

# **Monitoring Water Supplies and Sanitation in Ethiopia**

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National WASH Inventory Office (NWI)**

**MoWE**  
**April, 2013**



# Out line

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- I. National WASH inventory
- II. Some key figures and additional benefits
- III. Selected KPI Definitions and Computation Methods
- IV. Draft Selected KPI Result based on ME-MIS
- V. Problems/ issues
- VI. Next Steps



# I. National WASH Inventory

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- *First of its kind in Ethiopia*
- *Grew from need to strengthen monitoring and evaluation in the WaSH sector*
- *Aims of the initiative*
  - *to provide baseline data for planning and various monitoring purposes*
  - *to establish the backbone of a reliable, sector-wide M&E system*
  - *to put an end to the dissimilarity over access figures*



## Scope and process

### What gets measured?

- ✓ *Rural community water supply schemes*
- ✓ *Rural household hygiene and sanitation*
- ✓ *Rural household drinking water use*
- ✓ *WASH in schools and health facilities (institutional WASH), and*
- ✓ *Urban water supply, sanitation and hygiene*

### And how?

- ✓ *Steering committees established at federal level, regional, Zonal, Woreda and kebele level*
- ✓ *National WASH Inventory project office established at all levels*
- ✓ *Sensitization mission for administrators at all levels*



## Continued....

- ✓ *Awareness given to the community through mass media like national and local Radio, TV, and newspapers*
- ✓ *Training given for supervisors, nominators and data encoders: about 70,000 people have participated in NWI*
- ✓ *Data collected with approval of Kebele and Woreda administration*
- ✓ *Data entry is done at regional level using Access database*
- ✓ *Soft copy to national WASH inventory project office for the analysis of KPI*
- ✓ *Regions clean their data and undertake analysis with the support of WASH M&E MIS*



## Current progress

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- *All regions (except Somali region) have completed data collection and data entry*
- *Regions are cleaning their data*
- *The MoWE has finished preliminary analysis of data using the Management Information Software (MIS)*
- *Up date the data started in regions*
- *Role out done for 58 woredas and will continue to others*
- *Procurement of server and computer is on progress*



### III. Some key figures

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- ✓ *92,588 rural water supply schemes*
- ✓ *1,605 town water supply schemes*
- ✓ *30,000 schools*
- ✓ *20,000 health institutions*
- ✓ *12 million households asked about drinking water supply and sanitation*
- ✓ *More than 100 million birr spent (excluding format and manual printing, Access database/MIS, NGO and Regional input)*



# Rural Water Supply Schemes

National WaSH Program

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





# Additional benefits

- *Integrating many WASH actors*
  - *the NWI has been a force for integration i.e. both between different levels of government and within each administrative level.*
  - *enhanced cooperation with CSOs*
  - *allowed lower levels of government to engage with communities*
- *Data retained at woreda level*
  - *assists woreda officials with planning and maintenance work*
  - *Feedback from woreda staff also indicates that the NWI generated vast amounts of informal knowledge at woreda level*



## **IV. Selected KPI Definitions and Computation Methods**



# RURAL

- **Access**

- **Definition** :- % of rural population that is provided access to 15 l/c/d water within 1.5 km of the water supply point
- **Computation** (Number of beneficiaries that have accessed and could access 15 l/c/d water within 1.5 km of the water supply point , including repairable non-functional water supply schemes/ Total population from CSA) x 100 (%)

- **Usage**

- **Definition** :- % of rural population that is actually using water from the water point irrespective of quantities used and distance from the water point
- **Computation** :- (Number of beneficiaries actually using water from water supply point: as per the data from the annual inventory of water supply schemes / Total population from CSA) x 100 (%)



# URBAN

- **Access**

- **Definition** *% of urban population that is provided access to 20 l/c/d improved water from the domestic/household water consumptions inventory*

*Data Needed*  $A = \text{Domestic Water Consumptions}$

$B = \text{Total population from CSA}$

- **Computation**  $((A * 1000) / (365 * 20) ) / B) \times 100 (\%)$

- **Usage**

- **Definition** *% of population served by the water supply utilities*

*Data Needed*  $A = \text{Served Population}$

$B = \text{Total population from CSA}$

- **Computation**  $(\text{Served Population} / \text{Total number of people}) \times 100 (\%)$



# Functionality of rural schemes

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- **Definition**
  - *% of Functional rural water supply schemes*
- **Computation**
  - *Number of functional schemes/ Total number of water schemes x 100 (%)*



