

# National WASH Multi-Stakeholder Forum 6

## One WASH performance Monitoring

*Presented By Tamene Hailu  
Rural WASH Coordinator, MoWIE  
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# *Presentation outline*

- *Objective of the presentation*
- *Introduction*
- *Experience from NWI in Somali regional State*
- *Need of updating the NWI database*
- *WaSH Mapping*



# Objective of the presentation

- In One WaSH to bring
  - Accurate and Reliable Data
  - Integrated WaSH database
  - Evidence-Based Planning
  - Easily Accessible Data



# Introduction

- *The national WaSH inventory, undertaken in 2003 (EFY)*
- *It was initiated due to variations/discrepancy of baseline data.*
- *This had a negative impact on the sector planning and monitoring to achieve the envisaged goals of UAP/GTP and MDG.*
- *Due to the seriousness of the problem the MoWIE together with other stakeholders took the initiative to solve ones for all the problem of baseline data for the national WaSH.*



# Baseline data from NWI result

National WaSH inventory result (2003 EFY)										
Type of Rural Schemes	Tigray	Afar	Amhara	Oromiya	Benshangul/gumuz	SNNP	Gambela	Hareri	Dire Dawa	Total
Deep Well with Distribution	159	83	338	1,625	6	477	17	7	23	2735
Hand Dug Well with Normal Pump	5,349	273	19,291	5,749	1,457	1,708	166	219	17	34,229
Hand Dug Well with Rope Pump	171	398	3,699	1,036	38	179	36	81	1	5639
Other	110			527		5,709				6346
Protected on-spot Spring	690	66	9,643	10,975	38	2,999	94	47	44	24596
Shallow Well	2,906	126	1,667	2,030	213	871	245	31	17	8,106
Spring with Distribution Small	468	362	2,958	2,637	31	4,259	11	45	166	10937
<b>Total</b>	<b>9853</b>	<b>1308</b>	<b>37,596</b>	<b>24,579</b>	<b>1783</b>	<b>16,202</b>	<b>569</b>	<b>430</b>	<b>268</b>	<b>92588</b>



# *Other figures from NWI result*

- A total of 92,588 rural water supply schemes,*
- 1,605 town water supply schemes,*
- 30,000 schools and*
- 20,000 health institutions were inventoried.*
- In general the NWI has incurred a cost of about 100 million Birr (excluding format and manual printing, Access database/MIS, NGO and Regional input) .*
- 70,000 people were mobilized to do the paper based WaSH inventory.*



# *Major Lesson learned from NWI*

- Delay due to the lengthy procurement process of computers and network installation*
- Data cleaning and entry takes more than one year*
- Missing data: GPS, yield, functionality status, number of households within 1.5 km from water sources, health service type, latrine type and water supply scheme type*



# *Experience from NWI in Somali regional State*

- Enumerators will be trained in filling inventory formats and using smart mobiles to identify locations, collect data and transfer to server.*
- UNICEF already supported procurement of 220 smart mobiles for the inventory*
- Mobile phones configured and transferred to the region.*
- Akvo, Kenya based non profiting organization, was contracted to make ready the mobiles and give ToT .*
- Already ToT is conducted for 50 people pulled from relevant sector offices and NGOs.*
- The enumerators training and the electronic based NWI started on January 24, 2006.*

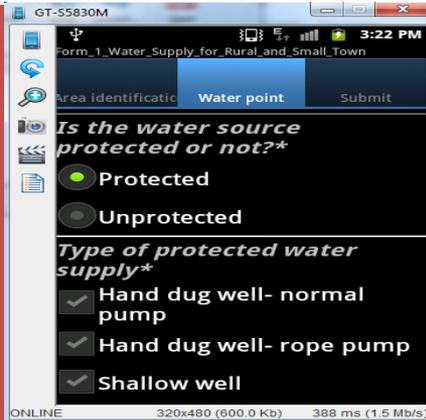


# *Smartphone for NWI*

- Unlike commonly used mobile phones, smart mobile phones are built on a mobile operating system, with more advanced computing capability and connectivity than normal phone.*
- During the ToT it was learned the trainees have easily started to operate the smartphone without difficulty.*
- Such type of mobiles phones are exceptionally common in Jijiga and trainees were already familiar with such type of touch screen.*



