# National WASH Inventory (NWI) seminar: Lessons learned and maximising value



Progress on Drinking Water and Sanitation 2012 UPDATE

unicef | World Health Organization

**National statistics and global monitoring:**

**Working towards mutual reinforcement**

Didier ALLELY
Water, Sanitation, Hygiene & Health
World Health Organization

**Presentation outline**

- The JMP: Role and functions

- Access estimates: potential reasons for discrepancy

- JMP estimates for Ethiopia and comparison with NWI

- Future developments and mutual reinforcement

# Global monitoring and the Joint Monitoring Programme

## The WHO / UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)

- A joint programme between WHO and UNICEF
- Established in 1990 to monitor progress and trends of access to drinking-water and sanitation
- **Official UN mechanism to monitor MDG Target 7c:**

### MDG 7 Target 7c

**"Halve, by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation"**
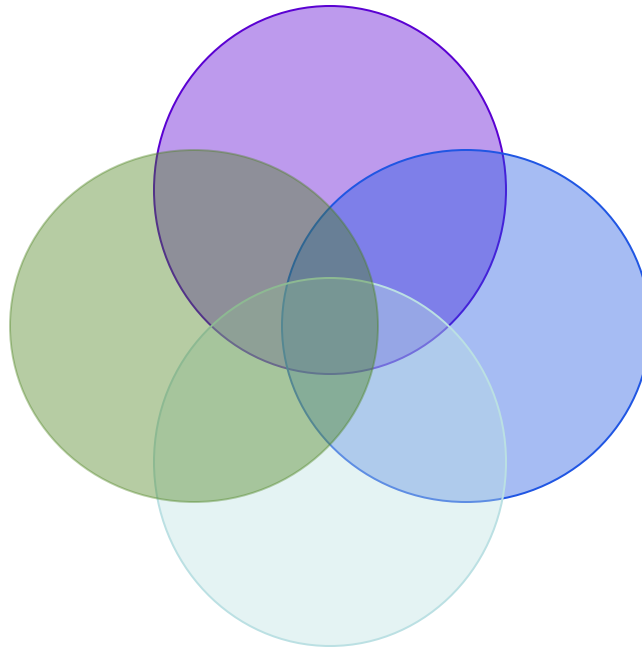
# JMP Strategic priorities



Maintaining JMP data
*(data compilation and analysis)*

Country Outreach
*(Workshops,
data reconciliation,
training material etc.)*

Disseminating JMP
data and estimates
*(Reports, snapshots
website)*

Fulfilling JMP's normative role
*(indicator development etc.)*

# JMP definitions : Monitoring access

**MDG 7 Target 7c** **calls to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation**

**Two Indicators:**

**7.7      Proportion of population using an improved water source, _urban and rural_**

**7.8      Proportion of population using an improved sanitation facility, _urban and rural_**

# JMP definitions: "Improved" means…

An **improved drinking water source** is:

"*a source that by the nature of its construction adequately protects the source from outside contamination in particular with fecal matter*"

An **improved sanitation facility**:

" *a facility that hygienically separates human waste from human contact*"

# JMP Categorization of Improved / Unimproved

| Drinking water | | Sanitation |
|---|---|---|
| **Use of the following sources of water**<br>o Piped water into dwelling<br>o Piped water into plot/yard<br>o Public tap or standpipe<br>o Tube well or borehole<br>o Protected dug well<br>o Protected spring<br>o Rainwater | **Improved** | **Use of the following sanitation facilities**<br>o Flush / pour flush to<br>   - Piped sewer system<br>   - Septic tank<br>   - Pit latrine<br>o Ventilated improved pit latrine (VIP)<br>o Pit latrine with slab<br>o Composting toilet |
| **Use of the following sources of water**<br>o Unprotected spring<br>o Unprotected dug well<br>o Cart with small tank/drum<br>o Tanker truck<br>o Surface water<br>o Bottled water | **Unimproved** | **Use of the following sanitation facilities**<br>o Flush/pour flush to elsewhere<br>o Pit latrine without slab<br>o Bucket<br>o Hanging toilet or hanging latrine<br>o No facilities, bush or field<br>o Shared facilities<br>**Use of shared facilities of any type**<br>**No facilities, bush or field (open defecation)** |

# JMP Data Sources

**JMP estimates are based on :**

- **National censuses and nationally-representative surveys:**

    DHS  Demographic and Health Survey

    MICS  Multiple Indicator Cluster Survey

    LSMS  Living Standard Measurement Study

    CWIQ  Core Welfare Indicator Questionnaire
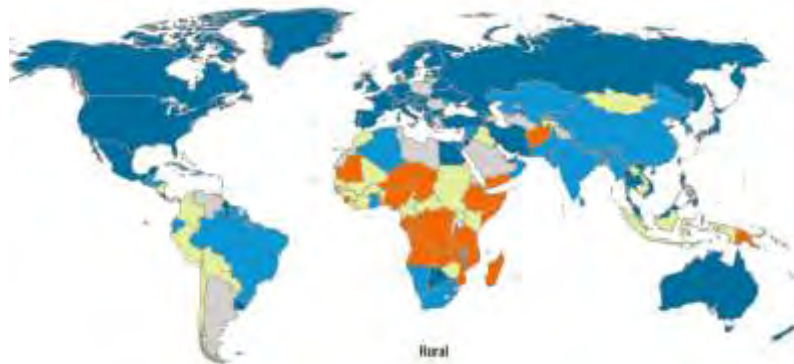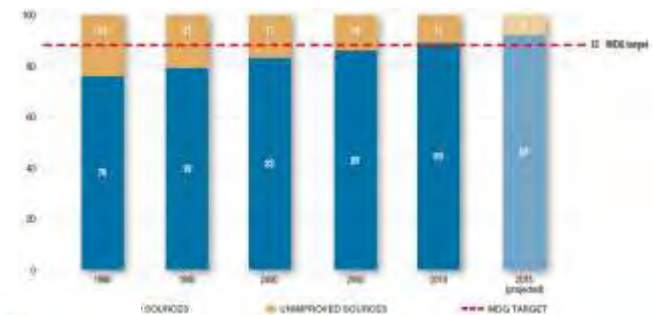
    WHS  World Health survey