# Health Institutions- WaSH

- **Access to Latrine Facilities**
  - **Definition** :- % of Health Institutions having access to Latrine Facilities
  - **Computation** :- (Total No. of Health Institutions having access for Latrine Facilities/ Total No. of Health Institutions in required area) x 100 (%)
- **Access to Water Supply**
  - **Definition** :- % of Health Institutions having access to water supply
  - **Computation** :- (Total No. of Health Institutions having access to water supply/Total No. of Health Institutions in required area) x 100 (%)



# School – WaSH

- **Access to Latrine Facilities**
  - **Definition** :- % of Schools having access to Latrine Facilities
  - **Computation** :-  $(\text{Total No. of Schools having access for Latrine Facilities} / \text{Total No. of Schools in required area}) \times 100 (\%)$
- **Access to Improved Latrine Facilities**
  - **Definition** :- % of Schools having access to Improved Latrine Facilities
  - **Computation** :-  $(\text{Total No. of Schools having access for Improved Latrine Facilities} / \text{Total No. of Schools in required area}) \times 100 (\%)$
- **Access to Water Supply**
  - **Definition** :- % of schools with Drinking Water Supply
  - **Computation** :-  $(\text{Total No. of schools with Water Supply} / \text{Total number of schools in the required area}) \times 100 (\%)$  **Draft KPI Results**



## **V. Selected KPI Result based on ME-MIS**





# NATIONAL LEVEL WATER SUPPLY Access

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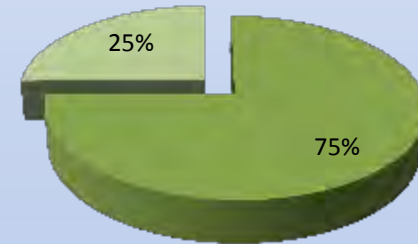
## Rural access

