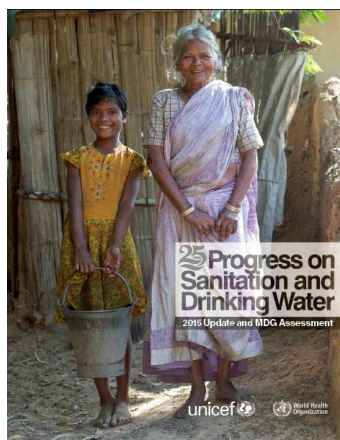


Monitoring the WASH-related SDG targets

MDG+ Initiative: High Level Meeting on the
Water-related Sustainable Development Goals



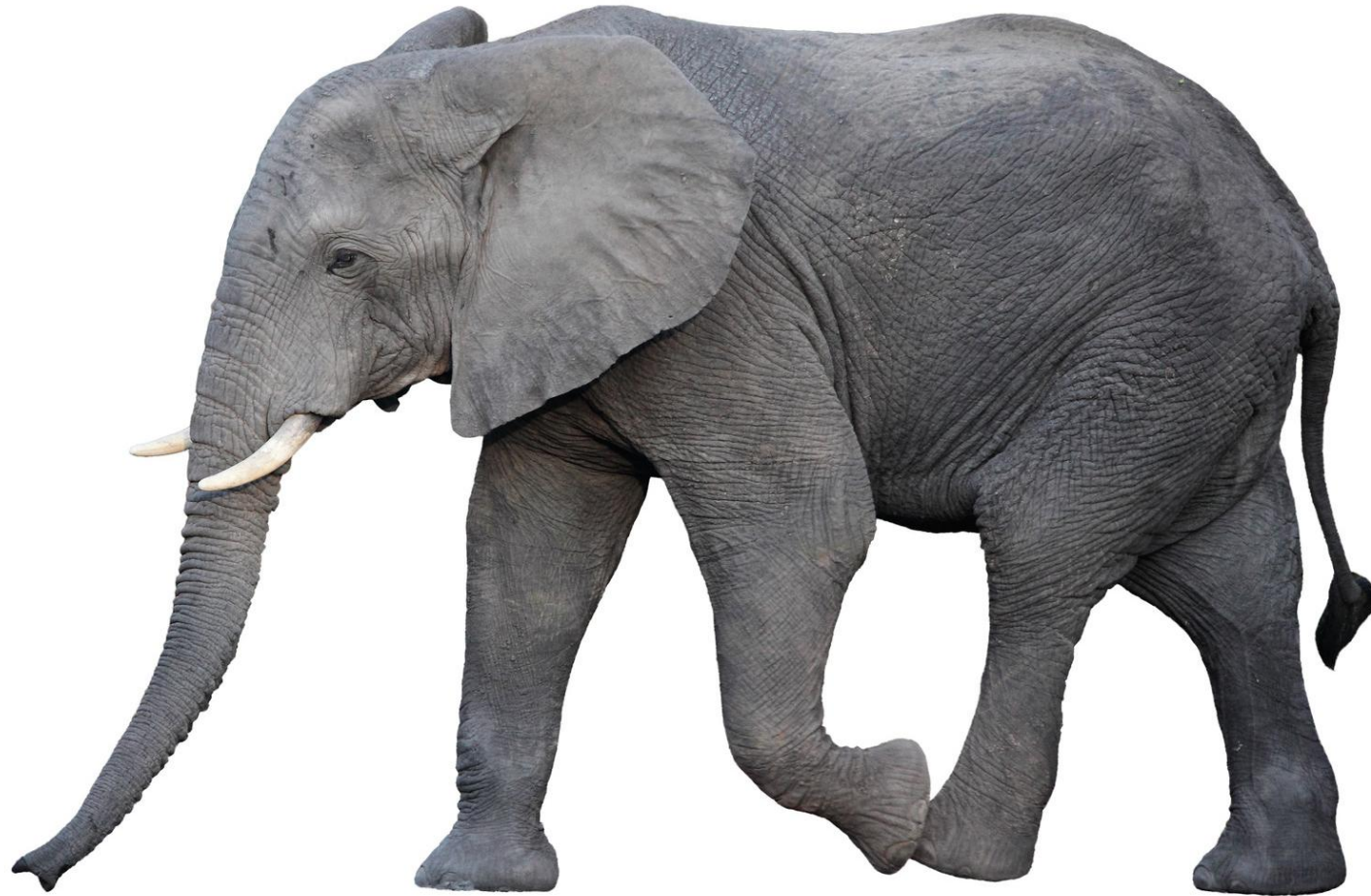
Amman, Jordan
November 2, 2016

Rick Johnston

johnstonr@who.int



Elephants



Water Supply in Palestine (urban)

- Accessibility
 - $3210/3577 = 90\%$ connected to supply network
 - $37.7/3577 = 1\%$ connected to public standpipe



Source: MDG+ report 2015

Water Supply in Palestine (urban)

- Availability
 - $502/3577 = 14\%$ continuous daily
 - $2326/3577 = 65\%$ 3-4 days weekly



Source: MDG+ report 2015

Water Supply in Palestine (urban)

- Accessibility
 - “Is your household connected to piped water network?”
 - 95% yes