    HBS  Household Budget Survey
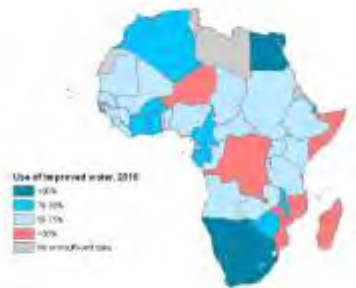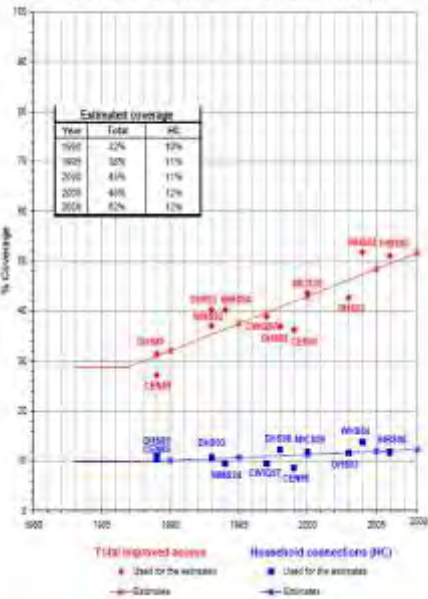
    … and other user-based household surveys

- **Surveys are conducted by National Agencies: National Statistic Offices, Ministries of Health...**

# JMP produces comparable estimates : national, regional, global (urban, rural, total)



**JMP applies harmonized approach between countries and overtime**

**but differences with country estimates and differences within countries**

## Why different estimates ?

# Major reasons for discrepancies

**Between national and global and
between national institutions (Sector and Statistics)**

➢ **Different data providers and sources of data**

➢ **Different definitions of access**

➢ **Different additional criteria to qualify access**

➢ **Difficulty to update the data**

➢ **Different classifications for Improved/Unimproved**

➢ **Different categories / denominations used**

➢ **Different definitions of urban/rural**

➢ **Different methods of calculation**

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# Different sources of data – measuring use or provision
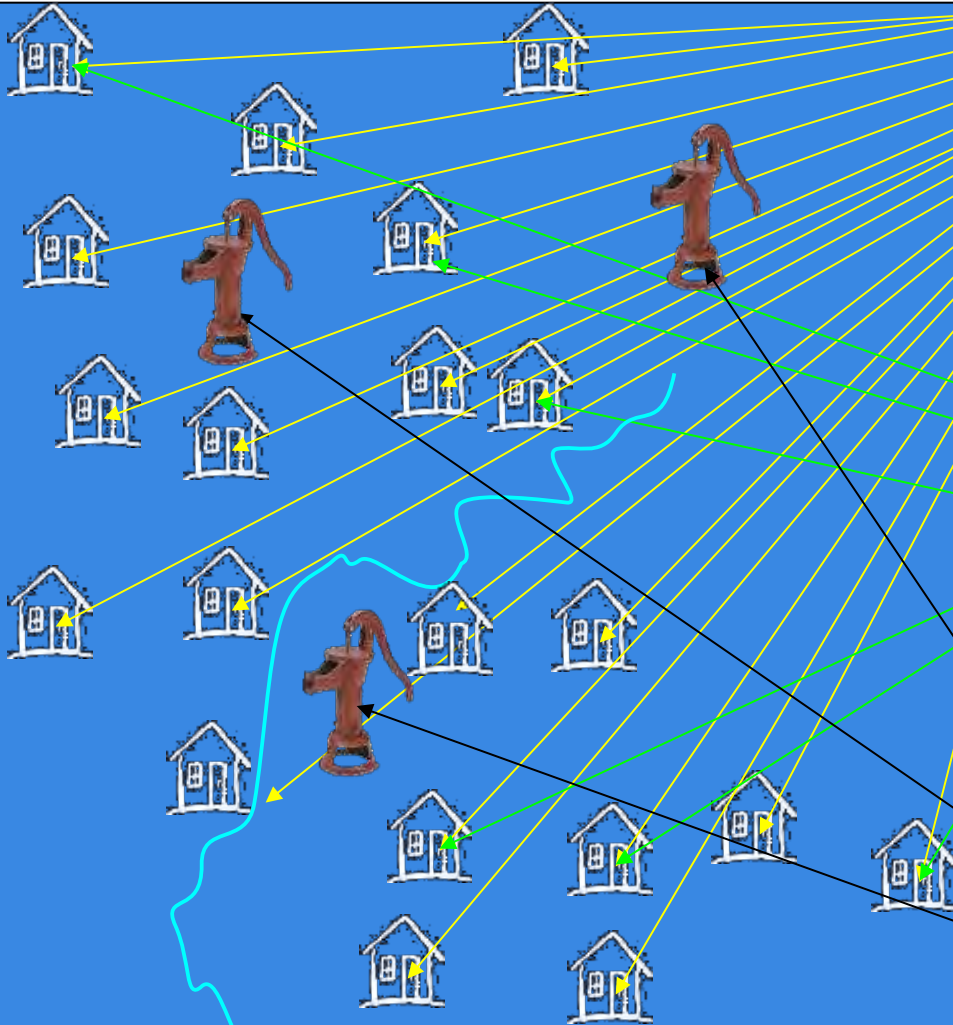
**Census** (NSO)

Measures **use** of infrastructure
(all households)

**Survey** (NSO)

Measures **use** of infrastructure
(Sample of household)