- Have access Drinking Water Supply
- Do not have access drinking water supply



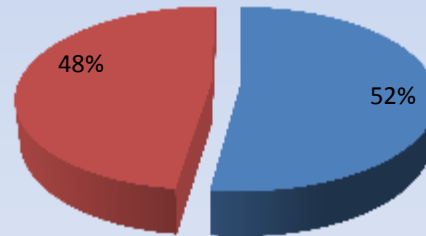
## Urban Access

- Have access drinking water supply
- Do not have access drinking water supply



## Total access

- Have access Drinking Water Supply
- Do not have access drinking water supply

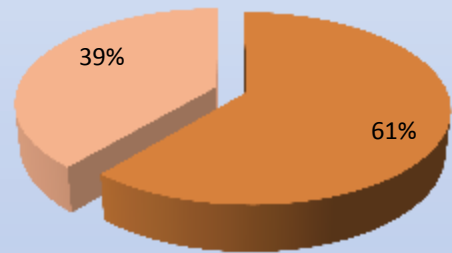




# NATIONAL LEVEL WATER SUPPLY Usage (Based on SI)

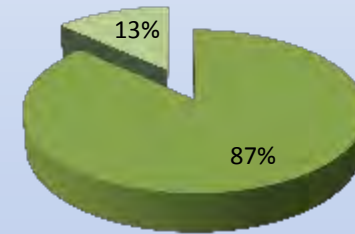
## Rural Usage

- Have usage Drinking Water Supply
- Do not have usage drinking water supply



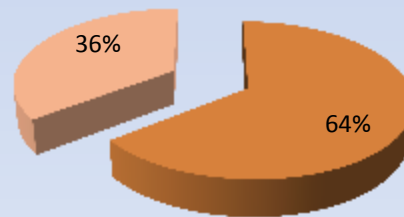
## Urban usage

- Have usage Drinking Water Supply
- Do not have usage drinking water supply



## Total usage

- Have usage Drinking Water Supply
- Do not have usage drinking water supply



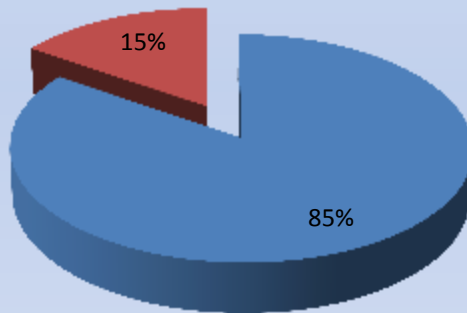
National WaSH Program



# NATIONAL LEVEL Health Institution WASH (Based on SI)

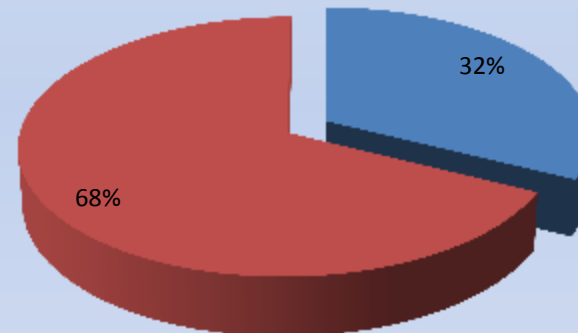
## Latrine facilities

- Have Access to Latrine Facilities
- Do not have Access to water supply



## Water supply

- Have access to water supply
- Do not have access to water supply



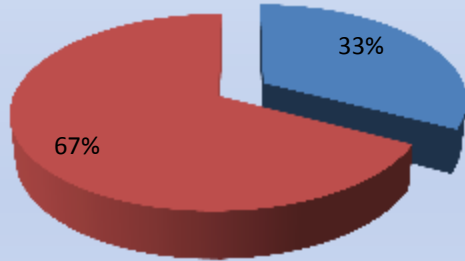


# NATIONAL LEVEL School WASH (Based on SI)

National WaSH Program

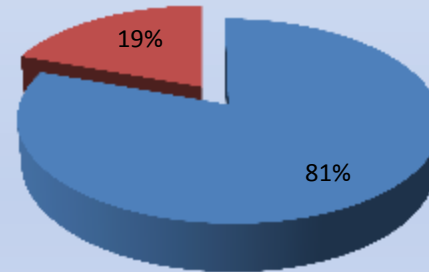
## Improved Latrine facilities

- Have access Improved latrine facilities
- Do not have access improved latrine facilities