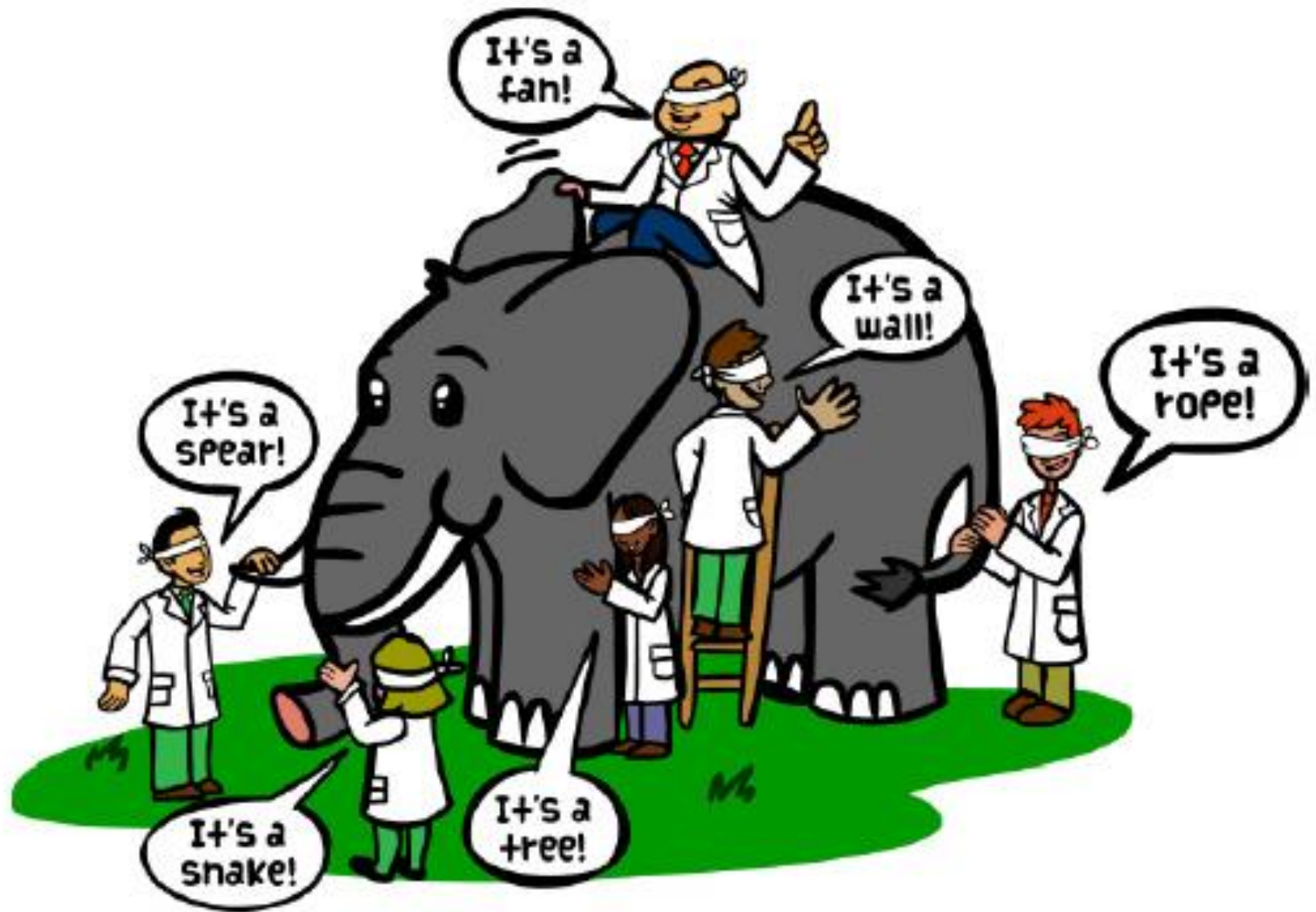
Source: Palestinian MICS report 2014

Water Supply in Palestine (urban)

- Use
 - “What is the main source of drinking water for members of your household?”
 - 54% piped water
 - 32% tanker truck
 - 9% small cart
 - 2% protected well
 - 1% bottled water

Source: Palestinian MICS report 2014





Safely Managed Drinking Water Services



MDG water ladder

MDGs: Improved drinking water

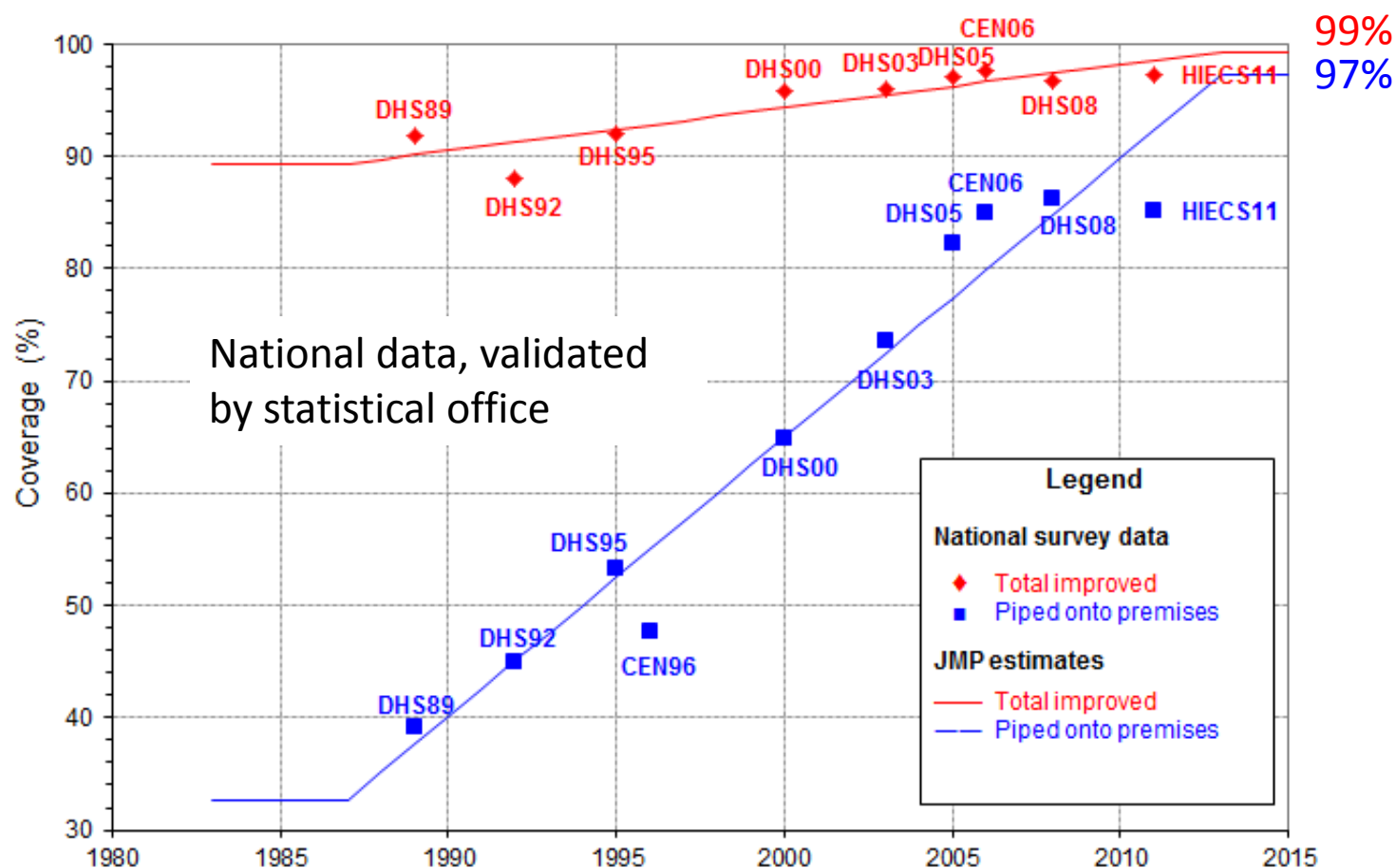
Piped water on premises: Piped household water connection located inside the user's dwelling, plot or yard.

Other improved drinking water sources: Public taps or standpipes, tube wells or boreholes, protected dug wells or springs, rainwater collection.

Unimproved drinking water sources: unprotected dug well, unprotected spring.

Surface drinking water sources: River, dam, lake, pond, stream, canal, irrigation channels

JMP regression (Egypt, rural water)



Target 6.1: Drinking water

*By 2030, achieve **universal** and **equitable** access to **safe** and **affordable** drinking water **for all***

6.1.1: Population using safely managed drinking water services

Definition: Pop. using an improved drinking water source which is:

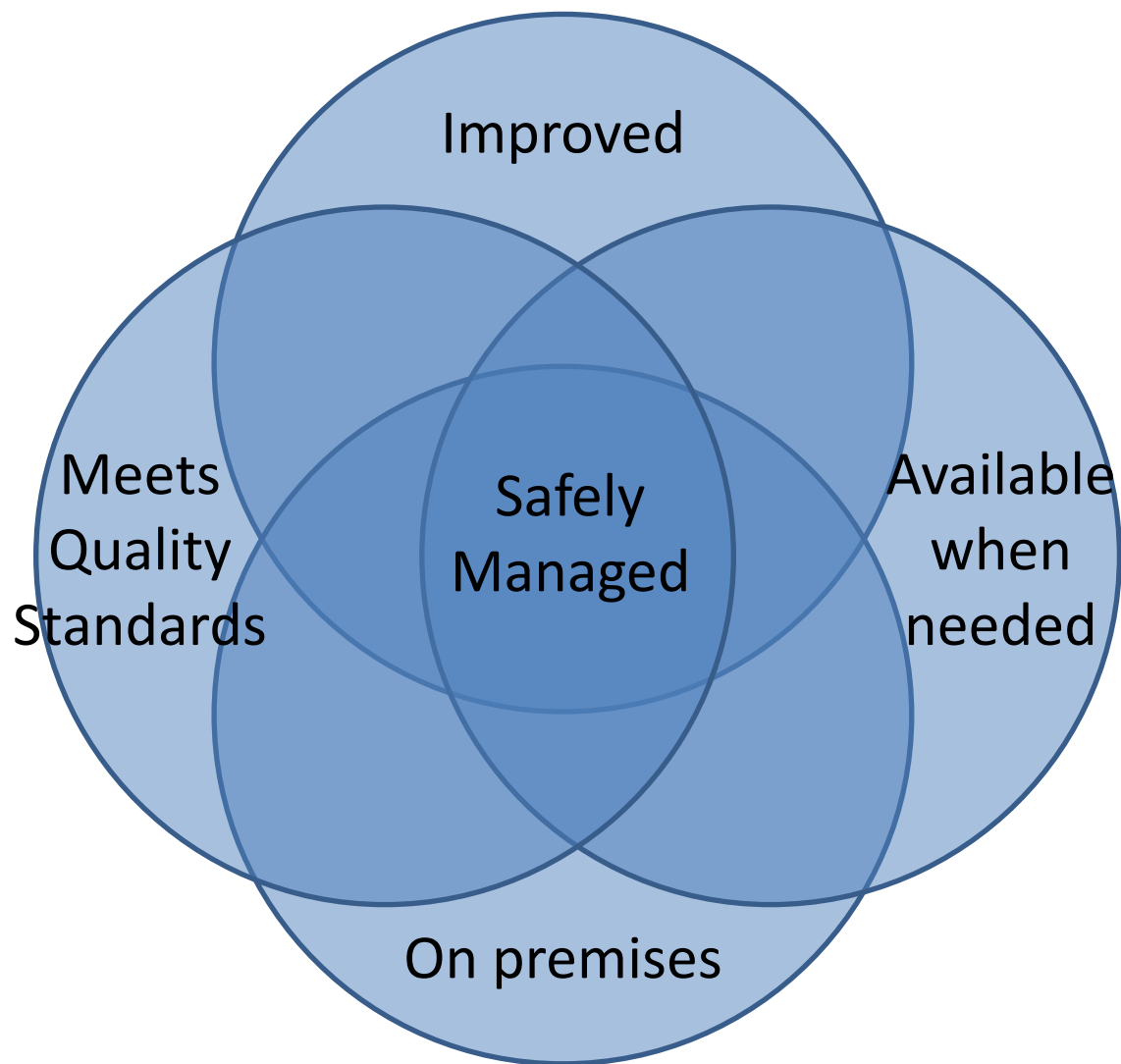
- located on premises,
- available when needed, and
- free of faecal and priority chemical contamination
(*E. coli*/thermotolerant coliforms, arsenic, fluoride)

Accessibility

Availability

Quality

(Affordability)



MDG/SDG	Service ladder	Progressive realization
SDG 6.1	Safely managed drinking water services	Improved source located on premises, available when needed, and free from contamination
	Basic service	Improved source within 30 minutes round trip collection time
	Limited service	Improved source over 30 minutes round trip collection time
	Unimproved	Unimproved source does not protect against contamination
	No service	Surface water

Realisation

Progressive

Data sources

Criterion	Household Surveys
Accessibility	Now: Travel time (or distance), is the water supply on premises
Availability	Now: What people report using New: In the last month, have you been unable to get water from your main drinking water source?
Quality	New: Water quality testing in household surveys

Definitions, standards, methods

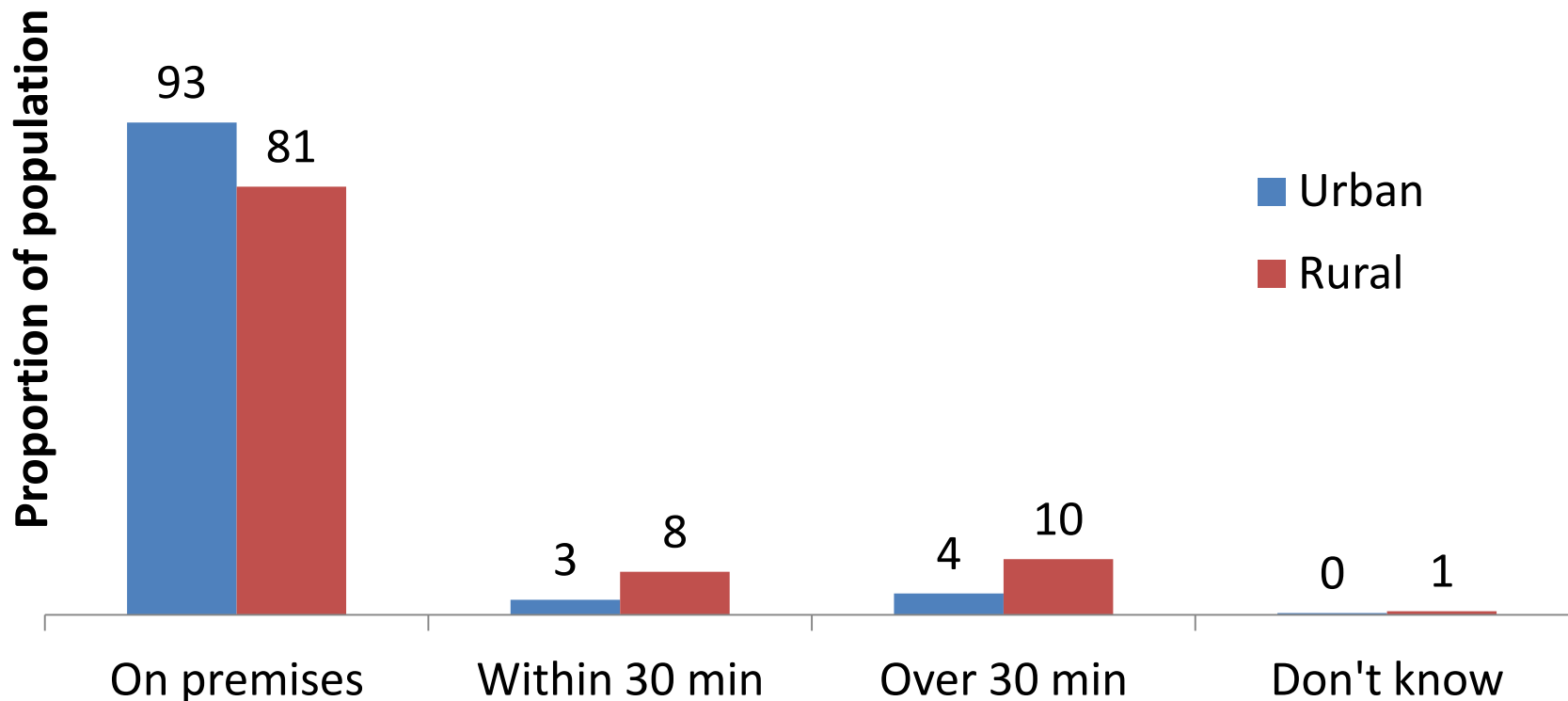
- Definitions should be harmonized
 - What is meant by...
 - Fluoride in drinking water
 - Litres per capita per day
 - Hours of service
 - Safely managed drinking water services
- Standards and targets should be contextual
- Methods can be different, but compatible

