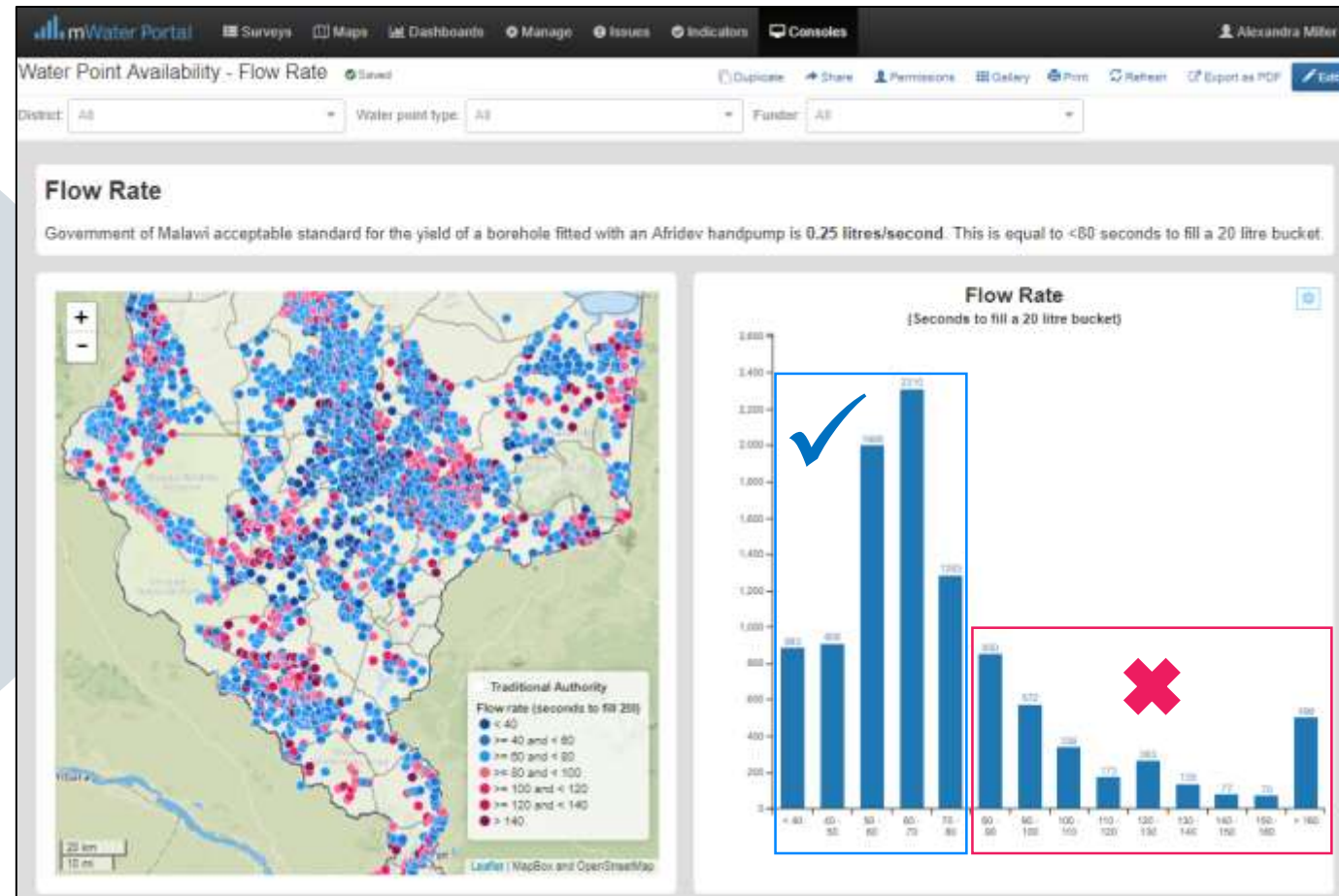
Asset Analysis 1 – Strategic Investment

Proactive planning: Practical Needs Assessments:

Flow rate

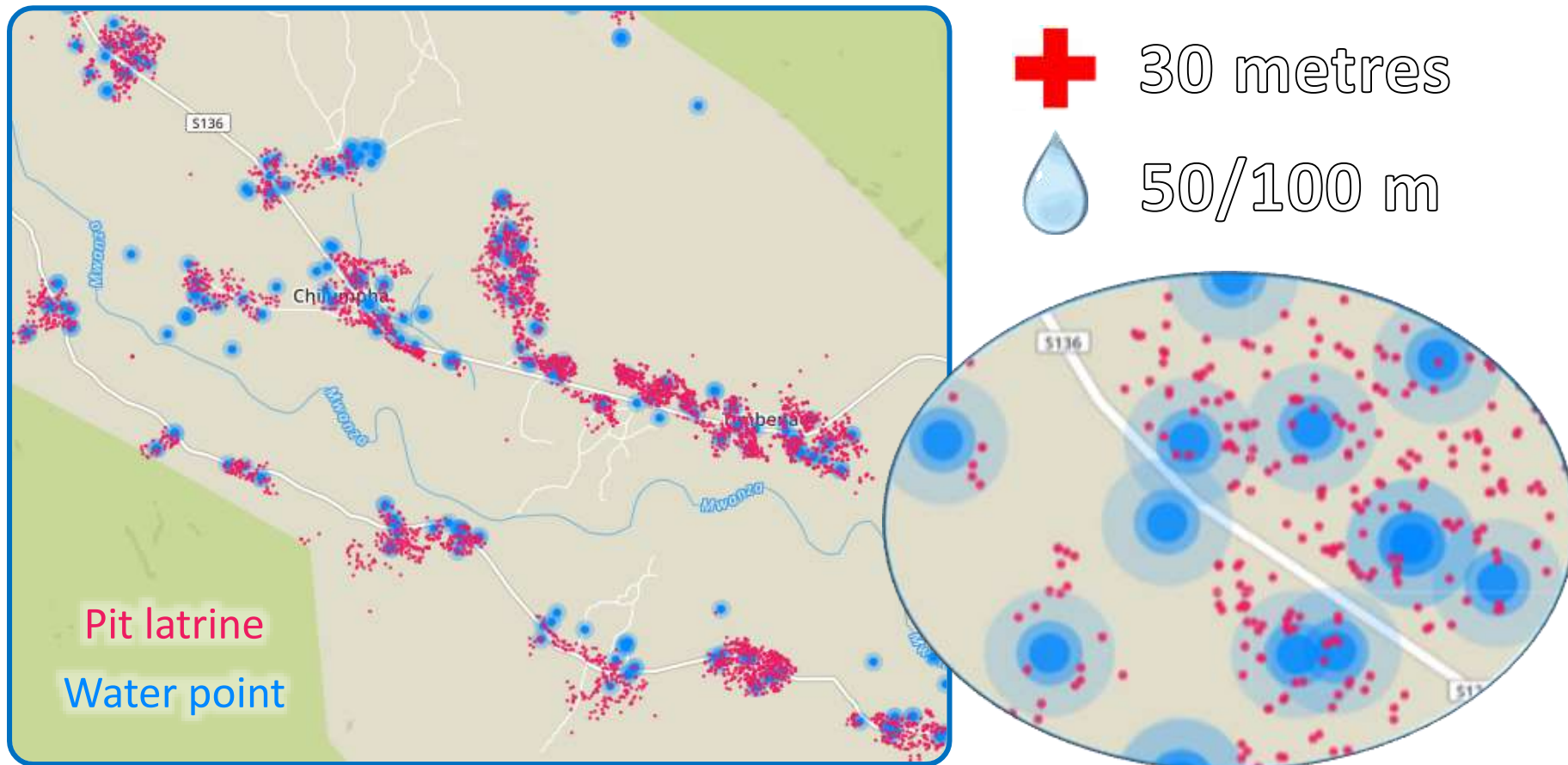
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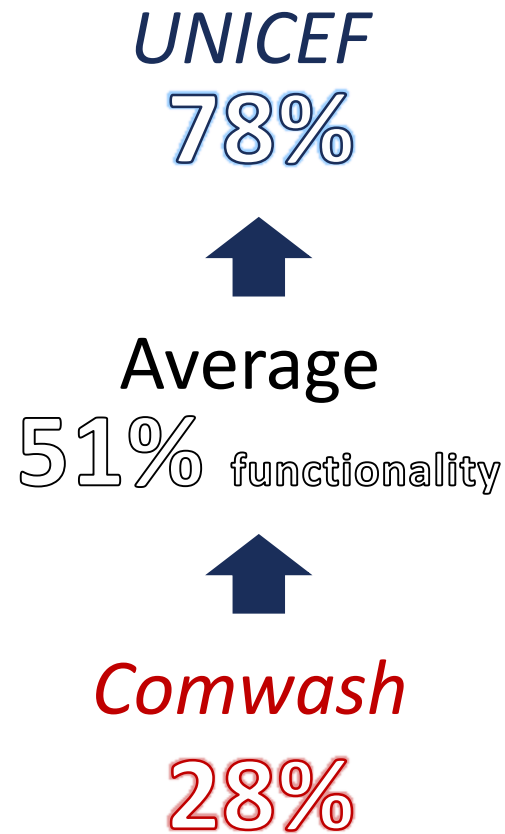
Asset Analysis 2 – Assessing Risk

Reactive management: Understanding groundwater contamination risk



Asset Analysis 3 – Accountability

Functionality of improved water points by funder:



Dataset = 38,132 water points

Beyond Mapping

How are we using our data?