**Inventory** (Sector)

Measures infrastructure
and service **provision**

# Differences between provision and use



Functionality, new equipment: difficult to update

Effective use : difficult to estimate

and impact on ratio of number of people covered / infrastructure
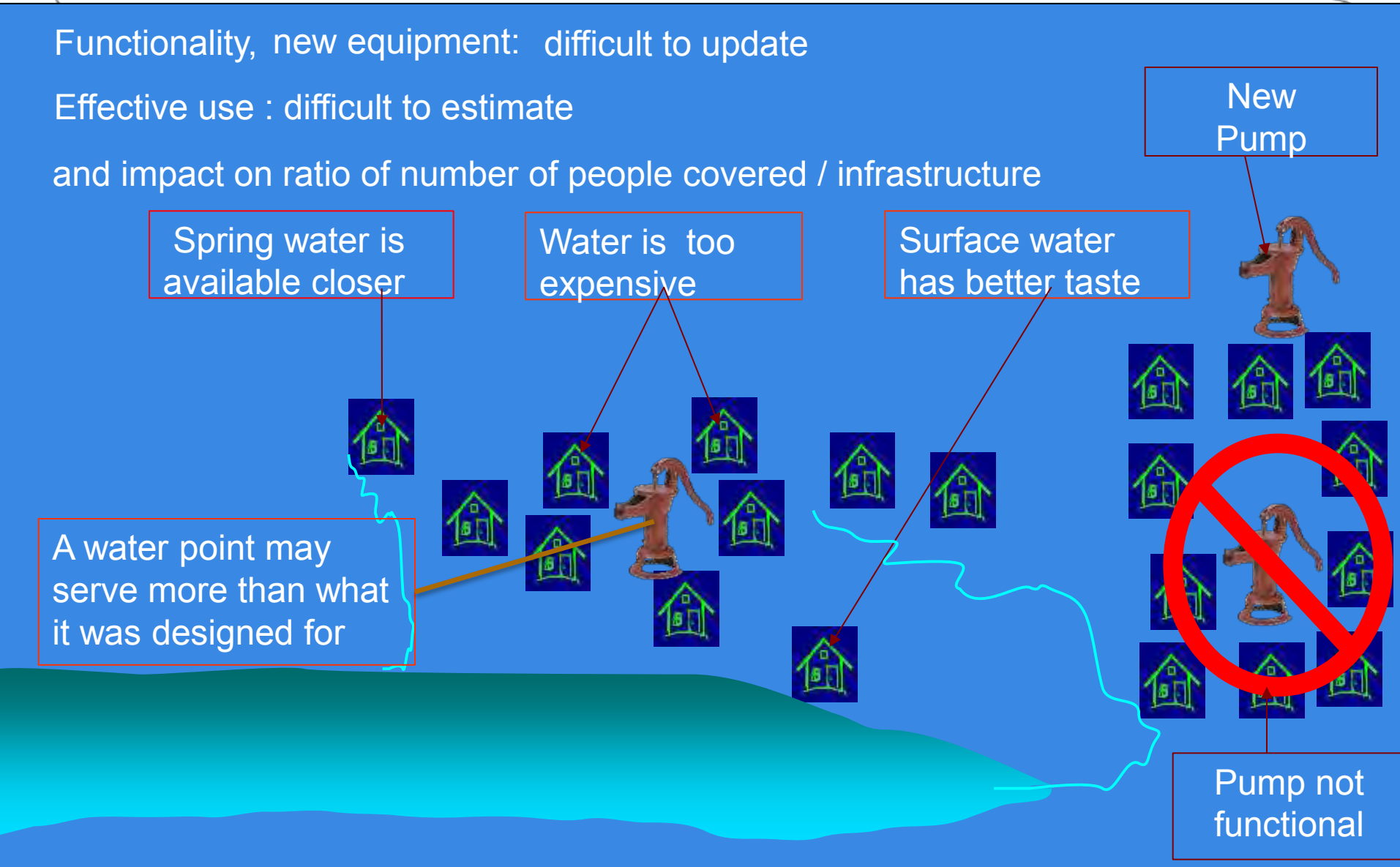
New Pump

Spring water is available closer

Water is too expensive

Surface water has better taste

A water point may serve more than what it was designed for

Pump not functional

# Different definitions – national /global and within country

**WHO/UNICEF Joint Monitoring Programme :**

Proportion of population <span style="color:red">using</span> an improved water source
_urban and rural_

**Ministry of Water and Energy of Ethiopia :**

**Access** (provision)

**Rural**

Proportion of rural population that is provided access to 15 l/c/d water within 1.5 km of the water supply point

**Urban**

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

**Usage**

**Rural**

Proportion of rural population that is using water from water point irrespective of quantities used and distance

**Urban**

Proportion of population served by the water supply utilities

# Different categories of infrastructures used in inventory and surveys (Water)

| | Provision | | Use | |
|---|---|---|---|---|
| | **NWI Scheme Inventory** | **NWI Scheme Inventory** | **Households** | **DHS 2011** |
| | **Rural & small towns** | **urban** | **Urban and rural** | **Urban/rural** |
| **Improved** | Deep well with distribution | Tap inside the house | Tap inside the house | Piped into dwelling |
| | Spring with distribution | Tap in compound Private | Tap in compound Private | Piped to yard/plot |
| | | Tap in compound shared | Tap in compound shared | |
| | | Tap outside compound private | Tap outside compound private | |
| | | Public tap / Fountain | Tap outside compound shared/public | Public tap / standpipe |
| | | | | Tubewell/borehole (with handpump) |
| | Shallow well | | Protected community well or spring | Protected well |
| | Hand dug well normal pump | | | |
| | Hand dug well rope pump | | | |
| | Protected on spot spring | | Protected community well or spring | Protected spring |
| | | | | Rain water |
| | Other protected | | | Bottle water with other improved source |
| **Unimproved** | Not measured | Not measured | Unprotected well / spring | Unprotected well |
| | | | | Unprotected spring |
| | | | Unprotected surface water | River/dam/lake/ponds/stream… |
| | | | Self-supply in or near compound | Bottle water with unproved source |
| | | | Neighbor's self-supply | Cart with small tank |
| | | | | Tanker truck |
| | | | | Other |