Accessibility (travel time)

- On premises (for safely managed indicator)
- Within 30 minutes (for basic indicator)
- Household surveys and censuses
 - Available for most DHS and MICS countries
 - “How long does it take to go there, get water, and come back?”
- Sector data
 - Household connections
 - Maximum distances

Algeria MICS 2012-13

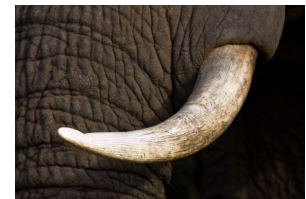
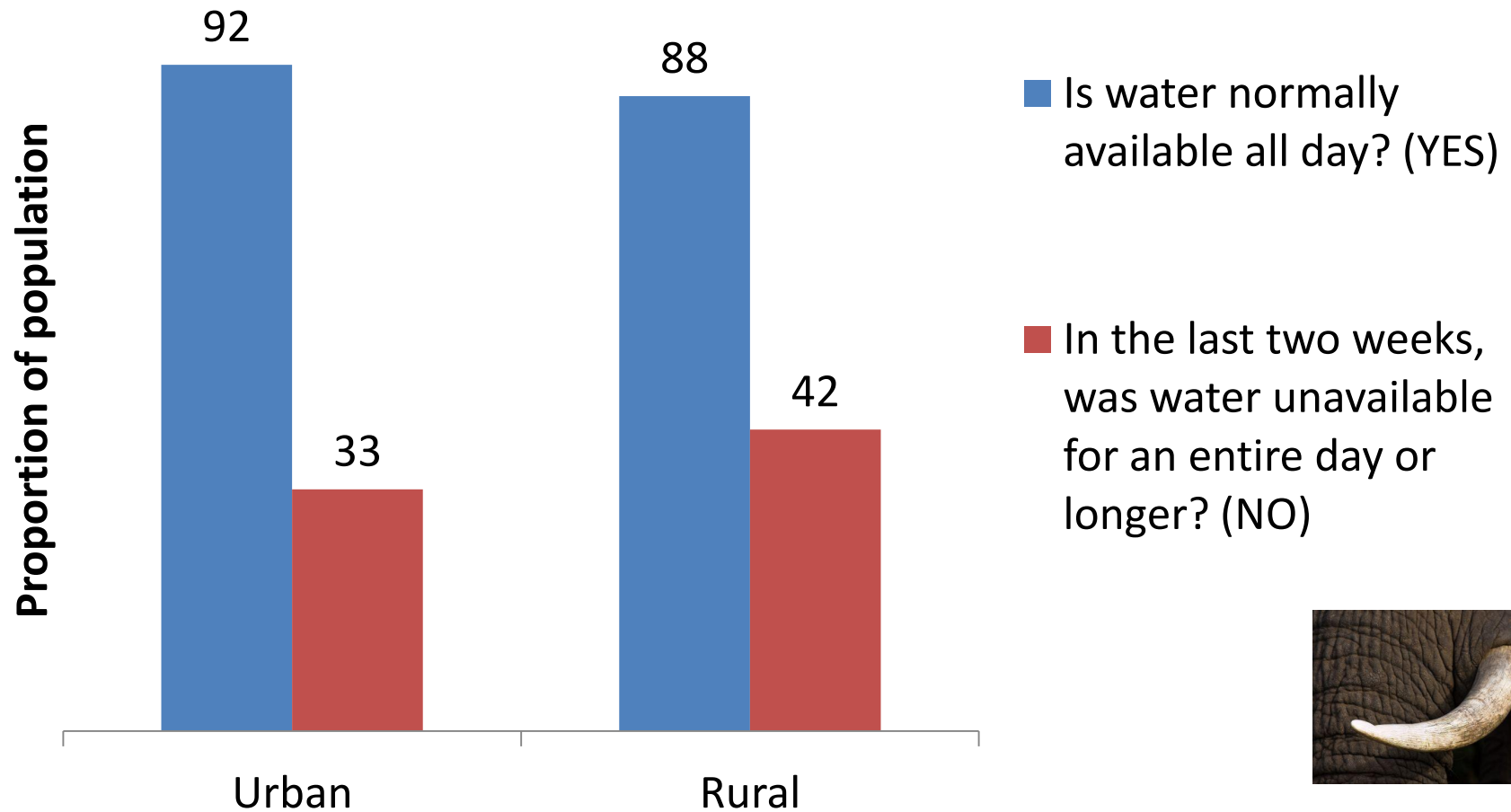
Accessibility of improved drinking water sources



Availability

- Household surveys and censuses
 - Introducing new questions
 - Continuity (hours of service) of piped water supplies
 - In the last month, have you been unable to get water from your main drinking water source?
- Sector data
 - Continuity of piped supplies
 - Different benchmarks and standards
 - 24/7, 20 hours/day, 16 hours/day, 5 days/week

Jordan PFHS 2007



Quality

- *E. coli*/thermotolerant coliforms, arsenic, fluoride
- Household surveys and censuses
 - New module to test *E. coli* in household surveys
 - Completed in 5 countries, underway in ca. 12 more
- Sector data
 - Water ministries, health ministries
 - Service providers, regulators
 - Many for only formal systems, mainly urban
 - Some lack *E. coli* or thermotolerant coliforms
 - Many lack arsenic and fluoride