Engagement with NGOs/private sector:

BASEflow, United Purpose, World Vision, Water For People, WaterAid, BAWI Consultants, EssEss Malawi, Fisherman's Rest



Chiradzulu district

District Strategic Investment Plan (DSIP)
Socio-Economic Profile (SEP)

Innovative and impactful research
Borehole forensic analysis



Knowledge exchange



Community engagement



Capacity building



MIS



Drilling

www.cjfwaterfuturesprogramme.com

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University of
Strathclyde
Glasgow

Boots on the ground: Lessons from the national asset mapping effort in Malawi

Muthi Nthelema, Team Leader, BASEFlow

Boots On The Ground

*Lessons from the national asset mapping effort in
Malawi*

Muthi Nhlema

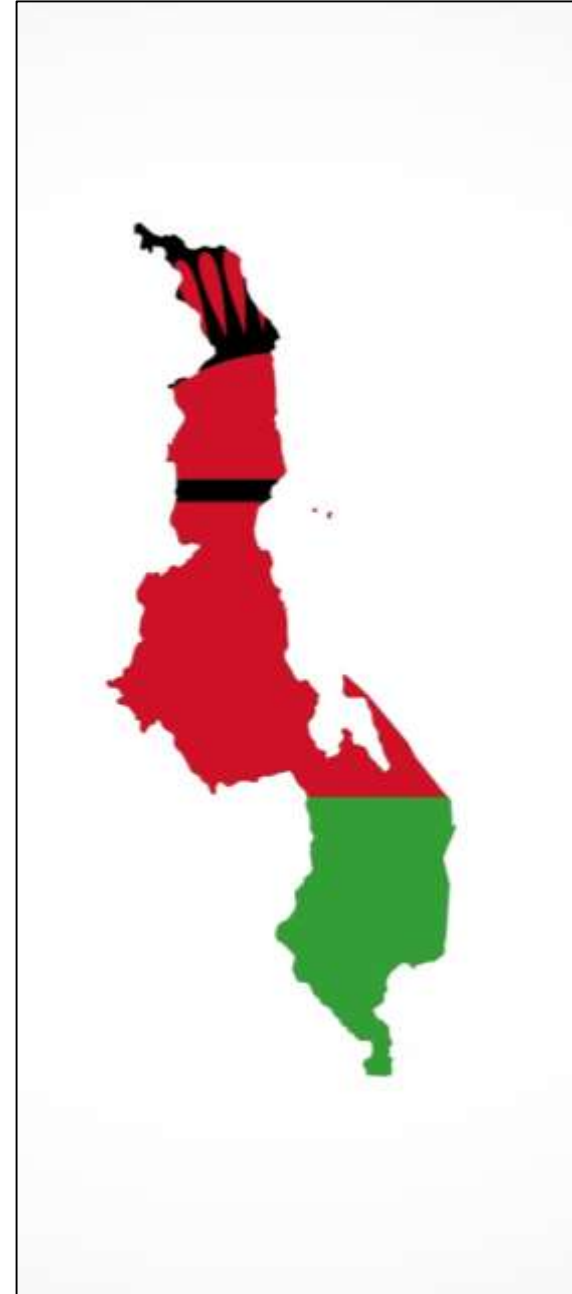
muthi@baseflowmw.com



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Background

- 85% water coverage with 30% non-functional
- 2nd highest coverage rate in SADC (BBC, 2017)
- 71,717 water points approx.
- This is a best guess!
- Previous attempts e.g. WaterAid, UNICEF, ADB



Previous attempts: why did they fail?

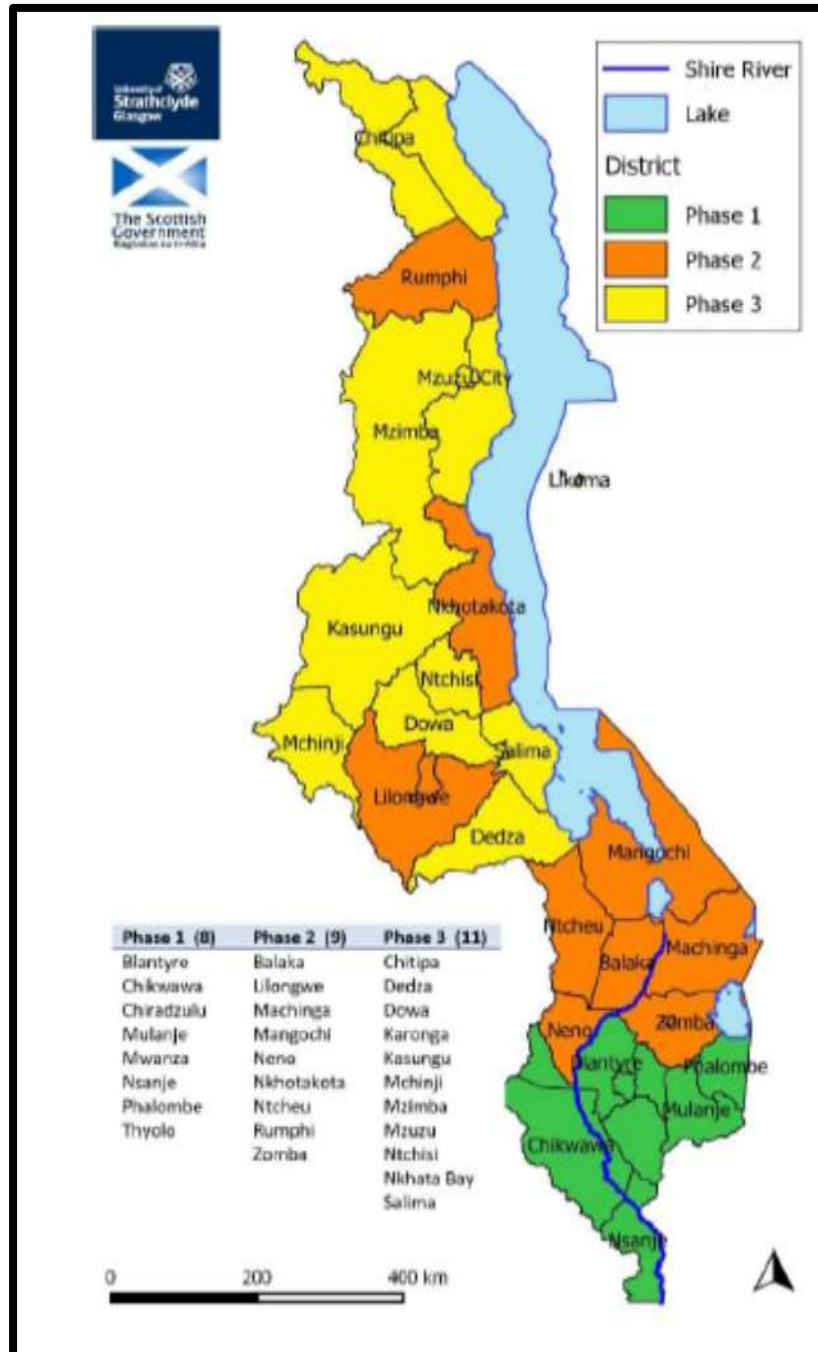
- No money to run it
- Too complicated
- Cost too much
- No-one in charge to run it
- No-one knew about it
- Politicians don't know about it
- Data disappeared into a hole
- Too much data to load
- No stationary toner in the printer
- NGOs aren't talking to each other
- Someone disappeared with the system passwords
- Data cannot be updated

ALL OF THEM!



mWater

National Evaluation



- Multi-sectoral partnerships
- Government extension workers = enumerators
- All improved and unimproved water points
- Sources of contamination within 100 meters

Call Centre

- Training and selection of 124 enumerators
- Approval and Rejections of surveys (<5%)
- Remote/field technical support
- Effectiveness tracked through satisfaction surveys (88%)
- Had 2 Taskforce members seconded to call centre