# Different categories of infrastructures used in inventory and surveys (Sanitation)

| Use | Use |
|---|---|
| **Households**<br>**Urban and rural**<br>**(improved /unimproved)** | **DHS 2011**<br>**Urban/rural**<br>**(Improved / unimproved)** |
| Flush toilet Private | Flush to piped sewer system |
| Flush toilet shared (?) | Flush to septic tank |
| | Flush to pit latrine |
| | Flush to somewhere else |
| | Flush, don't know where |
| Pit /VIP Private | Ventilated Improved Pit latrine (VIP) |
| Pit / VIP shared (?) | Pit latrine with slab |
| | Composting toilet |
| Unimproved /traditional latrine private | Pit latrine without slab/open pit |
| Unimproved /traditional latrine shared | Hanging toilet/hanging latrine |
| | Bucket toilet |
| No toilet facility | No facility/bush/field |
| | Other |
| | |

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# Different additional criteria to qualify access between institutions

## Drinking-water

| Criteria from national policy | Measured in NWI Scheme inventory | Measured by CSA (DHS) | JMP |
|---|---|---|---|
| Distance to source | Water point within 1.5 km | Time to source (DHS) | Time to source less than 30' but not yet a criteria for access (Post-2015) |
| Quantity | Quantity of water available: Rural: 15 l/c/d Urban: 20 l/c/d | Rarely informed | Not measured |

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# JMP estimates for Ethiopia :
## Sources of data

**2013 : 10 datasets**

- Census 1994
- Welfare and monitoring Survey 1997
- Welfare and monitoring Survey 1998
- Demographic and Health Survey 2000
- Welfare and monitoring Survey 2000
- World Health Survey 2003
- Welfare Monitoring Survey 2004
- Demographic and Health Survey 2005
- Census 2007
- Demographic and Health Survey 2011

# JMP estimates for Ethiopia (2013)
## Water : Rural estimates
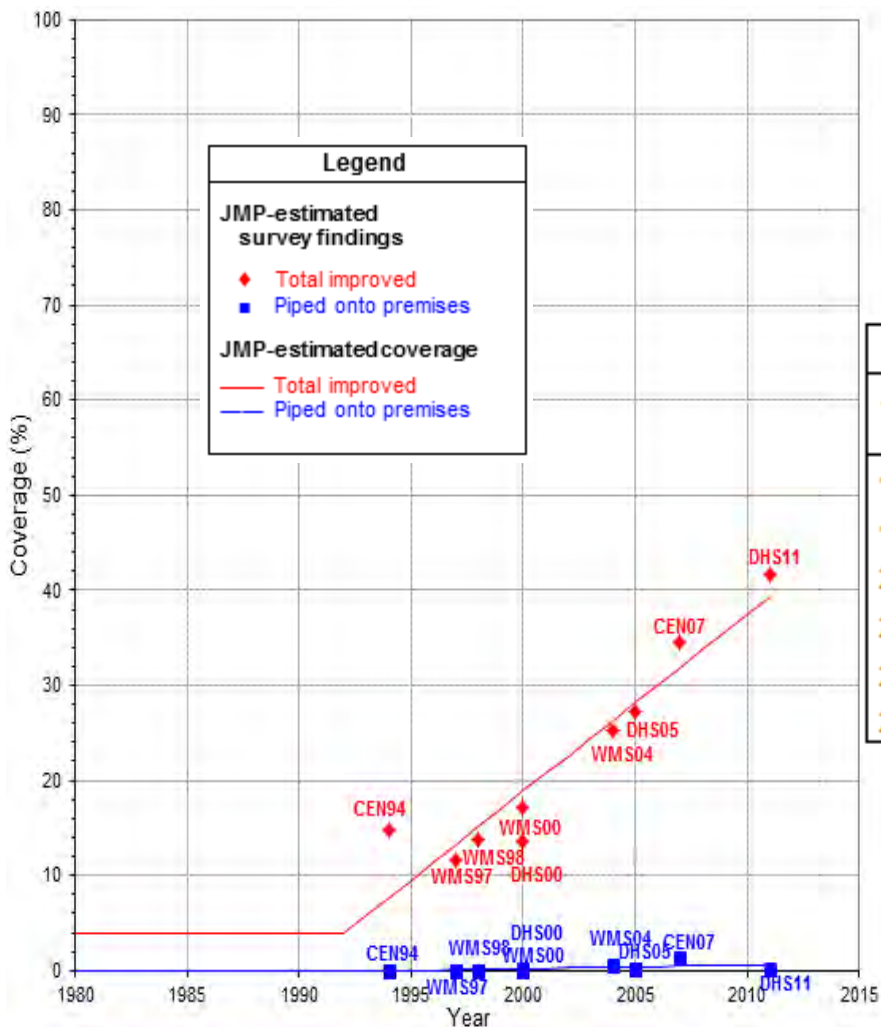


**Proportion of population using an improved drinking-water source**

| Estimated coverage   2013 update | | | | | |
|------|-------------------|----------------------|-------------------|---------------------|------------------|
| Year | Total improved | Piped onto premises | Other improved | Other unimproved | Surface water |
| 1990 | 4% | 0% | 4% | 40% | 56% |
| 1995 | 10% | 0% | 10% | 40% | 50% |
| 2000 | 19% | 0% | 19% | 40% | 41% |
| 2005 | 28% | 0% | 28% | 41% | 31% |
| 2010 | 37% | 1% | 36% | 41% | 22% |
| 2011 | 39% | 1% | 38% | 41% | 20% |