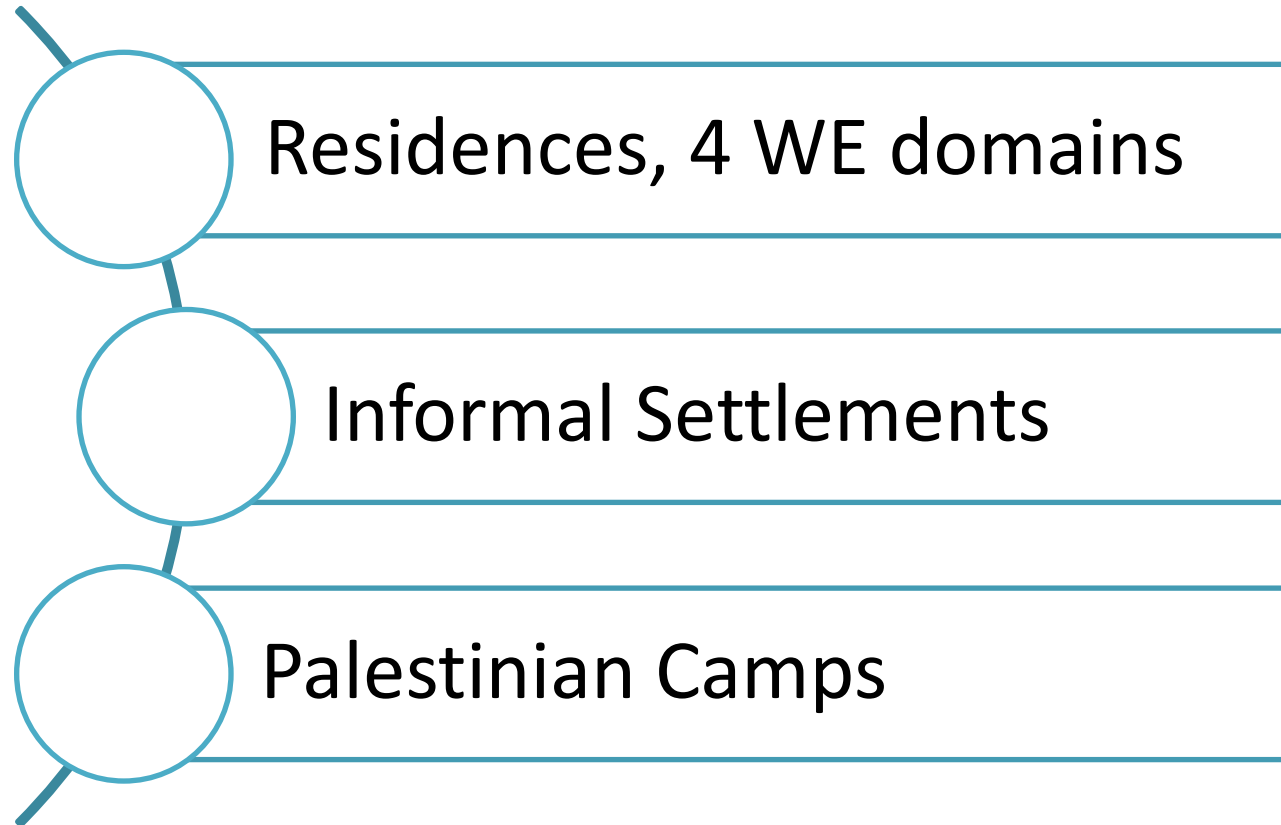
Lebanon Water Quality Survey, 2016



Sampling methodology

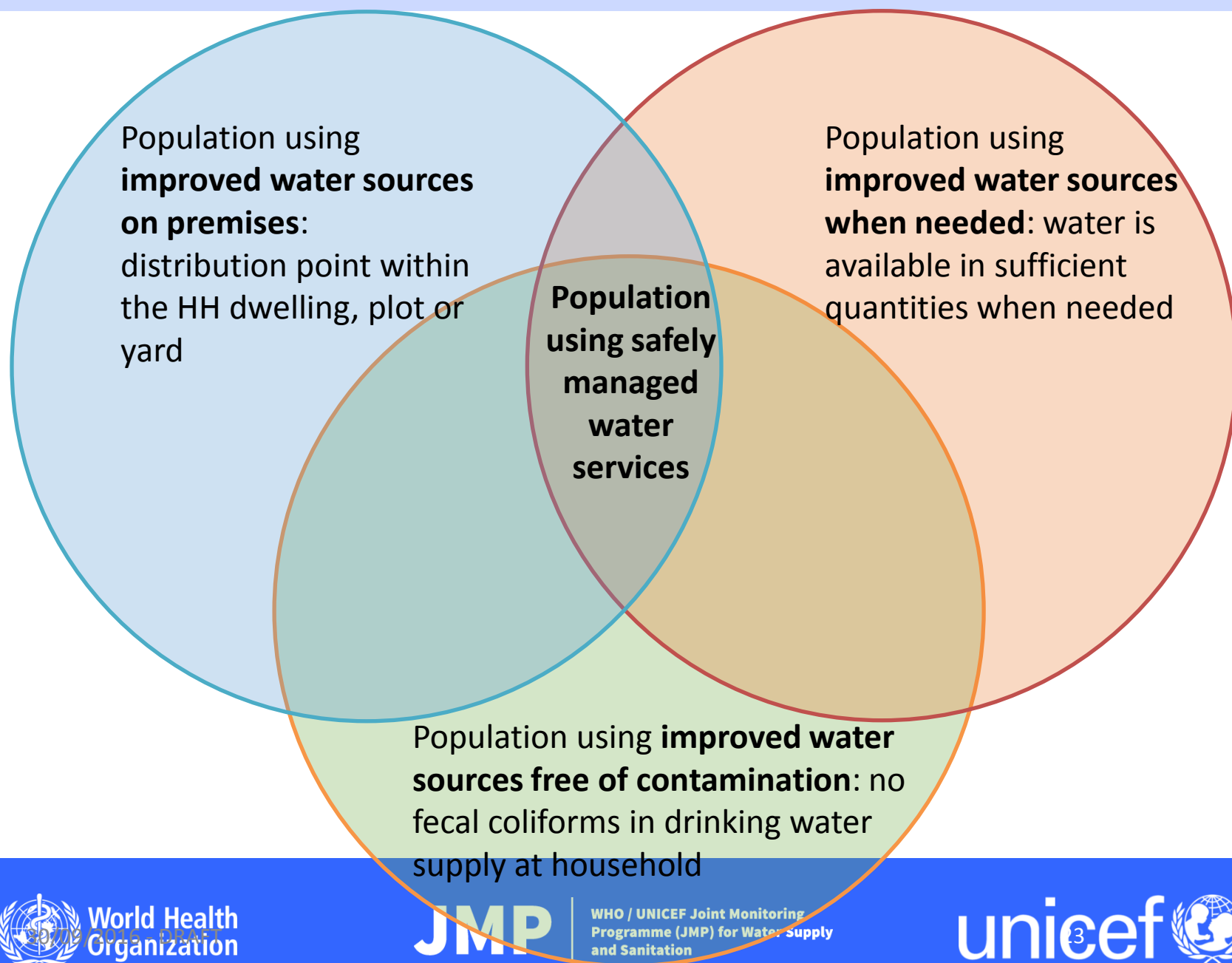
6 Domains

Total 2,770 HH

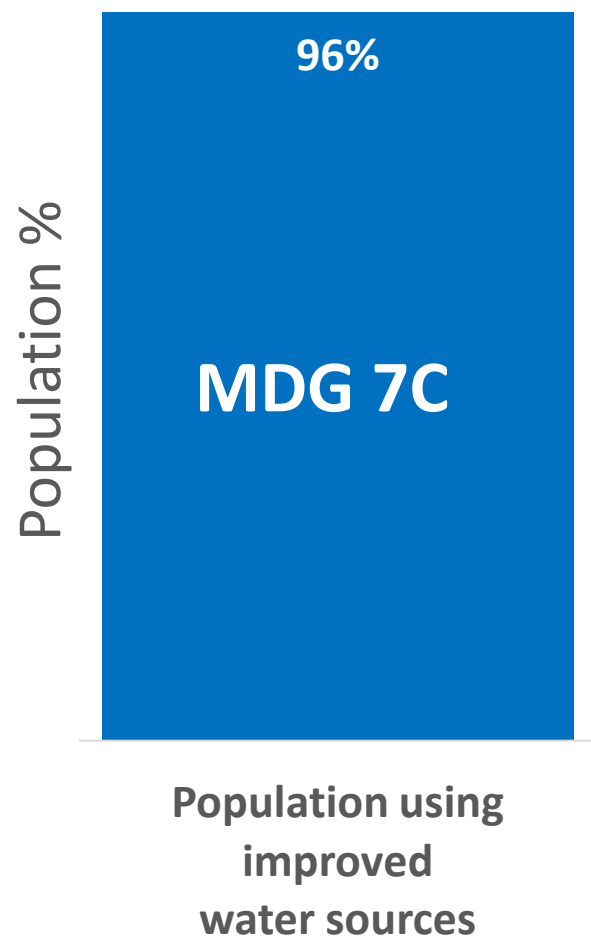


E. coli, residual chlorine, turbidity, nitrate
at point of collection, and point of consumption

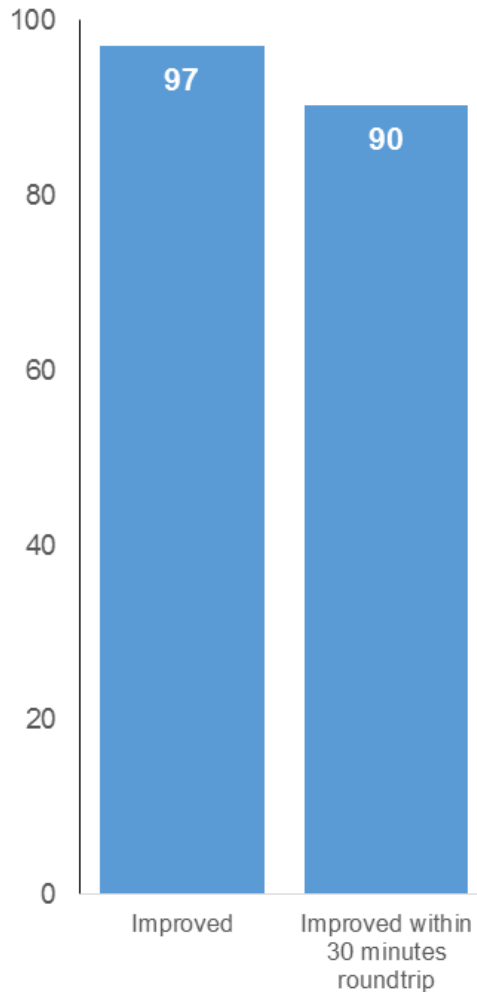
Lebanon Baseline for SDG 6, target 6.1