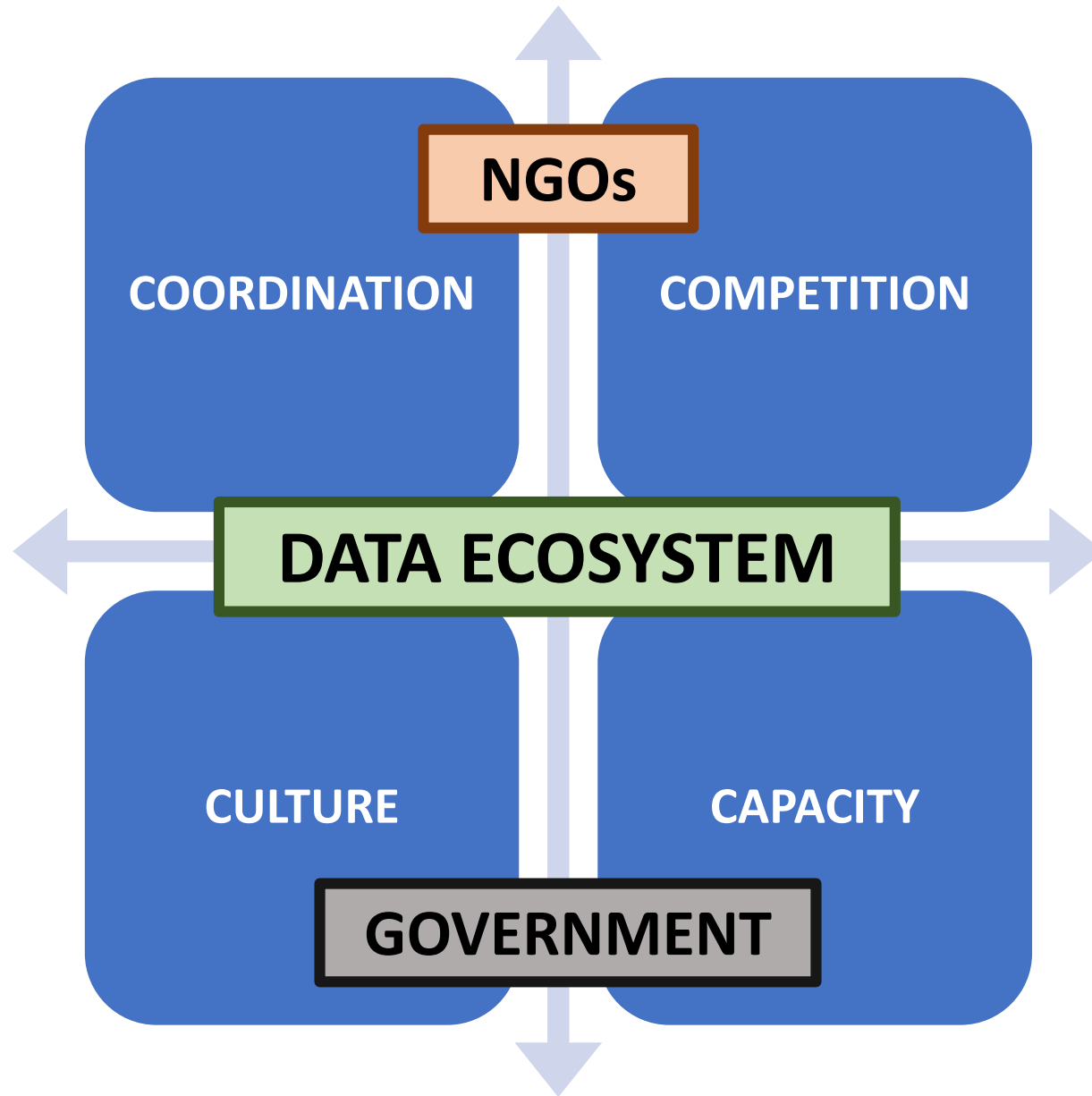




Key Lessons

- Improved communication = better quality data
- Invest time and effort in finding and working with the right people
- Mutual accountability builds trust and improves performance
- Adapt or die!
- Always keep this question in the back of your mind.....

**Will the government
sustain this system?**



National water point monitoring system in Guinea Bissau

Fredrik Asplund, Chief of WASH, UNICEF Guinea Bissau

Sector: All



Guinea-Bissau Water Point Monitoring Overview



To visit this page: bit.ly/gbis_sthlm

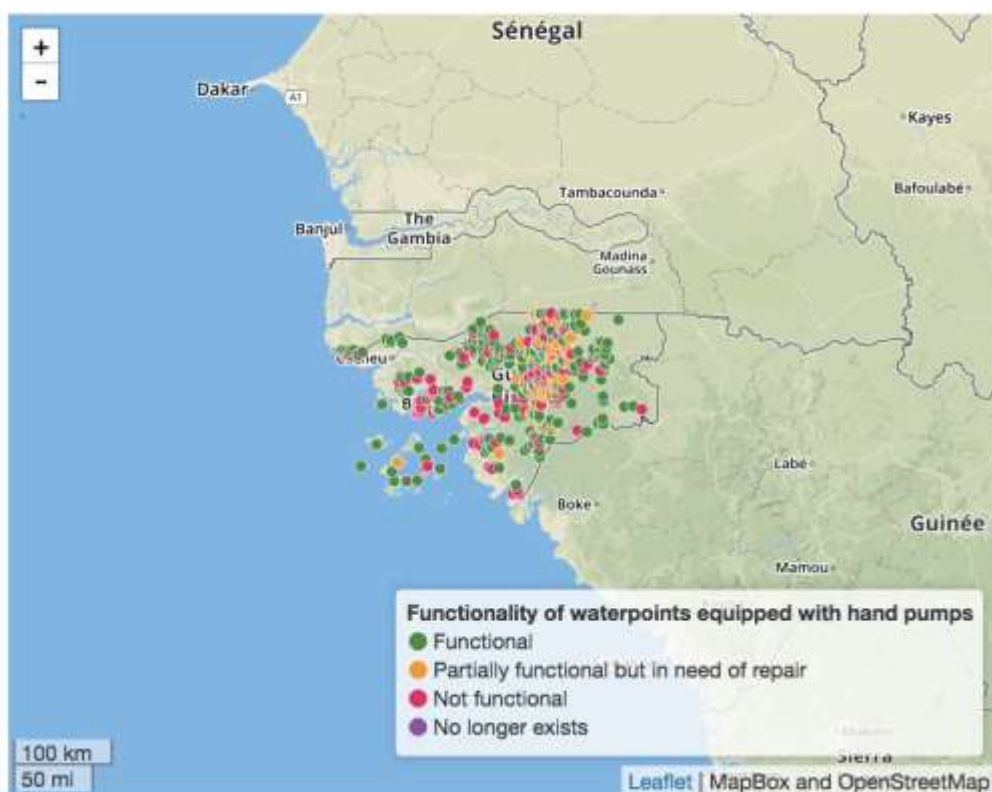
Total Water Points
10842

Water points visited
5532

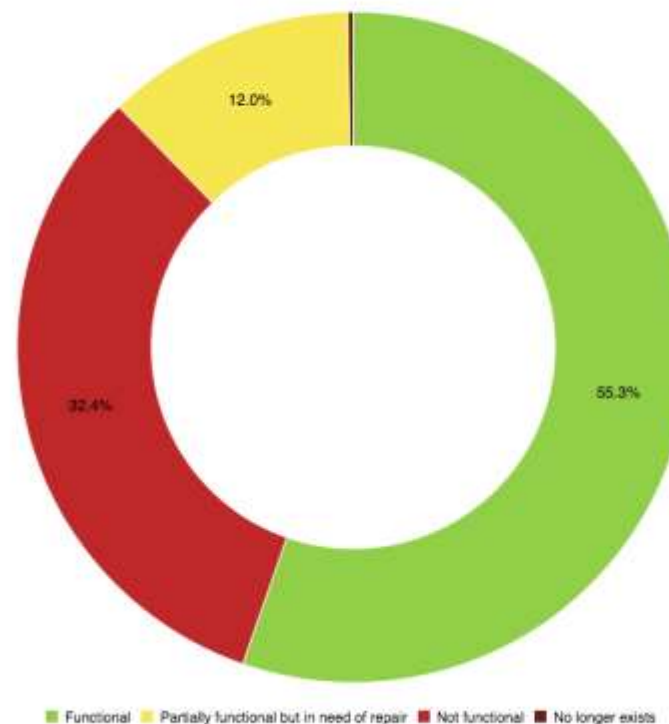
Functionality of visited water points with handpump
55%

Water point functionality

Information is used to direct pump mechanics to repair broken pumps through the established regional spare part shops



Functionality of visited water points with handpump

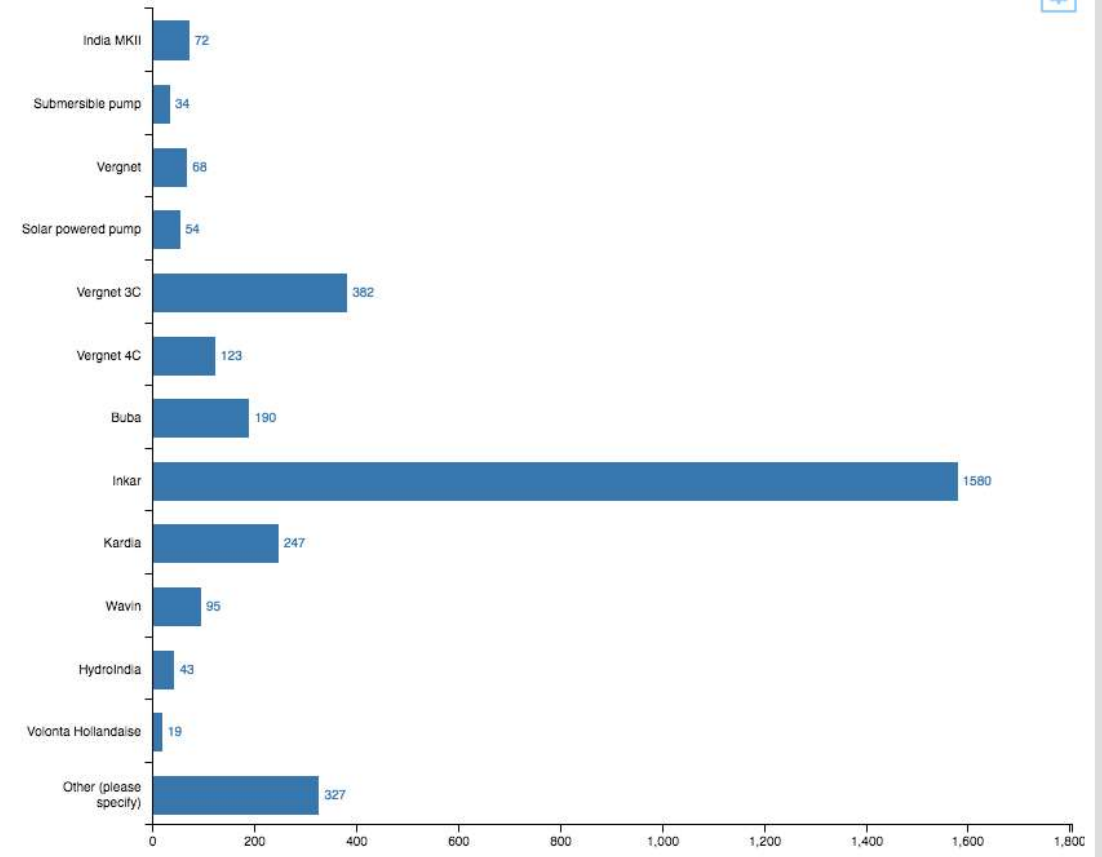


Sector: All

Type of pump versus functionality

	Number in Database	Number visited	Percent fully functional	Percent functional with problem	Not functional	Abandoned
India MKII	72	23	52	9	35	4
Submersible pump	34	31	94	0	6	0
Vergnet	68	13	54	8	31	8
Solar powered pump	54	33	91	0	9	0
Vergnet 3C	382	249	20	8	69	2
Vergnet 4C	123	82	43	11	45	1
Buba	190	36	42	11	47	0
Inkar	1,580	586	69	8	21	2
Kardia	247	147	55	22	22	0
Wavin	95	15	40	0	60	0
HydroIndia	43	37	41	8	51	0
Volonta Hollandaise	19	6	17	0	67	17
Other (please specify)	327	140	66	4	28	2
Life pump						
Summary	3,236	1,400	56	9	34	2