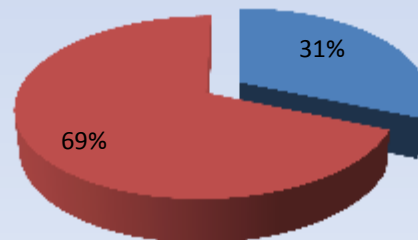
## Latrine facilities

- Have access latrine facilities
- Do not have access latrine facilities



## Water supply

- Have access to water supply
- Do not have access to water supply

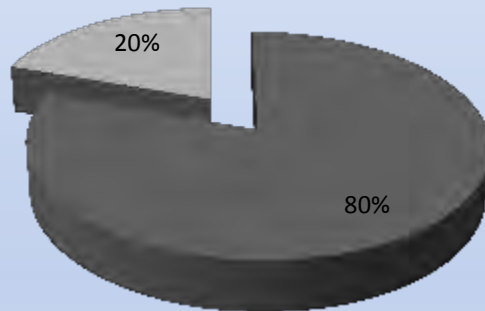




# Access to latrine facilities (based on household inventory )

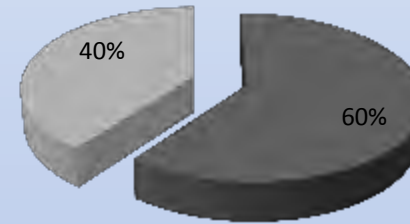
## National Urban

- Have accesss to latrine facilities
- Do not Have accesss to latrine facilities



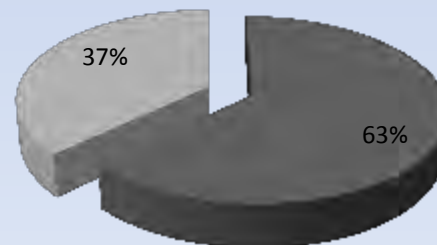
## National Rural

- Have accesss to latrine facilities
- Do not Have accesss to latrine facilities



## National Urban and Rural

- Have accesss to latrine facilities
- Do not Have accesss to latrine facilities



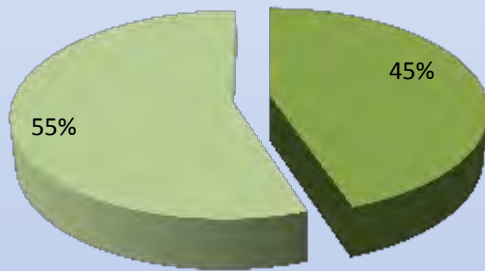


# Access to Drinking water (based on household inventory )

National WaSH Program

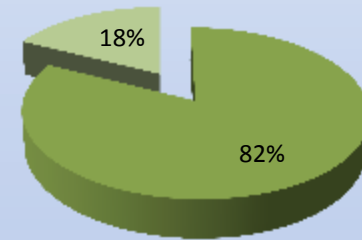
## National Rural

- Have accesss to latrine facilities
- Do not Have accesss to latrine facilities



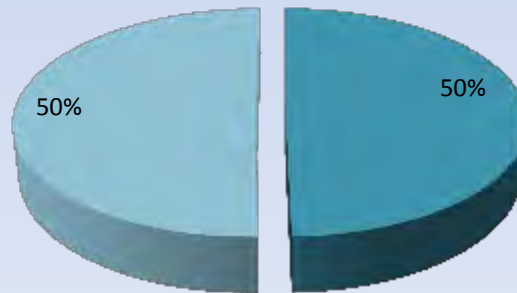
## National Urban

- Have accesss to latrine facilities
- Do not Have accesss to latrine facilities



## National Urnan and Rural

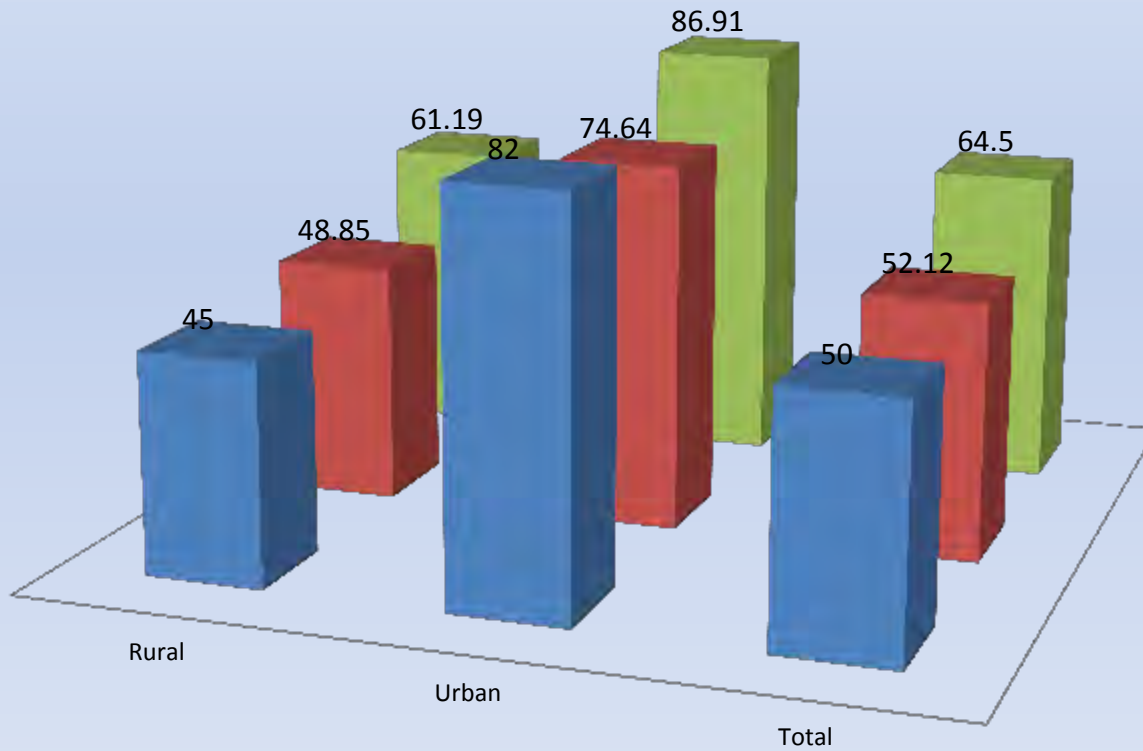
- Have accesss to latrine facilities
- Do not Have accesss to latrine facilities





# Comparison of findings

- Access to drinking water ( Based on House hold inventory)
- Access ( Based on scheme inventory)
- Usage( Based on scheme inventory)





## REGIONAL LEVEL WATER SUPPLY –Rural

National WaSH Program

<i>No</i>	<i>Region</i>	<i>Access (With in 1.5 Km)</i>	<i>Usage</i>
<b>1</b>	<b>Tigray</b>	<b>52.74</b>	<b>69.21</b>
<b>2</b>	<b>Afar</b>	<b>34.79</b>	<b>71.59</b>
<b>3</b>	<b>Amhara</b>	<b>51.58</b>	<b>62.83</b>
<b>4</b>	<b>Oromiya</b>	<b>49.76</b>	<b>61.61</b>
<b>5</b>	<b>Benishangul</b>	<b>59.68</b>	<b>64.87</b>
<b>6</b>	<b>SNNP</b>	<b>42.02</b>	<b>55.50</b>
<b>7</b>	<b>Gambela</b>	<b>64.73</b>	<b>76.55</b>
<b>8</b>	<b>Harar</b>	<b>65.11</b>	<b>68.63</b>
<b>10</b>	<b>Diredawa</b>	<b>75.63</b>	<b>94.43</b>