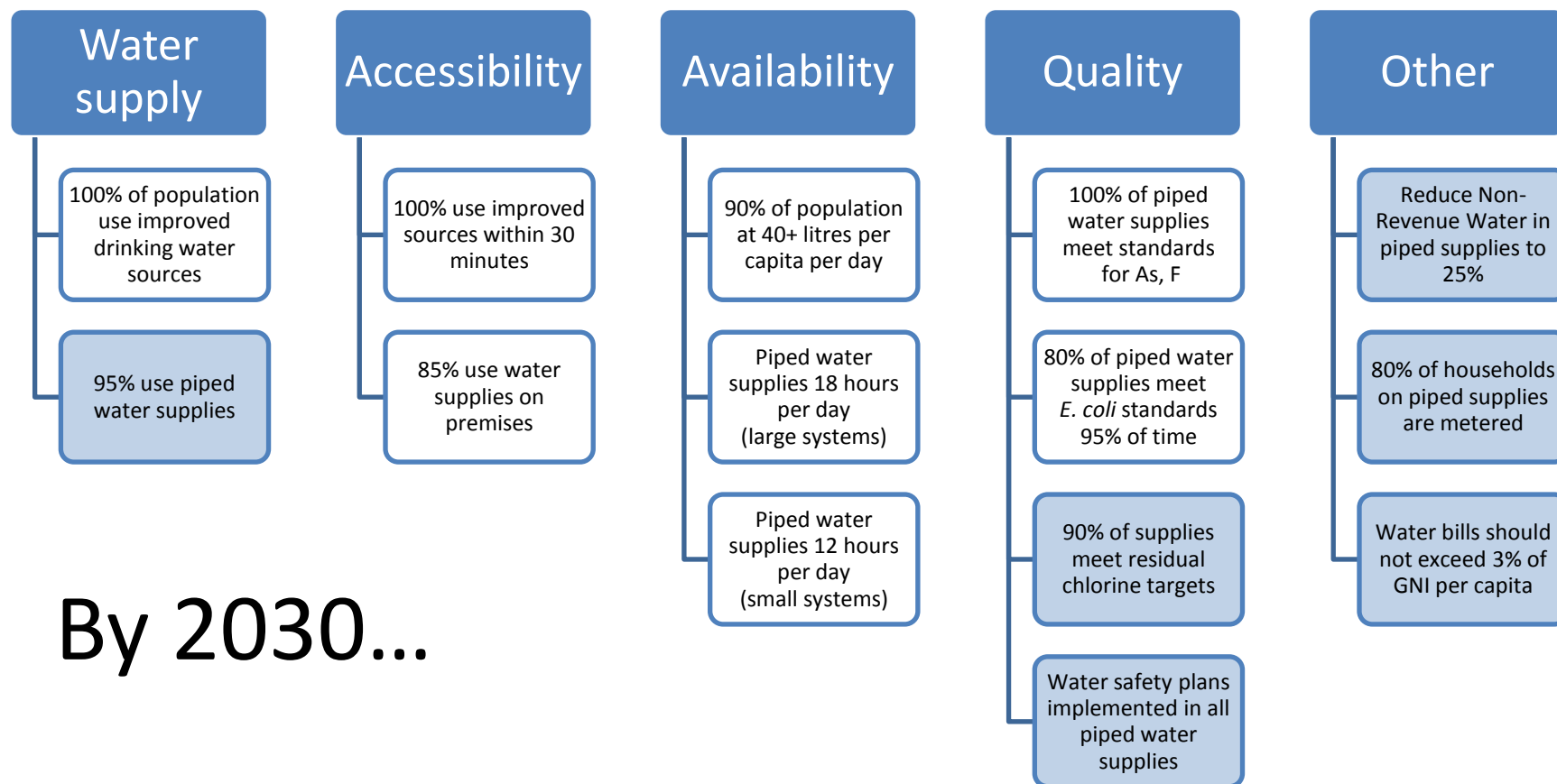
Lebanon 2016



Example of safely managed drinking water

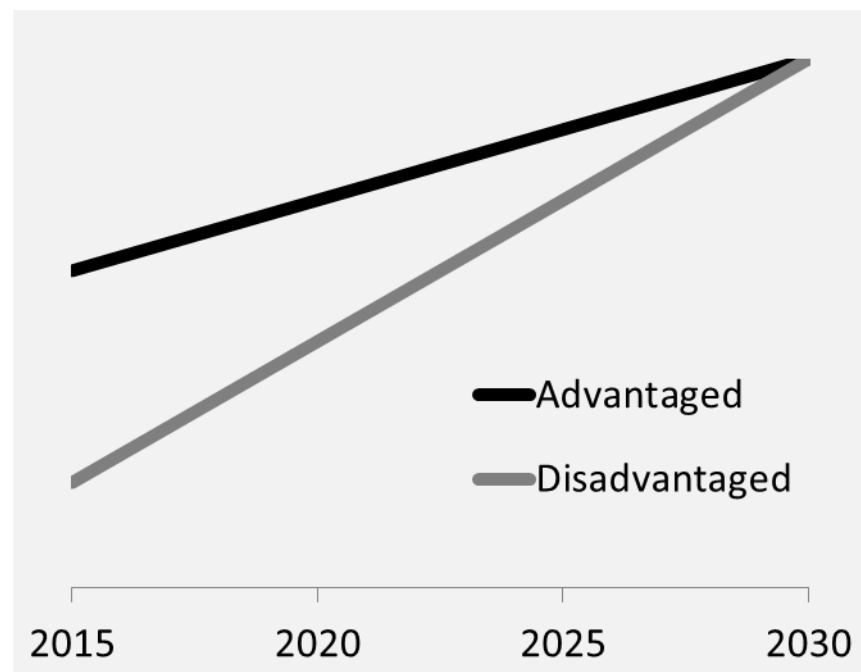


Example of national target setting



SDG targets 'leave no one behind'

- SDG indicators to be disaggregated where relevant
 - income,
 - sex,
 - age,
 - race,
 - ethnicity,
 - migratory status,
 - disability and
 - geographic location,
 - or other characteristics