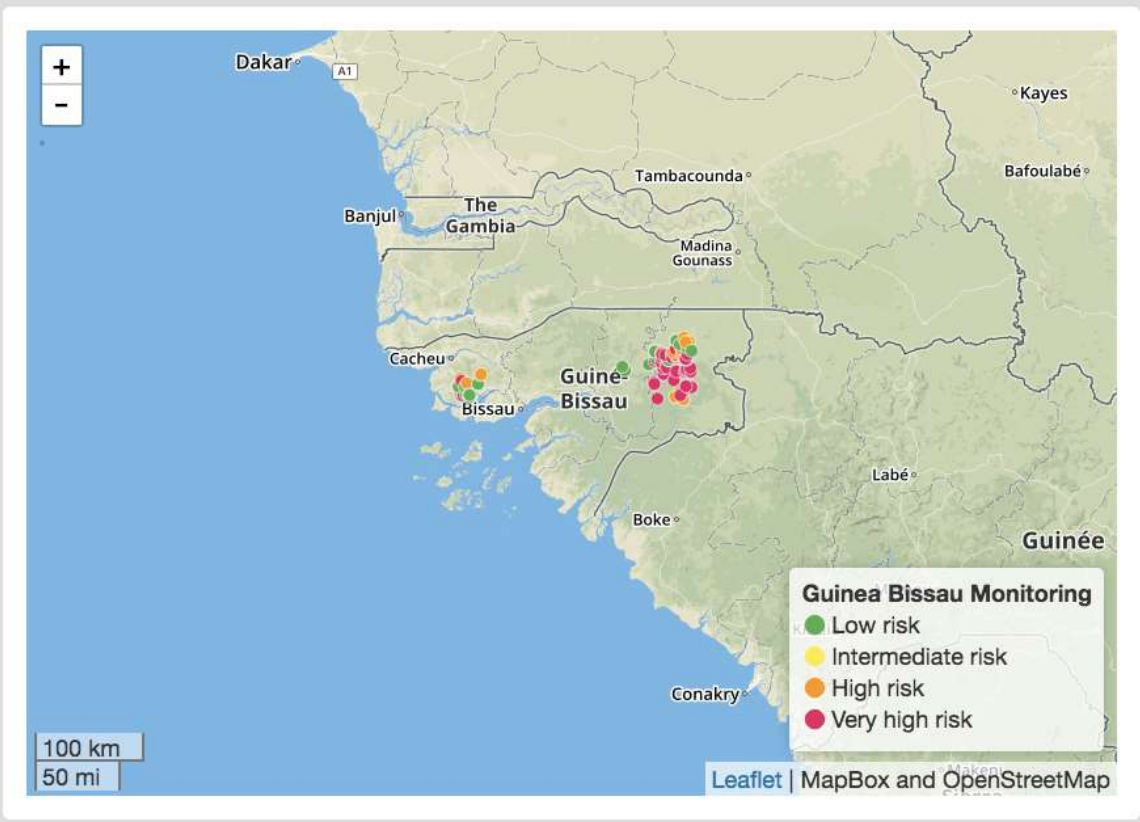
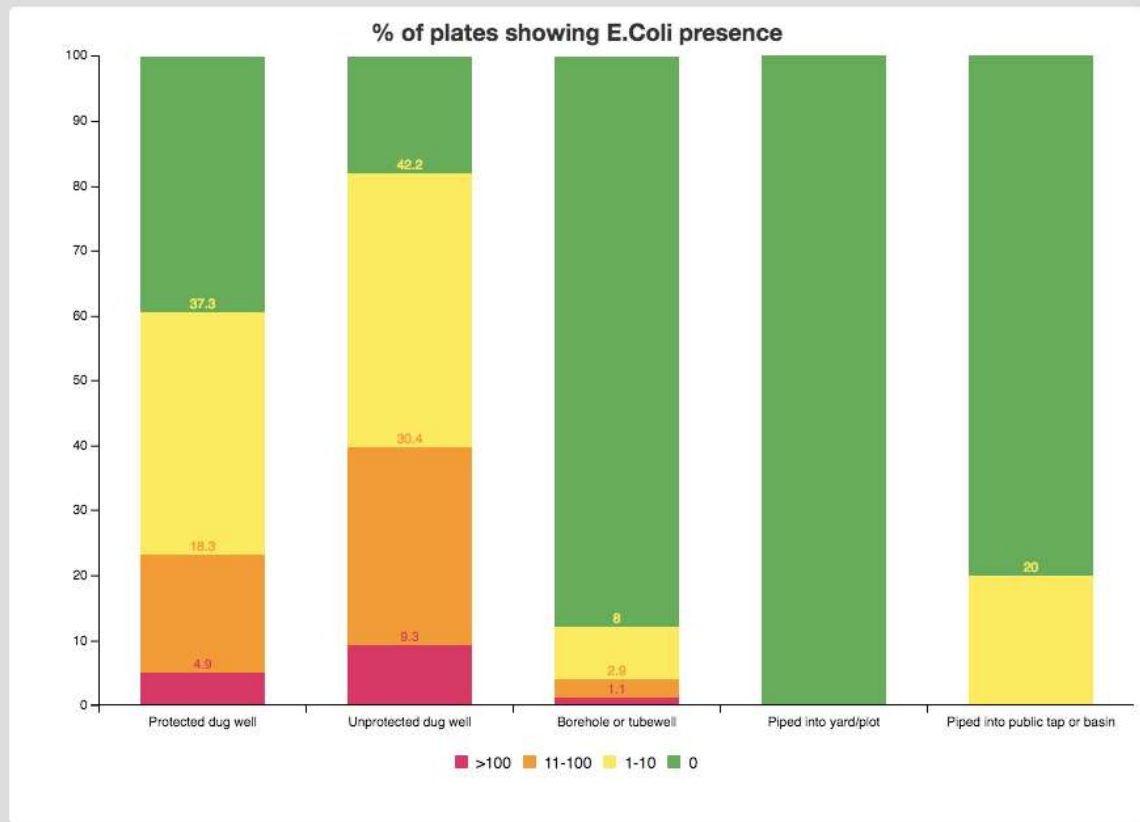
Types of pumps



Sector:

Water quality

Information is used to trigger awareness on water quality and need for pump repairs.