# Functionality status of Rural Water Supply Schemes

National WaSH Program





## REGIONAL LEVEL WATER SUPPLY – Urban

<i>No</i>	<i>Region</i>	<i>Access</i> <i>(Dom. Consum. 20l/c/d)</i>	<i>Usage</i> <i>(Served Pop.)</i>
<b>1</b>	<b>Tigray</b>	<b>68.44</b>	<b>73.78</b>
<b>2</b>	<b>Afar</b>	<b>82.14</b>	<b>85.38</b>
<b>3</b>	<b>Amhara</b>	<b>65.43</b>	<b>93.28</b>
<b>4</b>	<b>Oromiya</b>	<b>75.38</b>	<b>71.84</b>
<b>5</b>	<b>Benishangul</b>	<b>46.24</b>	<b>78.45</b>
<b>6</b>	<b>SNNP</b>	<b>65.11</b>	<b>84.08</b>
<b>7</b>	<b>Gambela</b>	<b>80.23</b>	<b>83.15</b>
<b>8</b>	<b>Harar</b>	<b>99.99</b>	<b>100.00</b>
<b>9</b>	<b>Addis Ababa</b>	<b>82.22</b>	<b>94.10</b>
<b>10</b>	<b>Diredawa</b>	<b>87.57</b>	<b>90.00</b>



## Drinking Water access in the house hold

<b>No</b>	<b>Region</b>	<b>Rural</b>	<b>Urban</b>	<b>Total</b>
<b>1</b>	<b>Tigray</b>	<b>53.93</b>	<b>71.71</b>	<b>57.84</b>
<b>2</b>	<b>Afar</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>3</b>	<b>Amhara</b>	<b>46.04</b>	<b>74.25</b>	<b>47.53</b>
<b>4</b>	<b>Oromiya</b>	<b>41.64</b>	<b>71.6</b>	<b>45.11</b>
<b>5</b>	<b>Benishangul</b>	<b>37.3</b>	<b>16.29</b>	<b>36.78</b>
<b>6</b>	<b>SNNP</b>	<b>52.26</b>	<b>89.31</b>	<b>54.1</b>
<b>7</b>	<b>Gambela</b>	<b>44.66</b>	<b>79.69</b>	<b>46.44</b>
<b>8</b>	<b>Harar</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>9</b>	<b>Addis Ababa</b>	<b>-</b>	<b>96.16</b>	<b>96.16</b>
<b>10</b>	<b>Diredawa</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>National ( only for available data)</b>	<b>44.69</b>	<b>82.48</b>	<b>49.62</b>