Safely Managed Sanitation Services



Target 6.2: Sanitation and hygiene

*By 2030, achieve access to **adequate and equitable sanitation** and hygiene for all, and **end open defecation**, paying special attention to the needs of **women and girls** and those in **vulnerable situations***

6.2.1: Population using safely managed sanitation services including a handwashing facility with soap and water

Definition: Pop. using an improved sanitation facility which is:

- not shared with other households and where
- excreta are safely disposed in situ or
- transported and treated off-site

Accessibility

Quality

MDG sanitation ladder

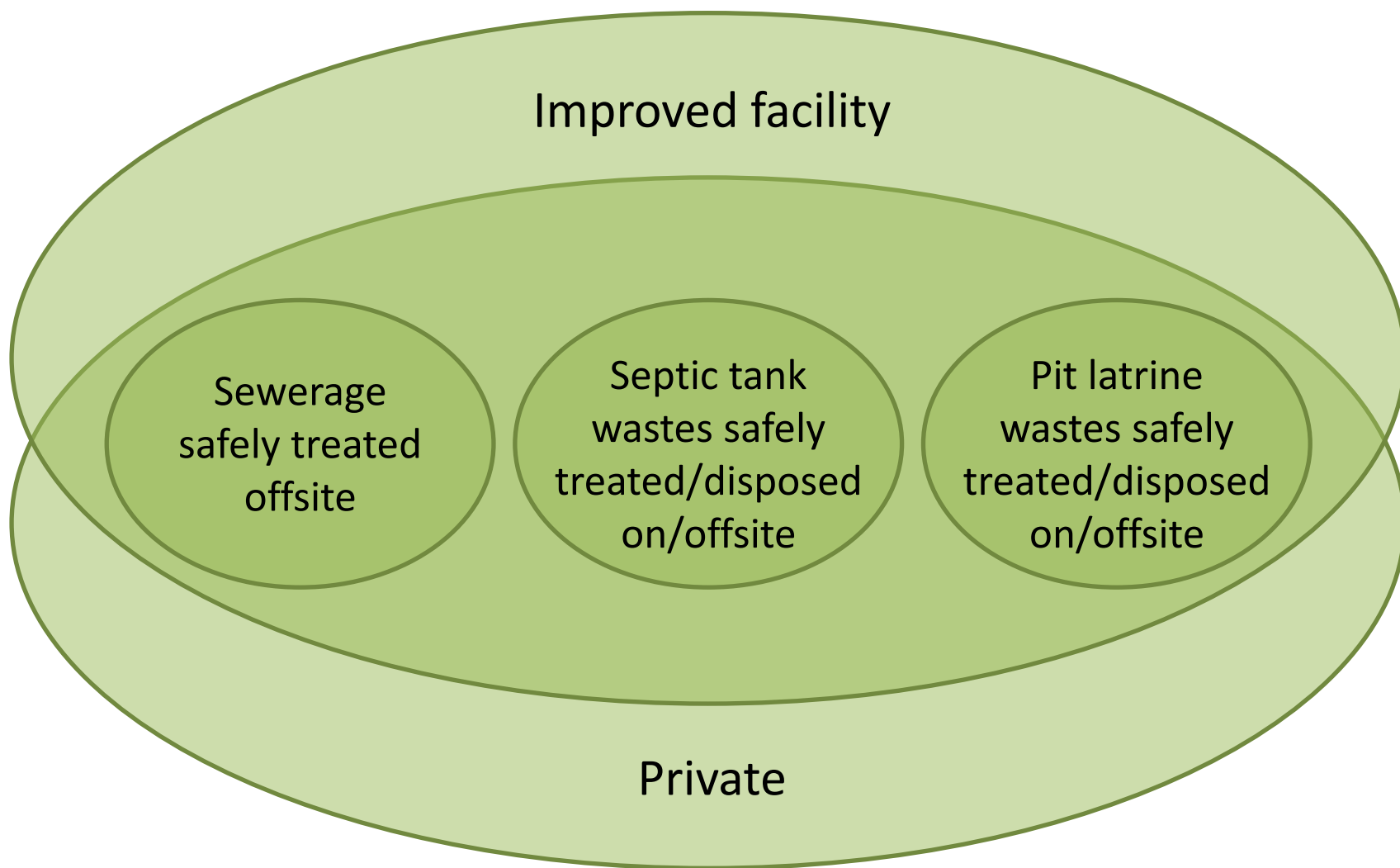


Improved sanitation facilities: Flush/pour flush to piped sewer system, septic tank or pit latrine; Ventilated improved pit (VIP) latrine; Pit latrine with slab; Composting toilet

Shared sanitation facilities: Sanitation facilities of an otherwise acceptable type shared between two or more households.

Unimproved sanitation facilities: Pit latrines without a slab or platform, hanging latrines and bucket latrines.

Open defecation: human faeces disposed of in fields, forest, bushes, open bodies of water, beaches or other open spaces or disposed of with solid wastes



	Service ladder	Progressive realization	
SDG 6.2	Safely managed sanitation services	Private improved facility where faecal wastes are safely disposed on site or transported and treated off-site	Realisation Progressive
	Basic service	Private improved facility which separates excreta from human contact	
	Limited service	Improved facility shared with other households	
	Unimproved	Unimproved facility does not separate excreta from human contact	
	No service	Open defecation	

Safely disposed in situ

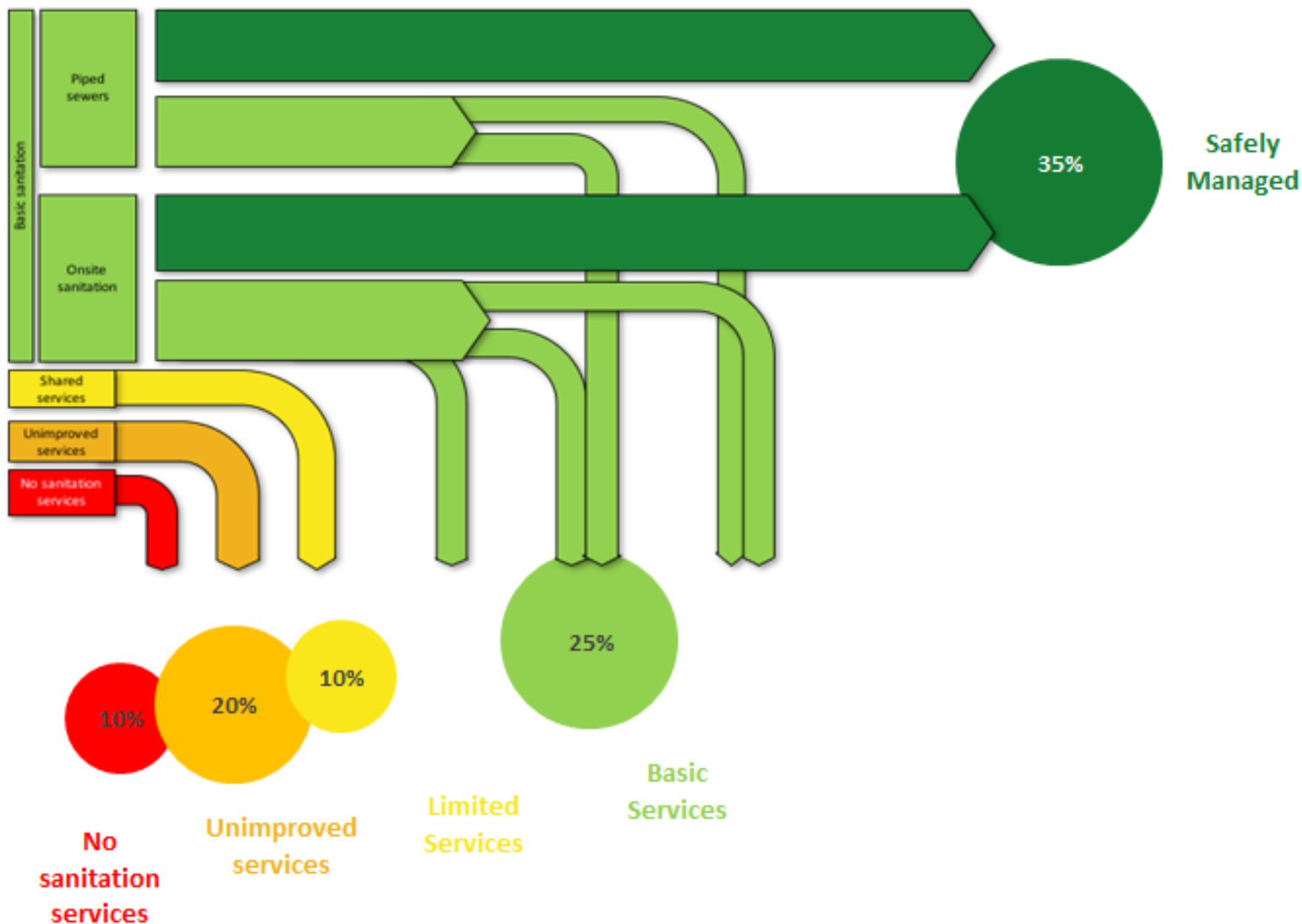
- How much faecal waste that is not emptied should be considered to be safely managed?
 - Septic tanks, latrines that have never been emptied?