# Proposed tool: Akvo FLOW



GT-S5830M  
Form\_1\_Water\_Supply\_for\_Rural\_and\_Small\_Town  
3:22 PM  
Area Identification Water point Submit  
Is the water source protected or not?\*

Protected  
 Unprotected

Type of protected water supply\*

Hand dug well- normal pump  
 Hand dug well- rope pump  
 Shallow well

ONLINE 320x480 (600.0 Kb) 388 ms (1.5 Mb/s)

## Data Collection Tool

- Consistent surveys
- Captures all assets: GPS, images, data

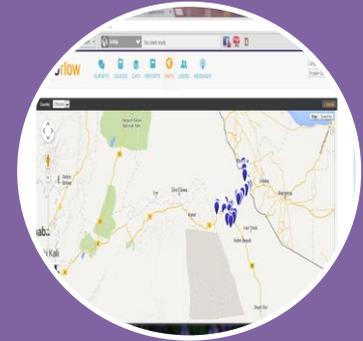


Choose survey data to display:

ID	NAME	STATUS	COLLECTED	ACTED
1	Hand dug well- normal pump	Completed	2014-12-20	OK
2	Hand dug well- rope pump	Completed	2014-12-20	OK
3	Shallow well	Completed	2014-12-20	OK

## Secure data storage

- Dashboard to edit data
- Stored on Google App Engine and Amazon S3



## Visual reporting tools

- Google Maps/Google Earth
- Data available ASAP
- Historical data available

# How FLOW Works

## Data Collection

- Data collected via Android Cellular Phones
- Can collect GPS coordinates, photos, video, bar codes, adaptable surveys and decision trees
- Phones can securely store thousands of pieces of data
- Data automatically transmitted to the database via mobile network connection, wi-fi, or uploaded to a computer

GT-S5830M

Form\_1\_Water\_Supply\_for\_Rural\_and\_Small\_Town

Area identificatio Water point Submit

*Is the water source protected or not?\**

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ONLINE 320x480 (600.0 Kb) 388 ms (1.5 Mb/s)



# Akvo FLOW dashboard

## Dashboard Allows Users to

- Generate custom surveys
- Correct data as it comes in
- Create dashboard reports
- Visualize data on Google Earth and Google Maps
- Generate charts and graphs
- Perform basic analysis
- Export data for further analysis

The screenshot displays the Akvo FLOW dashboard interface. At the top, there is a navigation bar with icons for SURVEYS, DEVICES, DATA, REPORTS, MAPS, USERS, and MESSAGES. The main content area is titled "Choose survey data to display:" and includes a dropdown menu for "Ethiopia" and a "Submit" button. Below this is a table with columns: ID, SUBMITTER, DEVICE, COLLECTED, and ACTION. The table contains 7 rows of data. At the bottom, there is a Windows taskbar with various application icons and a system tray showing the time as 10:43 on 25/1/2014.

ID	SUBMITTER	DEVICE	COLLECTED	ACTION
1	ifrax	ifrax03	2014-01-24 22:05	Edit Delete
2	mustafe cabdi	mustophe	2014-01-24 17:20	Edit Delete
3	MOHYADIN ADEN	mohyadin aden	2014-01-24 16:57	Edit Delete
4	ahmed abdi	ahmed abdi	2014-01-24 16:41	Edit Delete
5	ahmed abdi	ahmed abdi	2014-01-24 16:41	Edit Delete
6	ahmed abdi	ahmed abdi	2014-01-24 16:41	Edit Delete
7	ahmed abdi	ahmed abdi	2014-01-24 16:40	Edit Delete



# Data entry

- *Data entered immediately in the field*
- *Facilitators or data specialists can check data entry during collection from anywhere*
- *CSA codes can be built into the survey and verified in real time (while people are in the field).*
- *Different types of data on one device:*
  - *GPS, text, numerical, multiple choice, photos*