## Access to Latrine facility of house hold

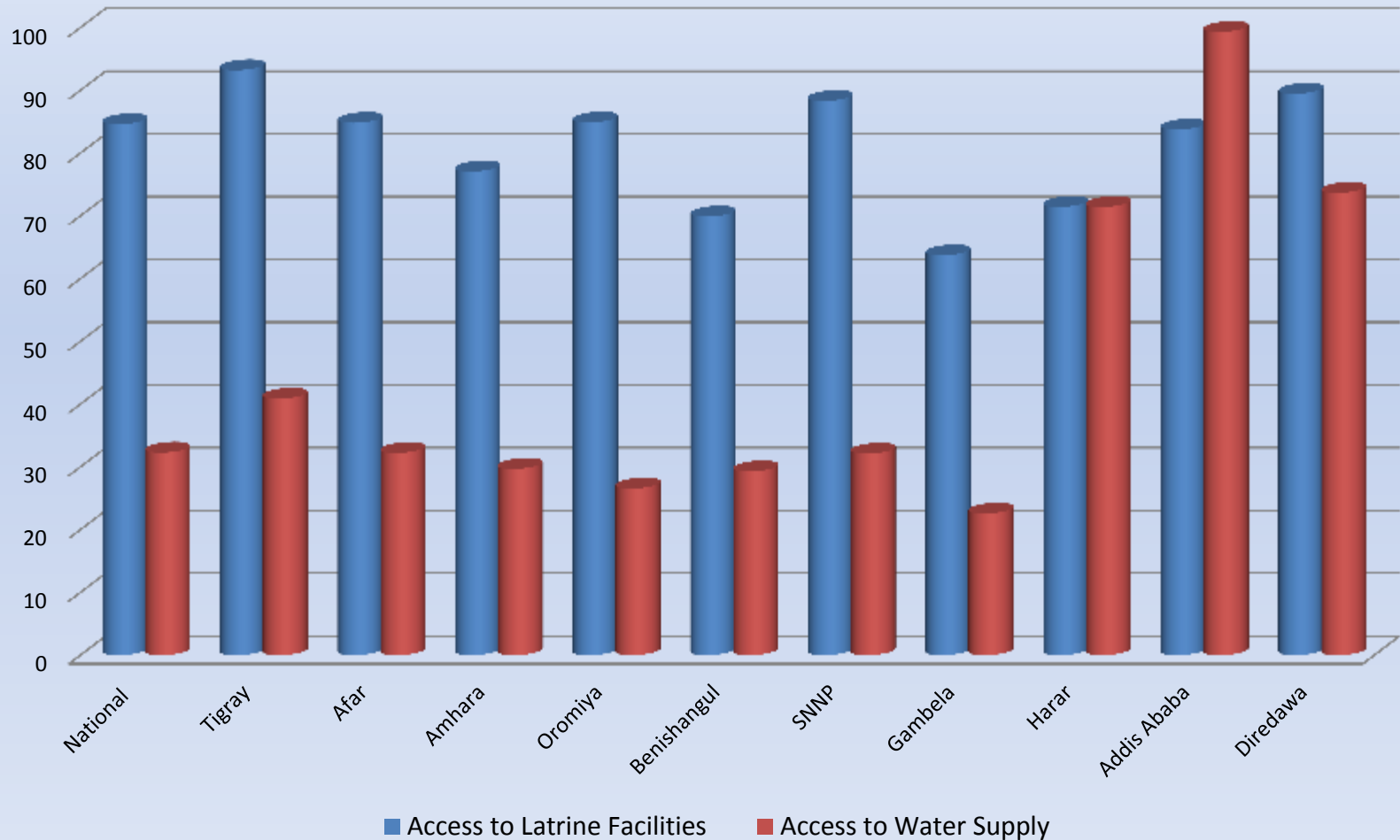
<i>No</i>	<i>Region</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>
<b>1</b>	<b>Tigray</b>	<b>54.17</b>	<b>80.77</b>	<b>59.94</b>
<b>2</b>	<b>Afar</b>	<b>51.17</b>	<b>-</b>	<b>51.17</b>
<b>3</b>	<b>Amhara</b>	<b>63.11</b>	<b>78.11</b>	<b>63.71</b>
<b>4</b>	<b>Oromiya</b>	<b>48.47</b>	<b>70.10</b>	<b>50.19</b>
<b>5</b>	<b>Benishangul</b>	<b>57.13</b>	<b>98.1</b>	<b>58.31</b>
<b>6</b>	<b>SNNP</b>	<b>74.25</b>	<b>94.50</b>	<b>75.04</b>
<b>7</b>	<b>Gambela</b>	<b>29.21</b>	<b>73.09</b>	<b>35.87</b>
<b>8</b>	<b>Harar</b>	<b>56.21</b>	<b>53.50</b>	<b>54.17</b>
<b>9</b>	<b>Addis Ababa</b>	<b>-</b>	<b>92.27</b>	<b>92.27</b>
<b>10</b>	<b>Diredawa</b>	<b>53.68</b>	<b>100</b>	<b>84.67</b>