Source: WHO/UNICEF JMP, 2013

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WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation

# JMP estimates for Ethiopia (2013)
## Water : Rural estimates

| JMP | | | NWI 2010/2011 | | |
|---|---|---|---|---|---|
| **Ethiopia Trends of drinking water access RURAL** | **2011** | | Household survey | Scheme inventory (with quantity & distance criteria) | Scheme inventory (All schemes) |
| Piped onto premises | 1 | | | | |
| Other improved source | 38 | | | | |
| **TOTAL IMPROVED** | | **39** | **45** | **49** | **61** |
| Other unimproved | 41 | | | | |
| Surface water | 20 | | | | |
| **TOTAL UNIMPROVED** | | **61** | | | |

Close estimates between JMP and NWI (household survey and scheme inventory)

N.B. Latest DHS estimates are 42%

# JMP estimates for Ethiopia (2013)
## Water : Urban estimates
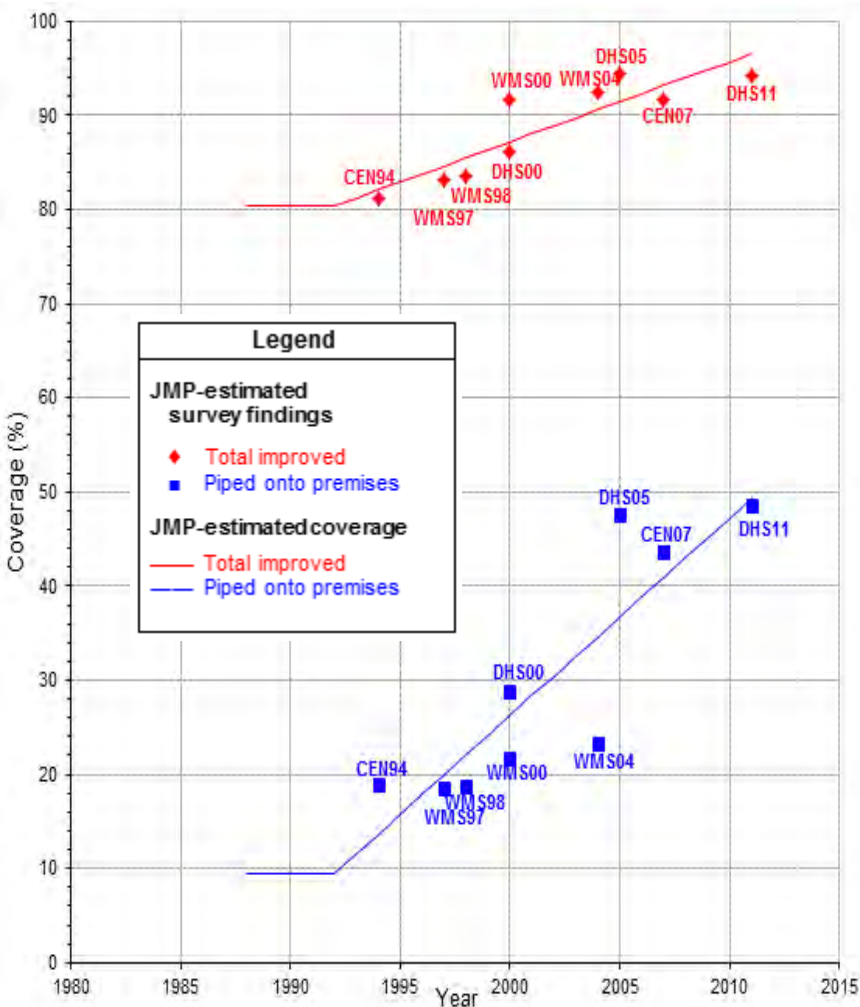


**Proportion of population using an improved drinking-water source**

| Estimated coverage   2013 update | | | | | |
|---|---|---|---|---|---|
| Year | Total improved | Piped onto premises | Other improved | Other unimproved | Surface water |
| 1990 | 80% | 9% | 71% | 10% | 10% |
| 1995 | 83% | 16% | 67% | 9% | 8% |
| 2000 | 87% | 26% | 61% | 7% | 6% |
| 2005 | 91% | 37% | 54% | 6% | 3% |
| 2010 | 96% | 47% | 49% | 4% | 0% |
| 2011 | 97% | 49% | 48% | 3% | 0% |

Source: WHO/UNICEF JMP, 2013

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# JMP estimates for Ethiopia
## Water : Urban estimates

| JMP | | | NWI 2010/2011 | | |
|---|---|---|---|---|---|
| **Ethiopia Trends of drinking water access URBAN** | **2011** | | Household survey | Scheme inventory (with quantity & distance criteria) | Scheme inventory (All schemes) |
| Piped onto premises | 49 | | | | |
| Other improved source | 48 | | | | |
| **TOTAL IMPROVED** | | **97** | **82** | **75** | **87** |
| Other unimproved | 3 | | | | |
| Surface water | 0 | | | | |
| **TOTAL UNIMPROVED** | | **3** | | | |

Differences between JMP and NWI. Origin of discrepancy could be attributed to the following (to be explored):
- Tubewells, protected wells and springs not considered improved in some urban settings (large cities). DHS estimated use of these 3 categories at 8%.
- Number of people using schemes might be greater than expected.