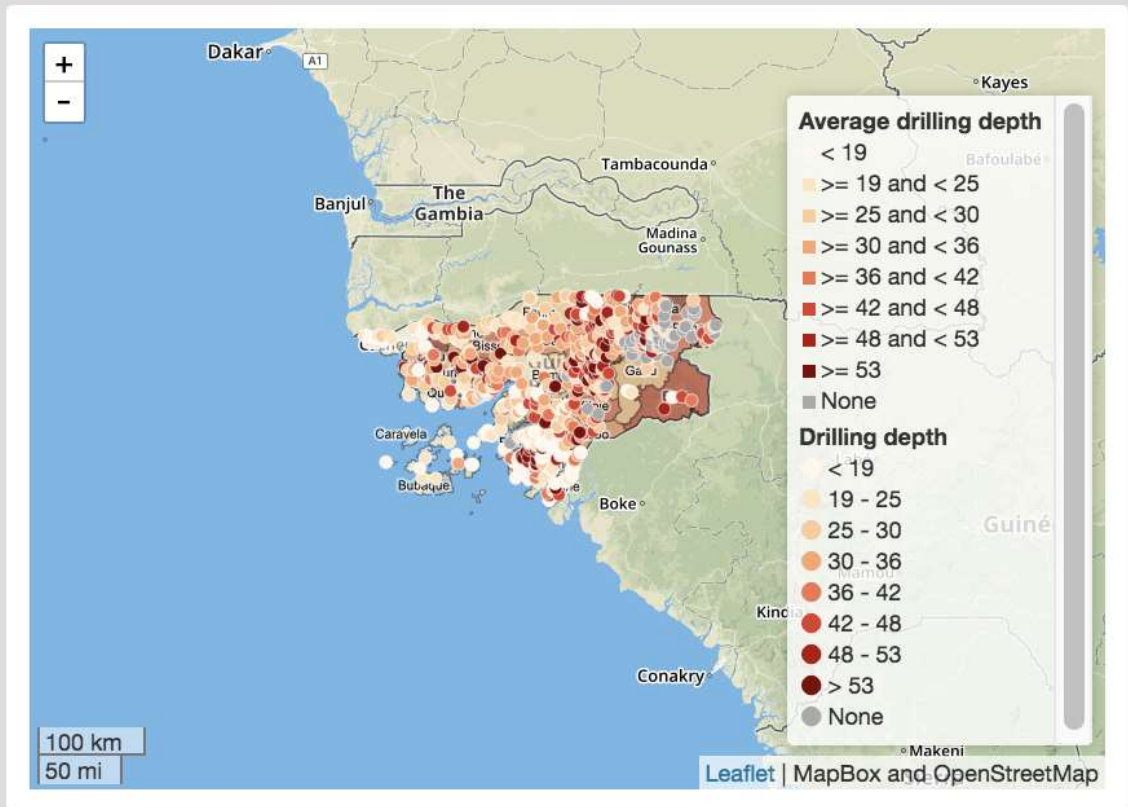
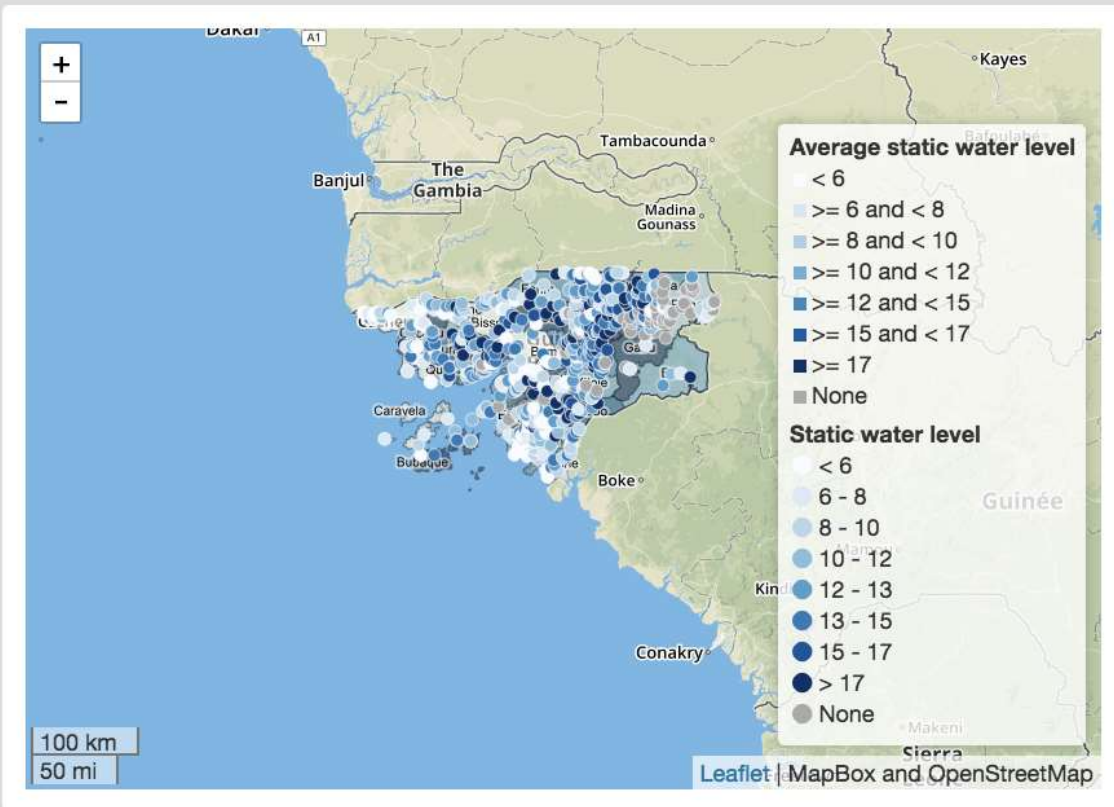


Risk Category The E. coli-based risk category is a risk prioritization approach recommended by the World Health Organization in the Guidelines for Drinking Water Quality. The risk category is assigned based on the E. coli concentration as follows:

- **Low risk** (< 1 CFU/100mL)
- **Intermediate risk** (1-10 CFU/100mL)
- **High risk** (11-100 CFU/100mL)
- **Very high risk** (>100 CFU/100mL)

Sector:

Borehole lithology
 Information used to be informed on hydrogeological condition at new drilling sites for appropriate costing and bid assessment.
 In addition the introduction of borehole lithology in this platform has served to show a gap of data - 1,000 out of expected 4,000 records show a significant gap between government policy and actual practise. Presenting this gap visualised per company has triggered companies to perform better.



Using asset data in Haiti to evaluate demand for coverage and plan next steps in infrastructure investments