# HEALTH INSTITUTIONS WASH

National WaSH Program

Chart Title

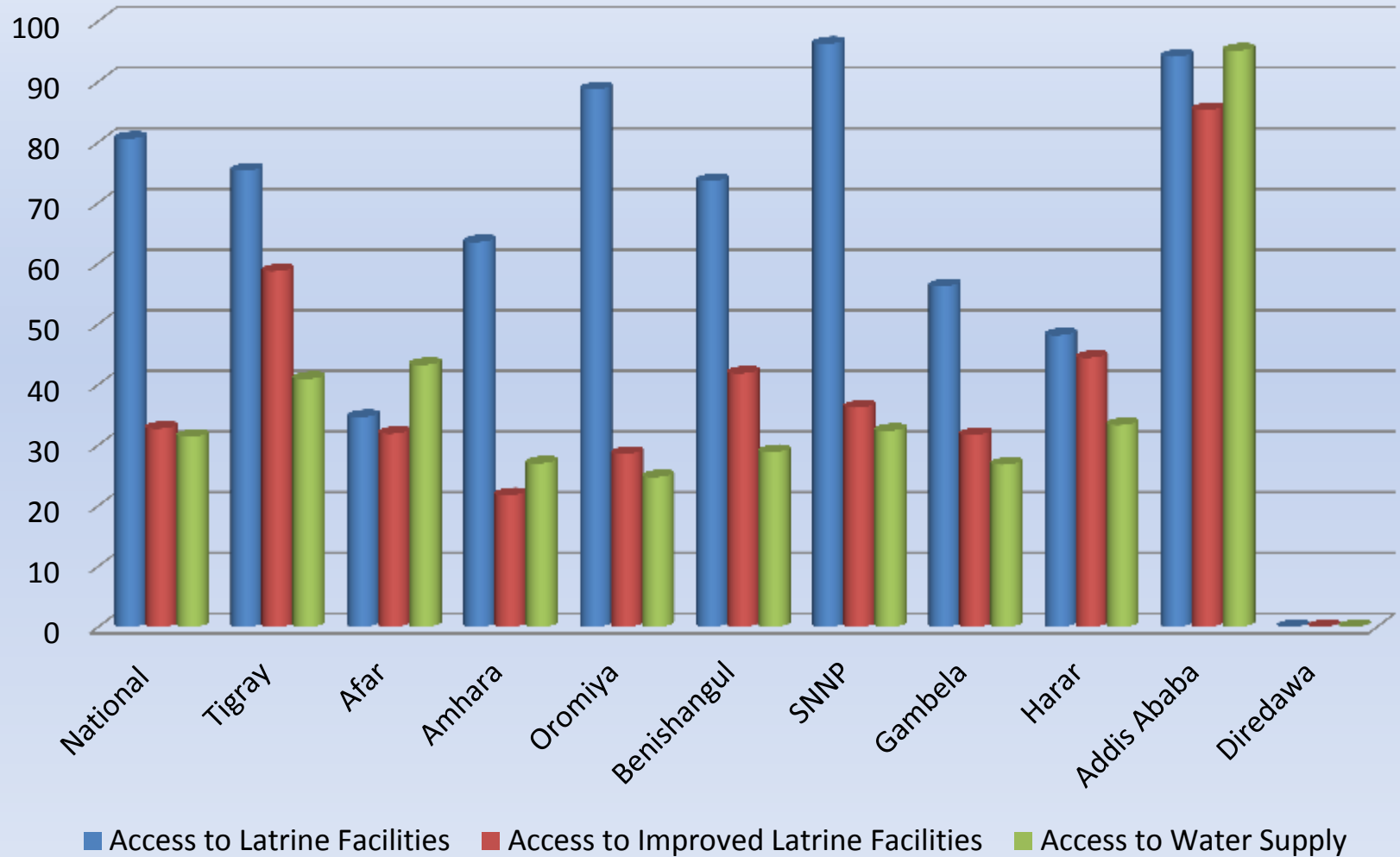




# SCHOOL WASH

National WaSH Program

Chart Title



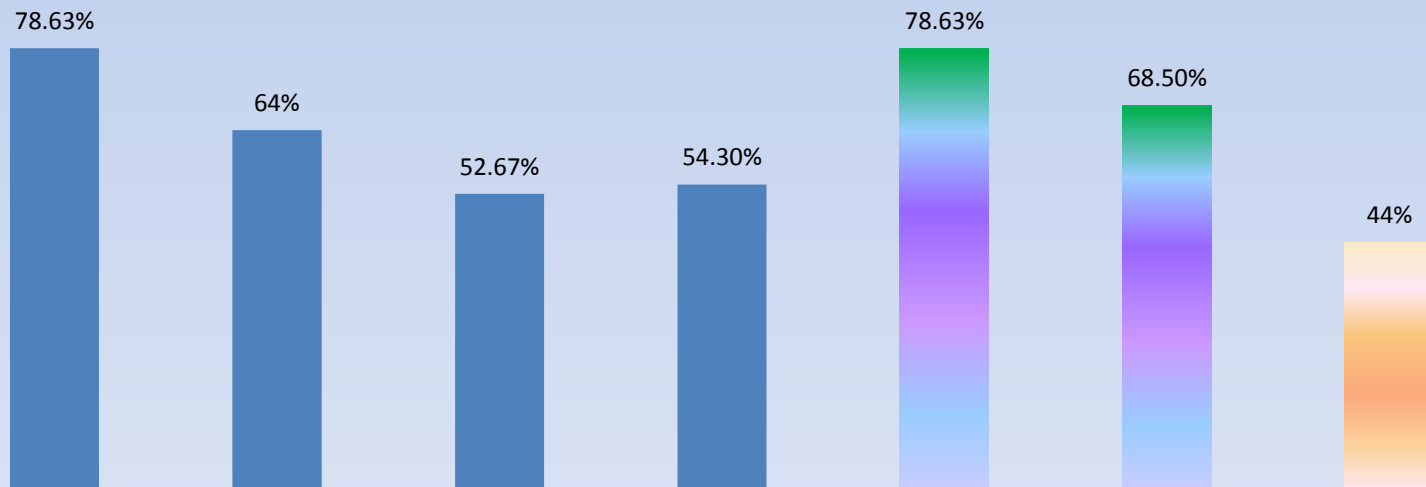


# Different reports, different figures

National WaSH Program

## Access in different report

- 2004EFY Report of Water Supply and Sanitation Directorate under the MOWE
- Region report for 2012
- The welfare monitoring Survey Report of Central statistical agency for 2011
- The draft report of 2003 EFY NWI
- GTP Target for 2012
- GTP base for 2010
- JMP 2010





## VI. Problems/ issues

- **Data Collection:**
  - The **number of forms** produced.; Regions had a shortfall of forms, especially forms 4 & 5
  - The **nature of the forms**. it would be better if forms 4 and 5 were consolidated into a single form to avoid repetition of Household names etc at both the data collection and data entry phases.
  - **Missing GPS data:** There were problems with recording the GPS coordinates of schemes. there was some confusion in using the UTM reading styles and additional GPS training was given. Roughly 33% of schemes do not have GPS coordinates and about 15% of schools and health centres are also missing this data. The reasons for this were
    - A lack of training and experience in using the GPS equipment and





## Con...

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- **Other missing data.:** yield, functionality status, the number of households within 1.5km of the water source, health type, latrine type, and water supply type, some schools don't have information on the number of students in the school.
- **Timing** of the NWI. The fact the NWI was carried out in the rainy season and this caused challenges for the enumerators. This meant that often in the day the farmer was on their farm land and the enumerator had to find the farmers on their land.
- **Other logistical challenges.** there were initial worries about a lack of vehicles for data collection but NGOs contributed to providing vehicles. Also there were delays in the sending of budget to some regions.



## Con...

- **Data Entry:**
  - **Delays in starting data entry:** Although data entry started in September there have been delays due to the lengthy procurement process of computers and network installation.
  - **Duplication** of kebeles unique identifiers: In Oromia there were problems initially with the data entry software allowing Kebeles with similar names to be entered under the same unique identifier. This was solved by putting all 7276 kebeles into a single main table and giving each the unique identifier that CSA has for them.
  - **The time consuming business of forms 4 & 5:** The biggest obstacle to successful data entry is the sheer number of forms to be entered. In Oromia alone there are 5.2 million Households to be entered