# JMP estimates for Ethiopia
## Water : Total estimates

**Total drinking water trends**
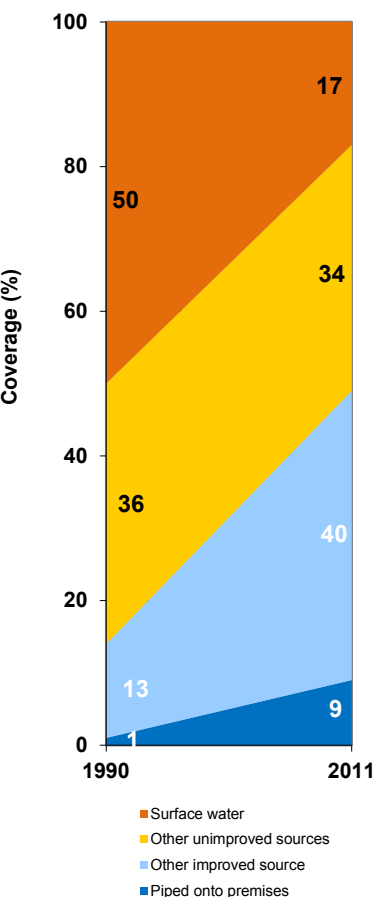


## Proportion of population using an improved drinking-water source

| JMP | | | | |
|---|---|---|---|---|
| **Ethiopia**<br>**Trends of drinking water access**<br>**TOTAL** | **1990** | | **2011** | |
| Piped onto premises | 1 | | 9 | |
| Other improved source | 13 | | 40 | |
| **TOTAL IMPROVED** | | **14** | | **49** |
| Other unimproved | 36 | | 34 | |
| Surface water | 50 | | 17 | |
| **TOTAL UNIMPROVED** | | **86** | | **51** |

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# JMP estimates for Ethiopia
## Water : Total estimates

**Total drinking water trends**
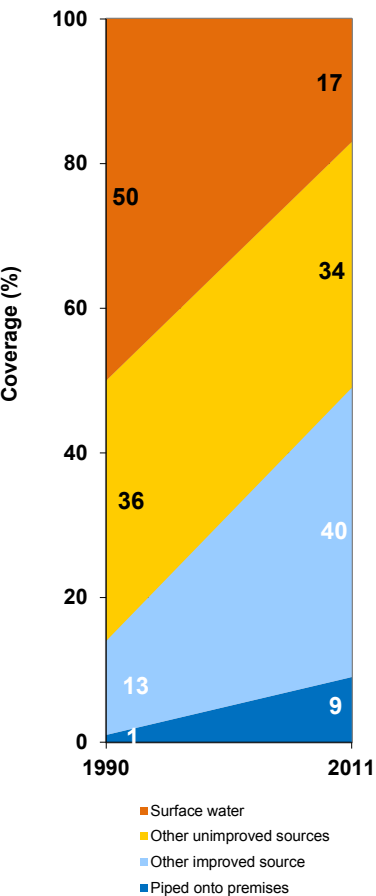


| JMP | | |
|---|---|---|
| **Ethiopia Trends of drinking water access TOTAL** | **2011** | |
| Piped onto premises | 9 | |
| Other improved source | 40 | |
| **TOTAL IMPROVED** | | **49** |
| Other unimproved | 34 | |
| Surface water | 17 | |
| **TOTAL UNIMPROVED** | | **51** |

| NWI 2010/2011 | | |
|---|---|---|
| Household survey | Scheme inventory excluding quantity & distance | Scheme inventory (no additional criteria) |
| 50 | 52 | 65 |

Similar estimates between JMP and NWI (household survey and scheme inventory)

# JMP estimates for Ethiopia :
## Sanitation : Rural estimates
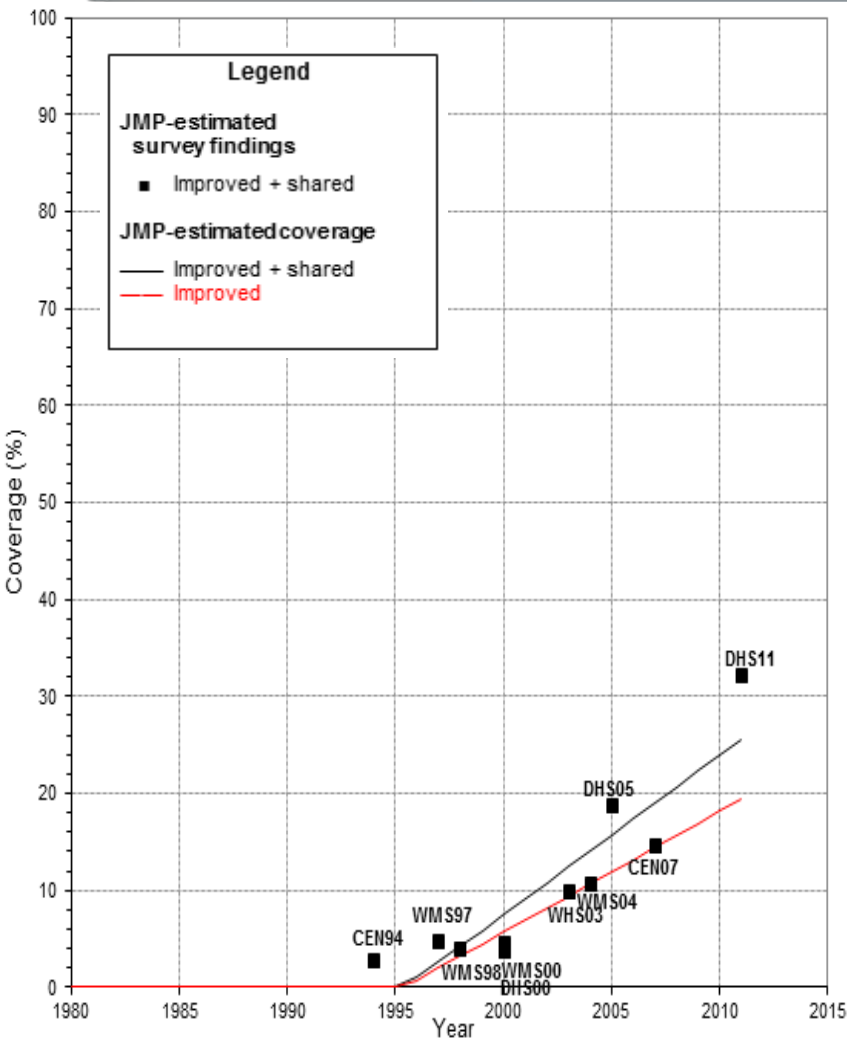


**Proportion of population using an improved sanitation facility**

| Estimated coverage 2013 update | | | | |
|---|---|---|---|---|
| Year | Improved | Shared | Other unimproved | Open defecation |
| 1990 | 0% | 0% | 0% | 100% |
| 1995 | 0% | 0% | 0% | 100% |
| 2000 | 6% | 2% | 7% | 85% |
| 2005 | 12% | 4% | 14% | 70% |
| 2010 | 18% | 6% | 21% | 55% |
| 2011 | 19% | 6% | 22% | 53% |