Petri Autio, Product Manager, mWater

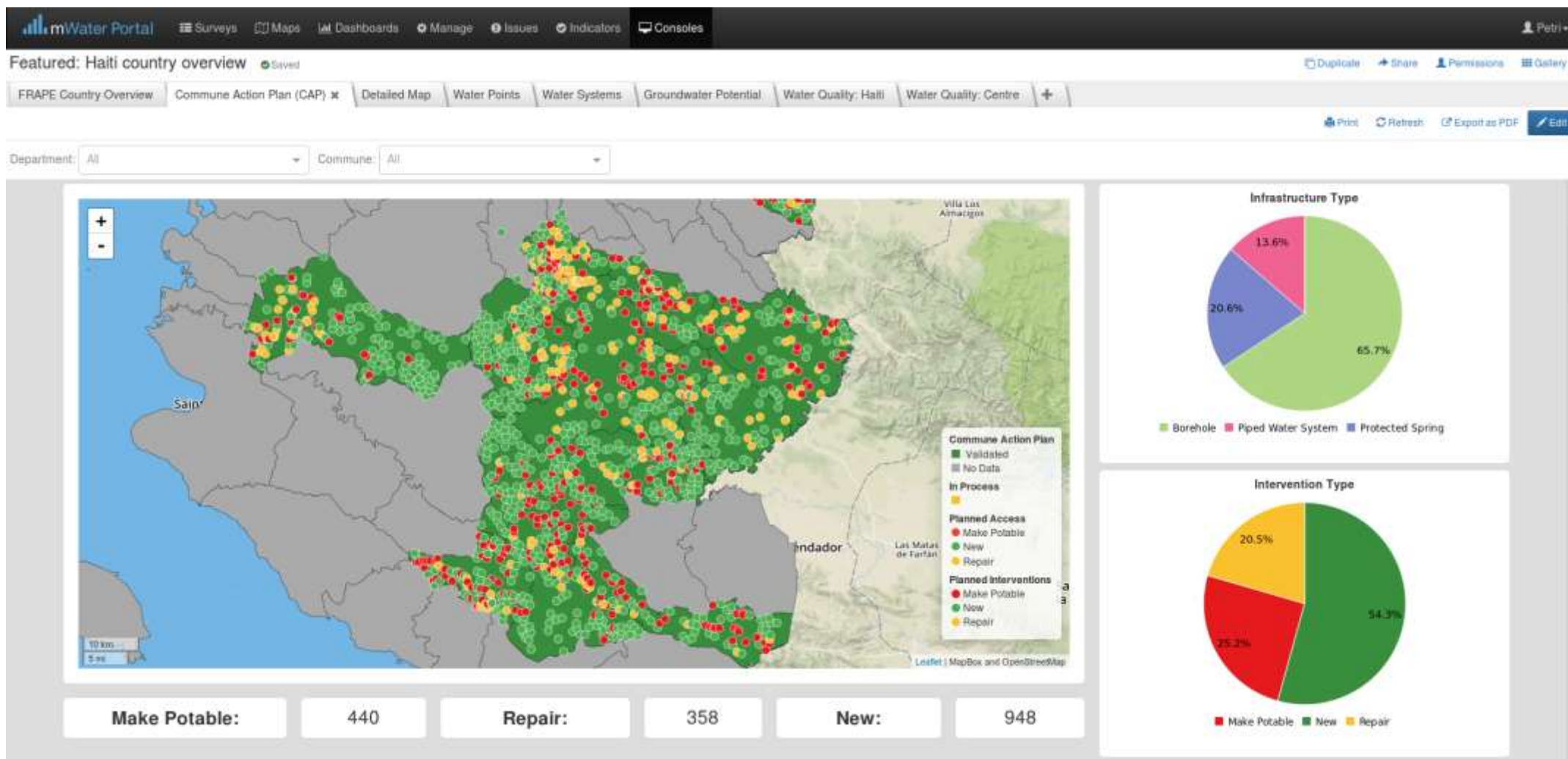


Digital asset management - Haiti

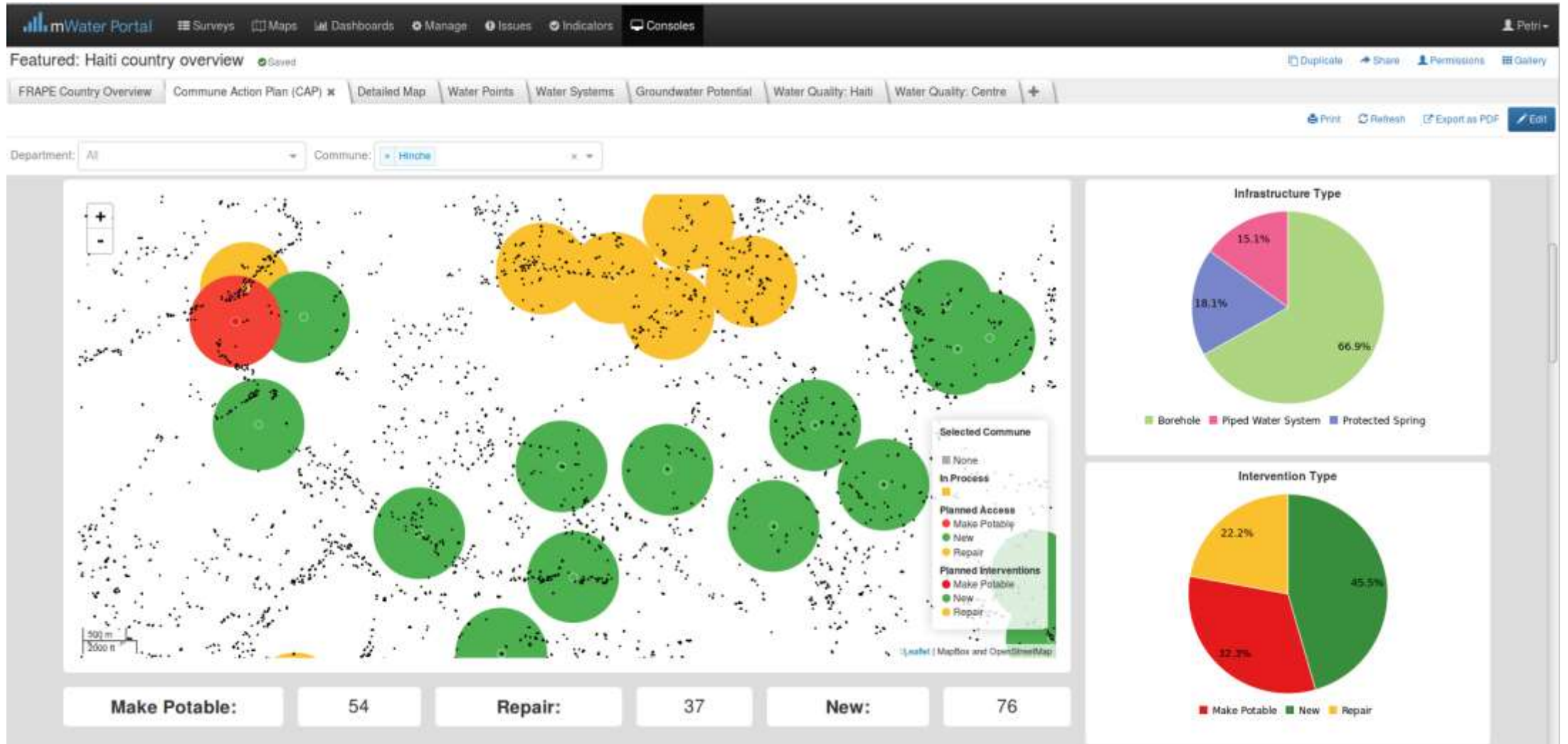
The screenshot displays the mWater Portal interface for Haiti. The top navigation bar includes links for Surveys, Maps, Dashboards, Manage, Issues, Indicators, and Consoles, along with a user profile for Petri. The main content area is titled "Featured: Haiti country overview" and includes a "Saved" indicator. A breadcrumb trail shows the current location: FRAPE Country Overview > Commune Action Plan (CAP) > Detailed Map > Water Points > Water Systems > Groundwater Potential > Water Quality: Haiti > Water Quality: Centre. Action buttons for Duplicate, Share, Permissions, and Gallery are visible. Below the breadcrumb, there are filters for Department (All), Commune (All), and Water System ID (All). The main content area is titled "Country Overview" and contains several key sections:

- Commune Action Plan Methodology Overview:** A list of three questions: "1. Where are we now? (Country Overview)", "2. Where do we want to go? (Universal Access to Safely Managed WASH)", and "3. What do we need to do to get there? (Commune Action Plan and Layered Map)". A link is provided: "See this slide deck for more information on this Commune Action Plan methodology".
- Access*:** A list of three levels: "Level 1-Within 500m of Household", "Level 2-Within 100m of Household", and "Level 3-On Premises". A note states: "*These access levels are proxies for SDG's, NOT replacements for them."
- FRAPE* Service Indicators:** A list of indicators: "F-Functional", "R-Managed", "A-Sanitation coverage", "P-Potable", and "E-Inspected". A note states: "*FRAPE is a Haitian Creole acronym".
- Contents:** A list of links: "Access* Summary", "FRAPE Water Infrastructure Summary", "SAEP (Piped Water System/Scheme) Summary", "Water Point Summary", "FRAPE Water Infrastructure Details", "SAEP (Water System/Scheme) Details**", and "Water Point Details**".