# *Data cleaning*

- *Can start as soon as data is sent from phone*
- *Data management*
  - *Using the dashboard*
  - *Exported and cleaned (e.g. in Excel)*
  - *Clean data can be re-imported into FLOW*
- *Data entry on phones can be limited to correct options:*
  - *Max/Min values, decimal points, multiple choice, required questions, dependent questions*



# *Data quality*

- *Add mandatory questions*
- *Provide ranges for inputs*
- *Provide limited choices for inputs*
- *Create dependencies, for example,*
  - *If non-functional, then what is the reason*
    - *Broken*
    - *Not enough water*
    - *Management / Finance problem*
    - *Other (fill in reason)*



# *Some challenges*

- *Battery lifetime*
  - *Requires extra battery packs or charging locally*
- *Internet connectivity required to send the data collected*
  - *May require travel to send data*
- *Initial and recurrent costs of ICT*
  - *Cost of smartphone is significant*
- *Vulnerability of device*
  - *Loss, destruction, theft, etc.*
- *AKVO database is not linked with MIS*



# *Need of updating the database*

- The inventory need to be updated regularly mainly to monitor WaSH change indicators and service status to ensure sustainable development of the sector to achieve any envisaged goal.*
- Budget is needed to support the NWI updating as part of the recurrent budget*
- Then the policy should be translated to functional structure accommodating the work of updating the NWI*
- The MIS need to function properly before updating is resumed electronically.*
- This will enhance better enabling environment and enforces the updating of the inventory to happen regularly.*



## *General issues*

- *Policy support and strategy for regular updating of NWI*
- *Complete MIS network that covers all administrative levels with appropriate management*
- *Need of NWI updating in collaboration with CSA to avoid discrepancies*
- *Institutional arrangements to do the updating (collection of data and transferring to the servers) regularly by nationally designated office*
- *Planning and budgeting of the regular updating of NWI*



## *Specific issues*

- ***Already some experience is gained while preparing for NWI in Somali regional state-***
  - *Standardized smartphones to do the updating*
  - *Significant number of smartphones that incurs cost are required and they do need proper management*
  - *Turnover of staffs who can operate smartphone and the need of frequent training to do updating*



# WaSH Mapping

- *The need of WaSH mapping may arise to see spatial distribution of WaSH services on national or regional or woreda geographical area.*
- *This will be the start of using GIS to monitor WaSH services over the geographical area.*
- *This too helps to know the density of water points in the area of certain population settlement areas.*
- *It may help also to verify directly or indirectly whether the water points for rural areas are within 1.5 km radius or not.*



# Con...

- *Smartphones can locate water points since they do have GPS facilities and the WaSH inventory format does ask also to fill the coordinates and also elevations.*
- *Generally this condition can help to map all WaSH services without significant effort*
- *The mapping can show the Wash service segregating*
  - *by type*
  - *by status like functional or non functional,*
  - *life span, etc.*
- *The mapping can be also overlaid by population data, hydrological data etc.*



# Maps around Jigjiga

The screenshot displays the Akvo Flow web application interface. At the top, the browser address bar shows the URL `http://ethiopianwi.akvoflow.org/admin/`. The application header includes the Akvo Flow logo and navigation tabs for SURVEYS, DEVICES, DATA, REPORTS, MAPS (which is highlighted), USERS, and MESSAGES. A language dropdown menu is set to English (Default). The main content area features a map of Ethiopia with a country selector set to Ethiopia. The map shows a cluster of blue location pins around Jigjiga, with other labeled locations including Debre Birhan, Harar, Dire Dawa, Hargeisa, and Gebilay. The Windows taskbar at the bottom indicates the time is 3:27 PM.