## VII. Next Steps

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- **Reviewing completeness:**, if the NWI is to be truly national the Somali region inventory must be undertaken.
- **Data Cleaning by Regions:** Data should be sent to the Central Statistical Authority (CSA) for verification.
- **Verification:** NWI data needs to be assessed in terms of quality and completeness. means that the NWI data will be verified *by the Central Statistical Agency*.
  - The CSA has a Data Quality Directorate, which is mandated with certifying the quality of any data that is to be published as a National Statistic.
  - Data quality can only be measured by doing field based sample verification



## Con...

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- **Household Data:** The time consuming business of forms 4 & 5', entering forms 4 & 5 which represent household level data is taking a long time unless a substantial amount more money is invested in the data entry process.
  - So that we recommend entering only kebele-level summaries.
  - CSA is expecting household level data and although Kebele summaries will not be as accurate as household level data the accuracy of the kebeles summaries can be checked with sampling.



Con...

- **Data Analysis:**

- Now the data has been entered and preliminary analysis done by the MoWE using MIS software.
- Although final analysis must use verified data from CSA, the NWIPO will use the preliminary data at the moment.
- At a later stage, analysis training will be rolled out to regions to allow them to produce Woreda Report Cards.



## Con...

- **Reporting/Statistical abstracts**
  - After analysis reports and statistical abstracts will be produced for the national and regional level.
  - These statistical abstracts will have disaggregated data which will be used by regions and at the national level.
  - Reporting will be according to the 15 key performance indicators for the WASH sector.
  - After analysis reports and statistical abstracts have been produced there has to be:
    - A concept note must be developed for final NWI publication
    - Data access by different levels and third parties must be immediately clarified



# Con...

- **Sustainability**

- The NWI establishes base line data for the WASH sector, but this must be regularly updated. The things that need to be done to ensure this happens:
  - All sector stakeholders should come together to discuss both their data needs as well as available resources for updating.
  - A second aspect is putting the collected data into active use. This will require training (on evidence based planning etc) to be rolled out to the woreda level at least.

THANK YOU

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