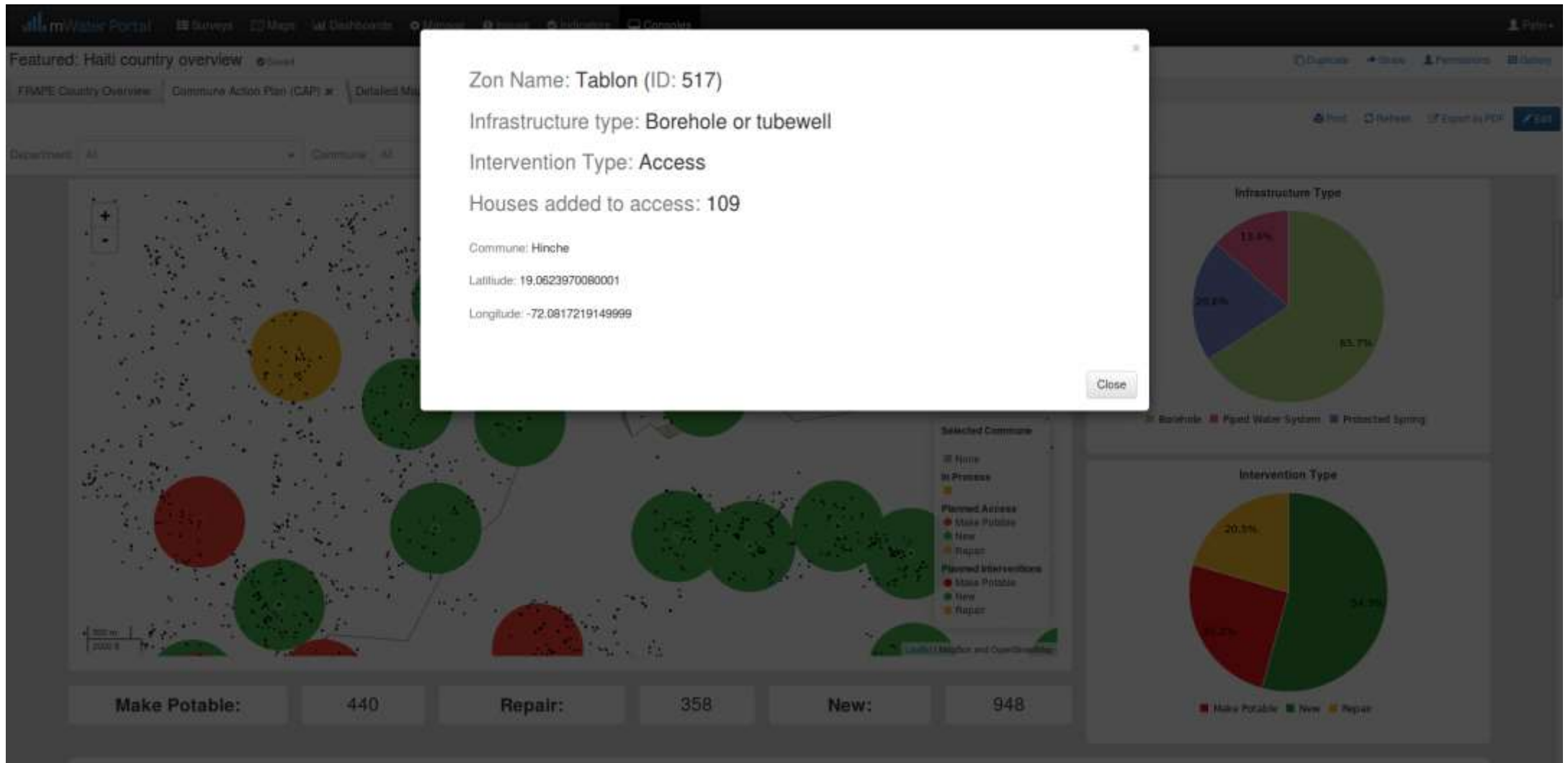
Commune Action Plan



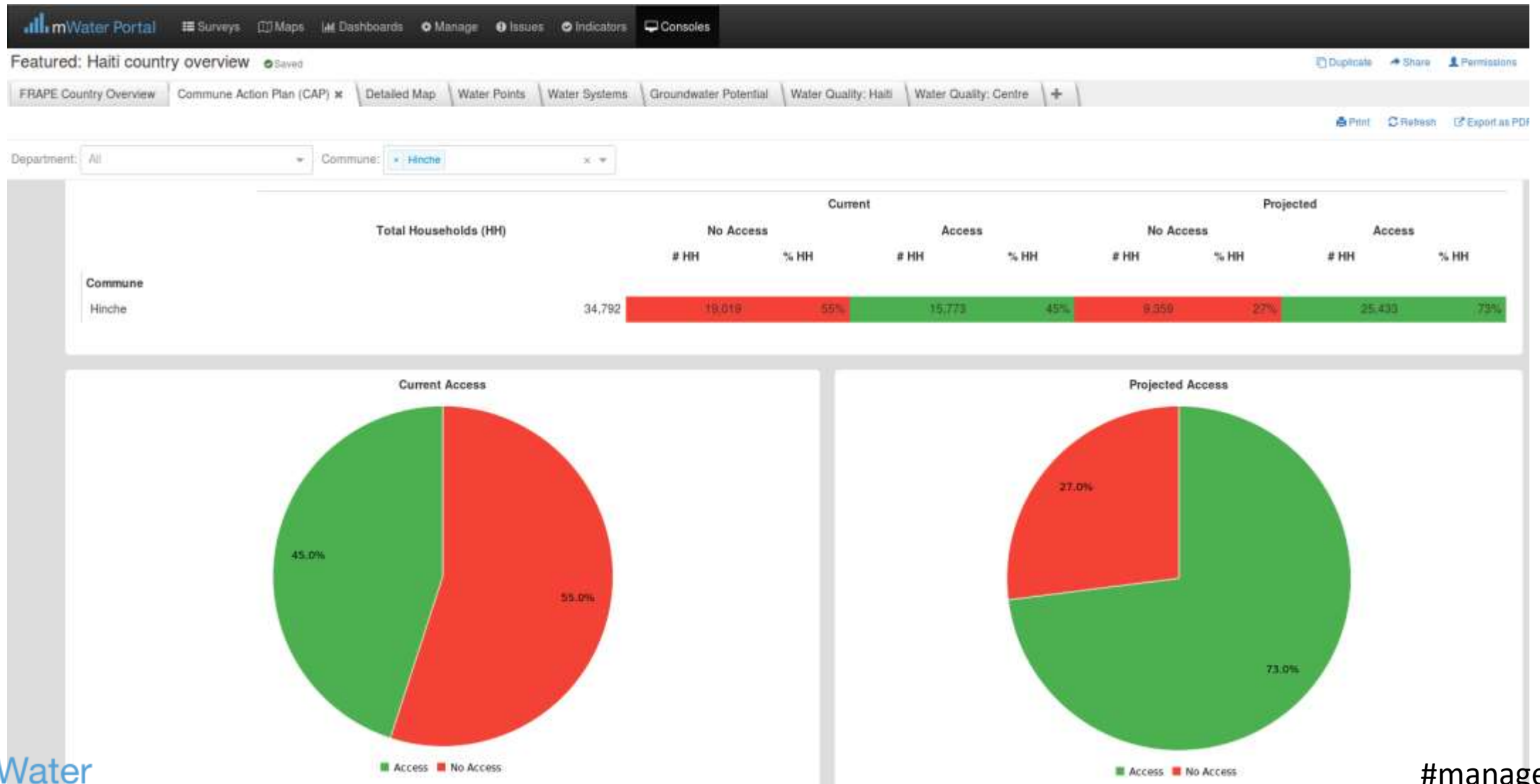
Planning new interventions



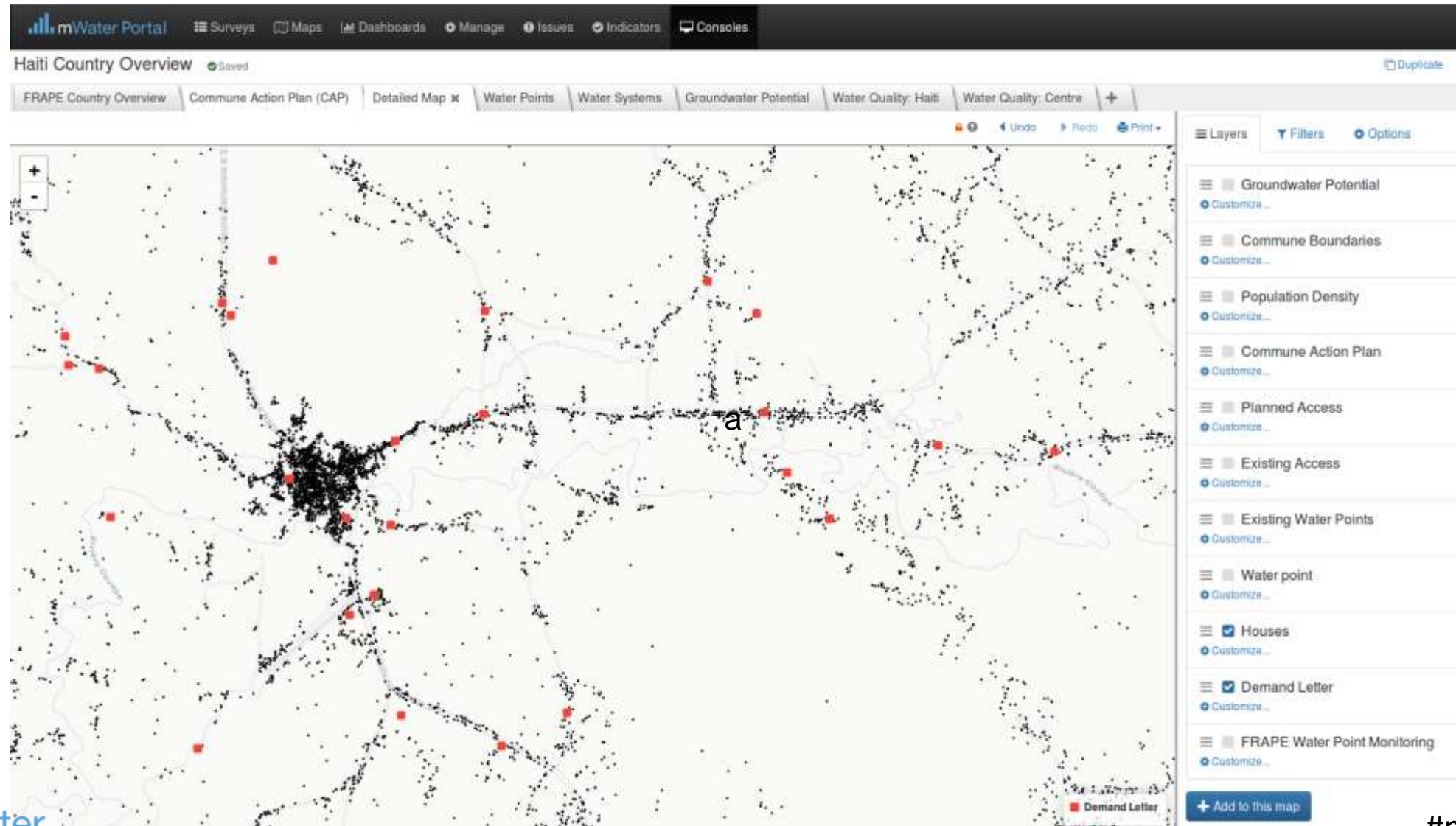
Zoom to individual assets



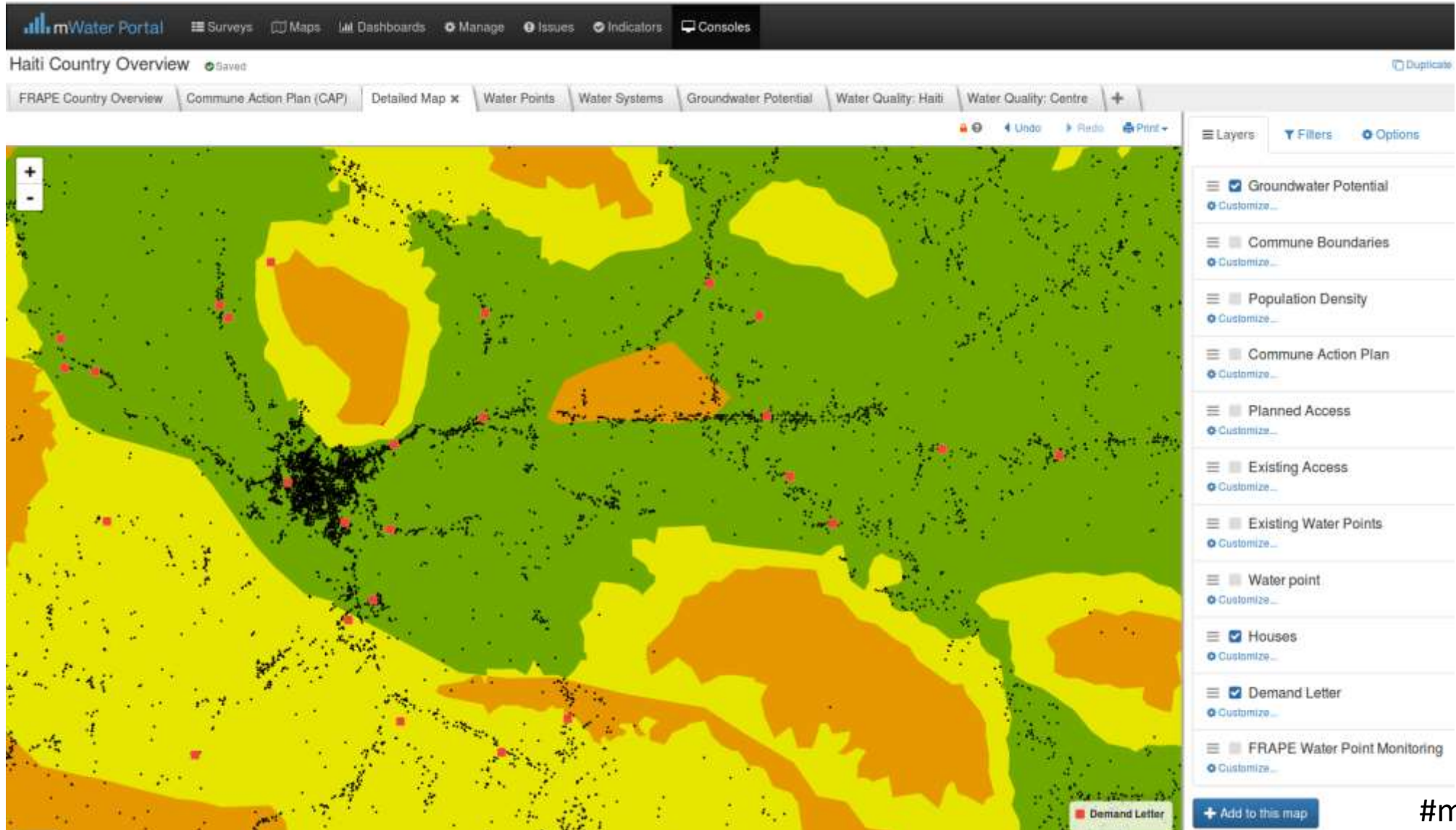
Tracking projected access



Detailed maps – mapping demand

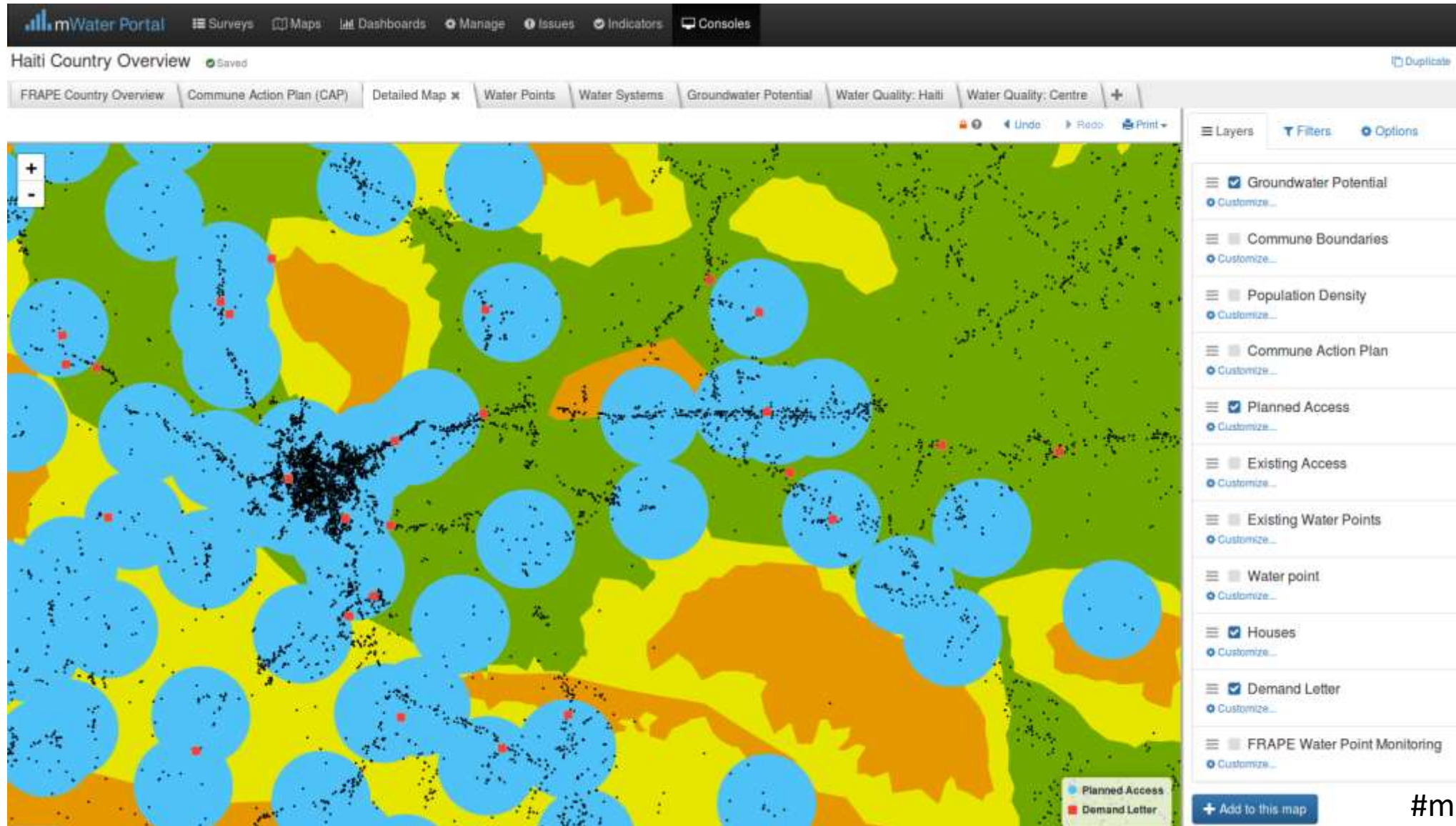


Groundwater potential



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Overlaying planned access



Digital asset management in Haiti

Collecting and connecting data for detailed and effective planning

Taking a systems approach toward improved functionality and WASH services in Ethiopia

Haimanot Assefa, WASH Specialist, UNICEF Ethiopia

Integrating Asset Management North & South Lebanon Water Establishments

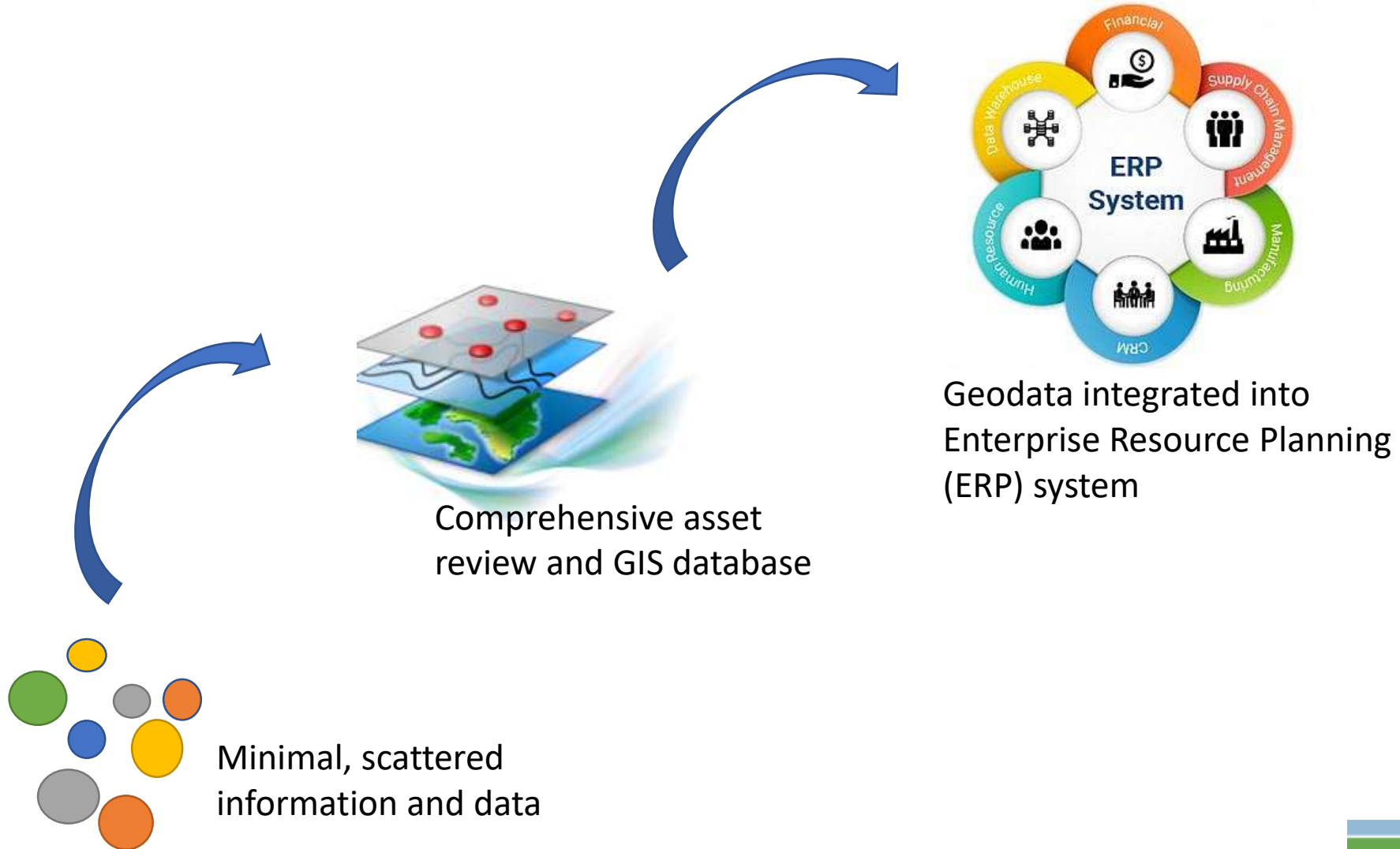
Heather Skilling, Principal Global Practice Specialist, WASH
DAI

Integrating Asset Management

North & South Lebanon Water Establishments



The SLWE and NLWE journey:



Where has the journey led?

ERP includes cost centers for each type of service (drinking water, WW, irrigation) and related function (production, distribution, billing and collection, administration).

The integration allows:

1. Centralized, accessible data
2. Accurate financial reporting
3. A calculation of cost/m³
4. Institutionalization of the value of foundational data to decision-making and reporting processes

NOW: Mobile application, tailored to capture technical specifications of each asset (well, reservoirs, valve chambers, pumping stations, chlorination systems, transmission pipes, etc.), to allow updates and action.

Panel Discussion: Opportunities and challenges with using asset management data to improve WASH services

- Fredrik Asplund, Chief of WASH, UNICEF Guinea Bissau
- Petri Autio, Product Manager, mWater
- Heather Skilling, Principal Global Practice Specialist, WASH, DAI
- Haimanot Assefa, WASH Specialist, UNICEF Ethiopia

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