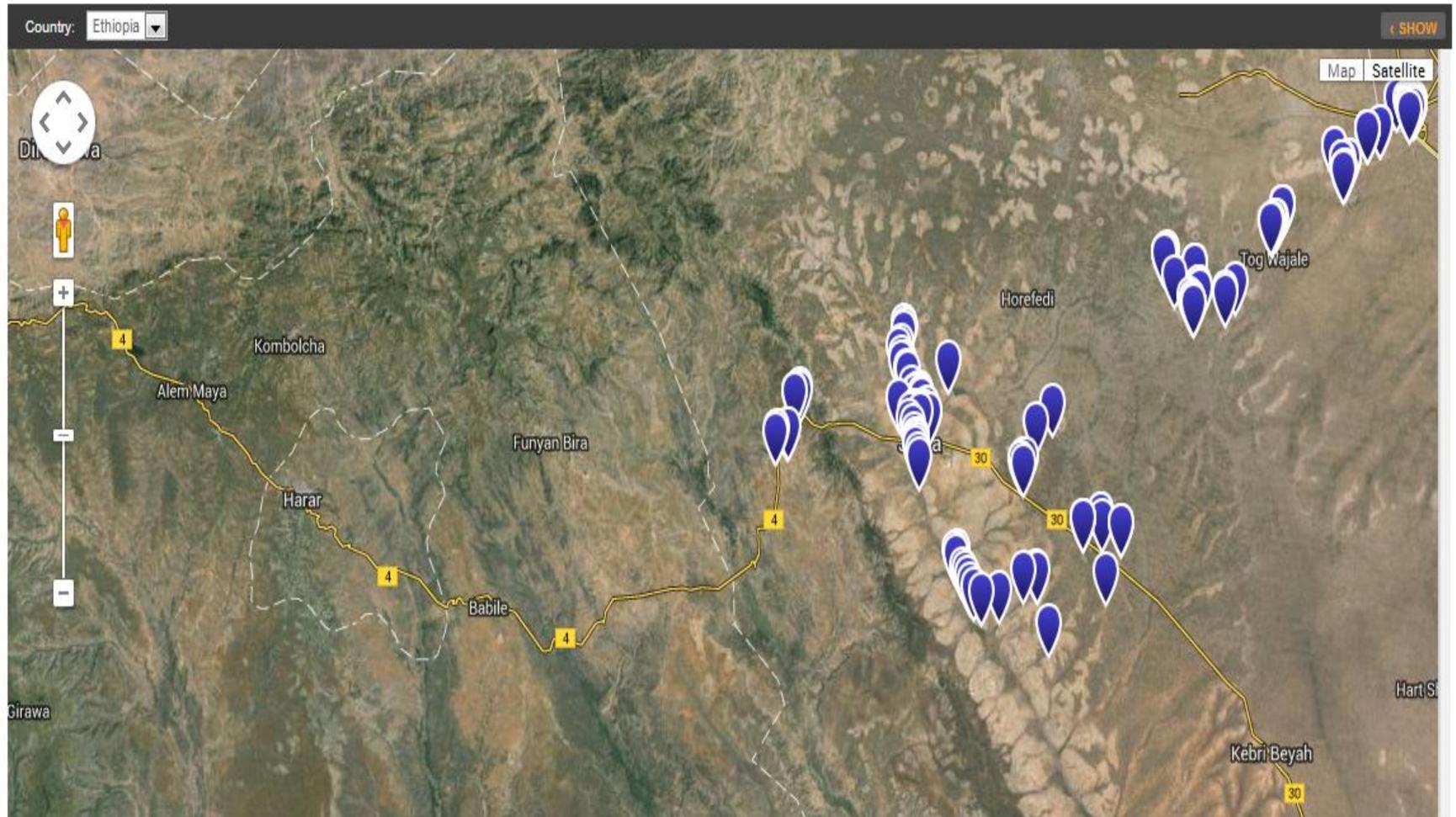




akvoflow

- SURVEYS
- DEVICES
- DATA
- REPORTS
- MAPS
- USERS
- MESSAGES

Language: English (Default)



akvoflow

- SURVEYS
- DEVICES
- DATA
- REPORTS
- MAPS
- USERS
- MESSAGES

Language: English (Default)



Thank you very much