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# JMP estimates for Ethiopia :
## Sanitation : Rural estimates

| JMP | | | NWI 2010/2011 |
|---|---|---|---|
| **Ethiopia Trends of sanitation access RURAL** | **1990** | **2011** | Household survey Population having access to latrine facilities |
| Improved facilities | 0 | 19 | |
| Shared facilities | 0 | 6 | 45 |
| Other unimproved | 0 | 22 | |
| Open defecation | 100 | 53 | 55 |

Important differences between JMP and NWI but origin of discrepancy is linked to classification of improved/unimproved:

• Shared facilities are considered improved in Ethiopia.

• The definition of pit latrine with slab is currently stricter by Ethiopian standards. However, the proportion of population without facilities is relatively similar between JMP and NWI.

Comparison requires more analysis and harmonization/alignment/correspondence needs to be established between the different institutions.

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# JMP estimates for Ethiopia :
## Sanitation : Urban estimates
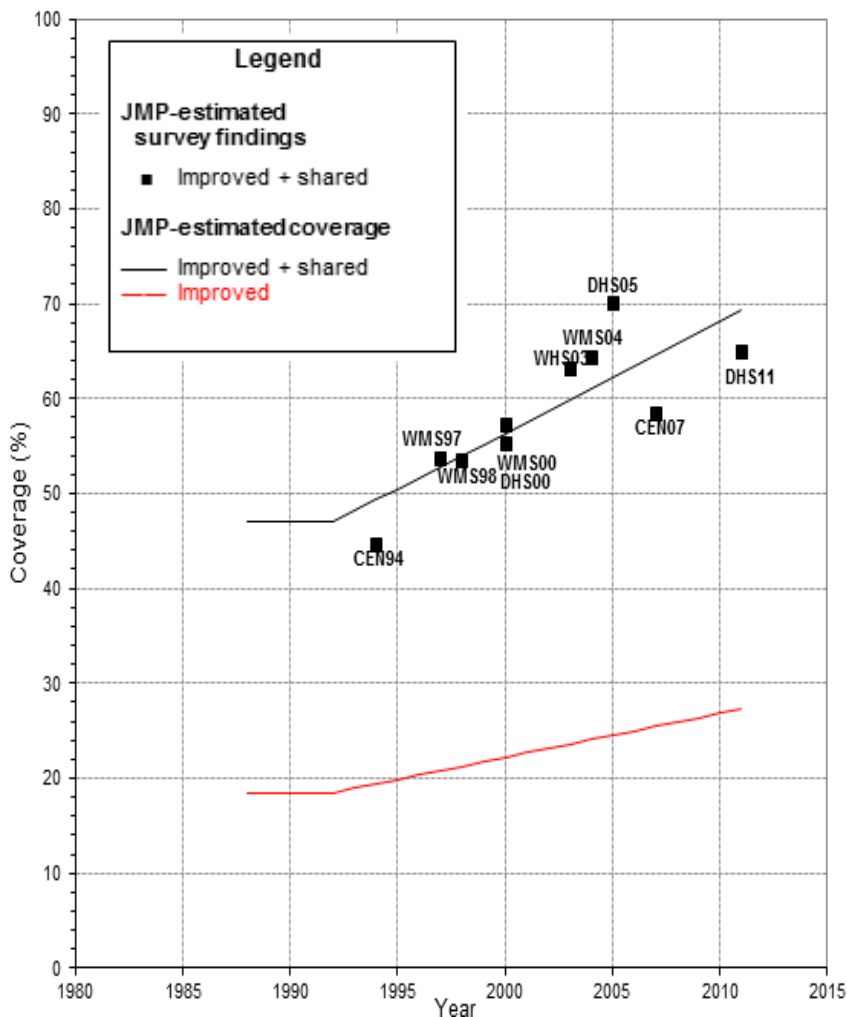


**Proportion of population using an improved sanitation facility**

| Estimated coverage | | 2013 update | | |
|---|---|---|---|---|
| Year | Improved | Shared | Other unimproved | Open defecation |
| 1990 | 19% | 28% | 12% | 41% |
| 1995 | 20% | 31% | 13% | 36% |
| 2000 | 22% | 34% | 17% | 27% |
| 2005 | 25% | 38% | 18% | 19% |
| 2010 | 27% | 41% | 22% | 10% |
| 2011 | 27% | 42% | 23% | 8% |

# JMP estimates for Ethiopia :
## Sanitation : Urban estimates

| JMP | | | NWI 2010/2011 |
|---|---|---|---|
| **Ethiopia**<br>**Trends of sanitation access**<br>**URBAIN** | **1990** | **2011** | Household survey Population having access to latrine facilities |
| Improved facilities | 19 | 27 | |
| Shared facilities | 28 | 42 | 82 |
| Other unimproved | 12 | 23 | |
| Open defecation | 41 | 8 | 18 |

Important differences between JMP and NWI on improved facilities due to classification of  improved/unimproved

Proportion of population without facilities relatively similar between JMP and NWI.

Comparison requires more analysis and harmonization/alignment/correspondence needs to be established between the different institutions.

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# JMP estimates for Ethiopia : Sanitation : Total estimates

**Total sanitation trends**
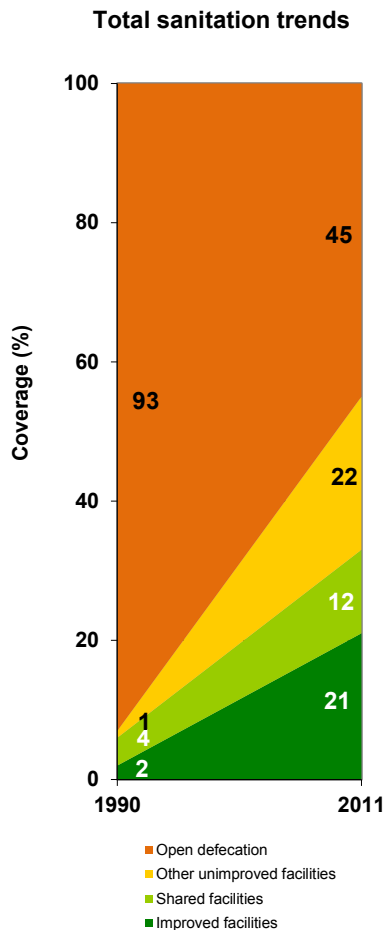


| JMP | | | NWI 2010/2011 |
|---|---|---|---|
| **Ethiopia Trends of sanitation access TOTAL** | **1990** | **2011** | Household survey Population having access to latrine facilities |
| Improved facilities | 2 | 21 | |
| Shared facilities | 4 | 12 | 50 |
| Other unimproved | 1 | 22 | |
| Open defecation | 93 | 45 | 50 |

Important differences between JMP and NWI on improved facilities due to classification of improved/unimproved

Proportion of population without facilities relatively similar between JMP and NWI.

Comparison requires more analysis and harmonization/alignment/correspondence needs to be established between the different institutions.

**Goal:** Improve information flow between monitoring stakeholders for evidence based decision making

- Understand differences (e.g. definitions, classifications…)
- Harmonize definitions at national level (e.g. Sector and NSO are using the same categorization of infrastructures).
- Establish correspondence between national and global definitions (e.g. categorization of infrastructures can fit both)
- Learn from differences (e.g. Update sector ratios based on census)
- Develop tools to ensure implementation and continuity (e.g. enumerators manual developed together for surveys)
- Develop appropriate institutional framework bringing the different actors together to prepare  censuses, surveys, annual reviews…
- Establish, based on same set of data and correspondence, national estimates and global estimates.

# Main recommendations from data reconciliation workshop

Addis Ababa, 24-25 November 2011

- Harmonizing the data collection classifications: CSA for different surveys (DHS; WMS; Census; NWI) and MoWE NWI.

- Keep the continuity of involvement between MoWE, MoH and CSA in things like Joint Technical Review and Multi Stakeholder Forum: MoWE/National WASH Coordination

- Promoting the importance of data/monitoring related activities to the sub-national levels, including the dissemination of data/lessons: MoWE, MoH, CSA

Publication of NWI opportunity to continue the data reconciliation process and bring together the different actors:

- to analyse further the results of the NWI and analyse differences (especially for sanitation)
- continue work on harmonization between institutions and alignment with the JMP

New tools will be available to countries (Global Information Management System –GIMS):

- Add new data,
- Reclassify the data according to national definition
- Recalculate estimates based on national definition
- Compare estimates based on use and on provision.

## Proposed targets (still in development)

- **Target 1: By 2025** no one practices open defecation.

- **Target 2: By 2030** everyone uses basic drinking water supply (improved sources within 30 minutes) and handwashing facilities when at home, all schools and health centres provide basic drinking water (improved sources on the premises), adequate sanitation and hygiene facilities (hand washing and menstrual hygiene).

- **Target 3: By 2040**, everyone uses adequate sanitation at home, the proportion of the population not using an intermediate drinking water supply (improved, on premises, water quality and functional) at home reduced by half, the excreta from at least half of schools, health centres and households with adequate sanitation are safely managed.

- **Target 4:** All drinking water supply, sanitation and hygiene services are delivered in a progressively affordable, accountable, and financially and environmentally sustainable manner.

# Thank you for listening
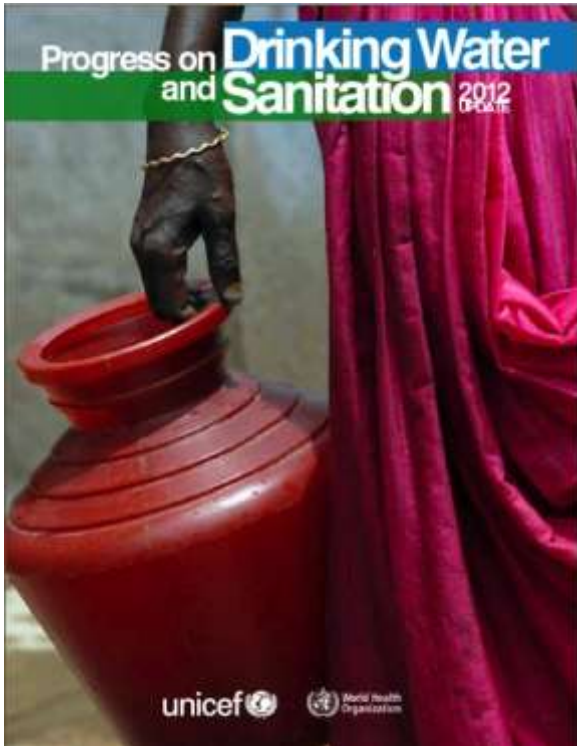


**WHO / UNICEF**
**Joint Monitoring Programme**

www.wssinfo.org

**World Health Organization**
**Water, Sanitation, Hygiene and Health**

www.who.int/water_sanitation_health

**UNICEF**
**Water, Sanitation and Hygiene**

www.unicef.int