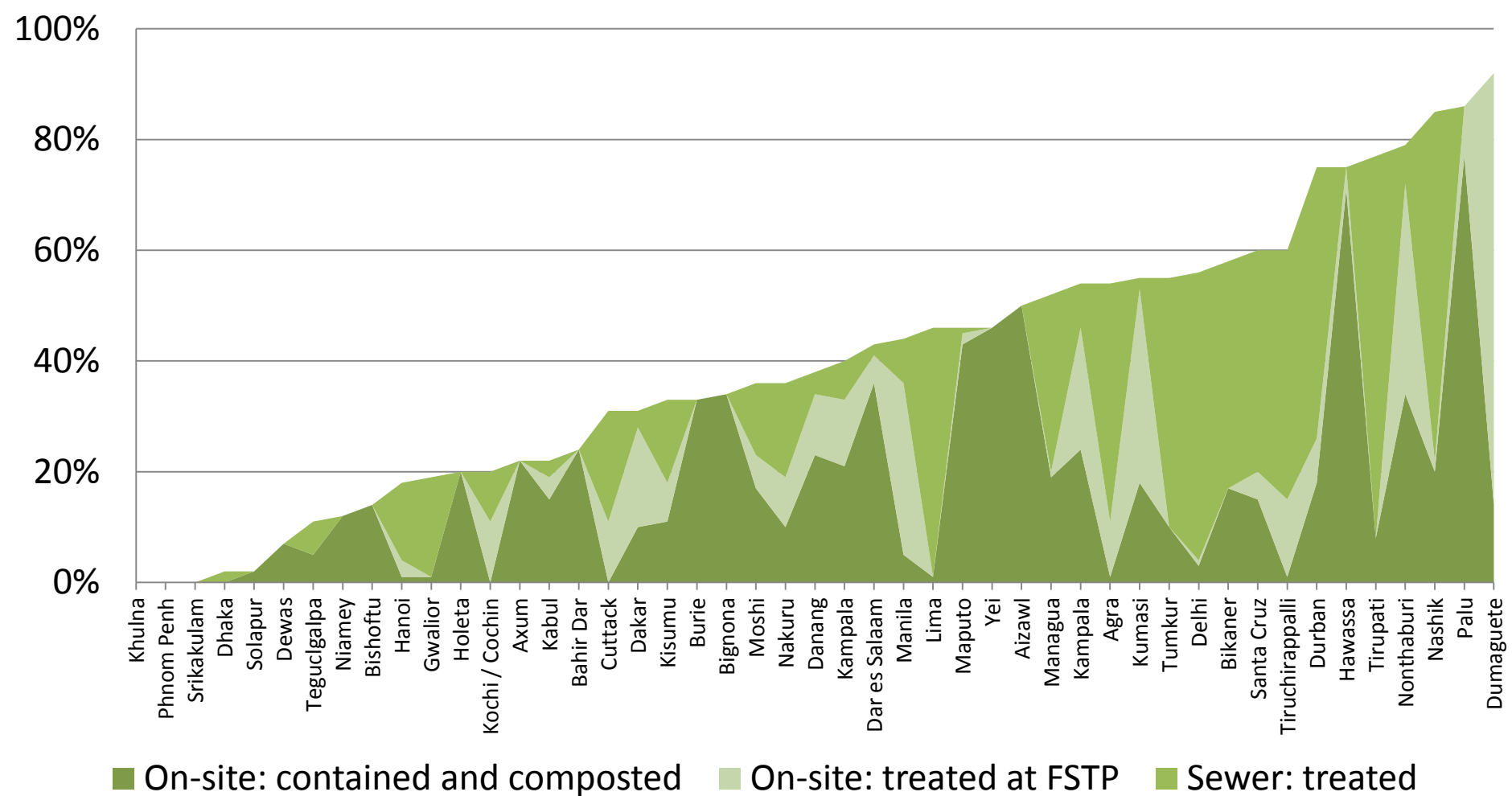
Transported and treated off site

- How much sewerage reaches a wastewater treatment plant and is adequately treated before discharge?
- How much faecal sludge from septic tanks and latrines is safely emptied and transported to a treatment plant where it receives adequate treatment before discharge?

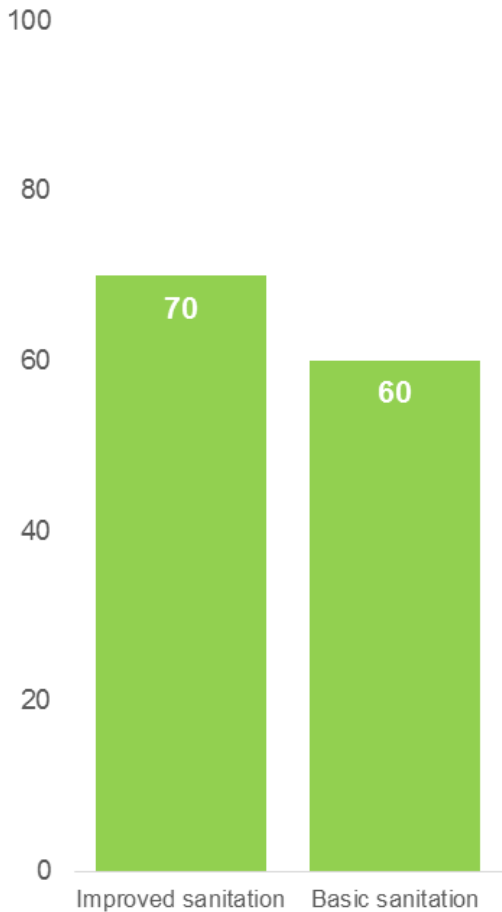




Mass balance approach in 47 cities (BMGF)



Example of Safely Managed Sanitation



A1

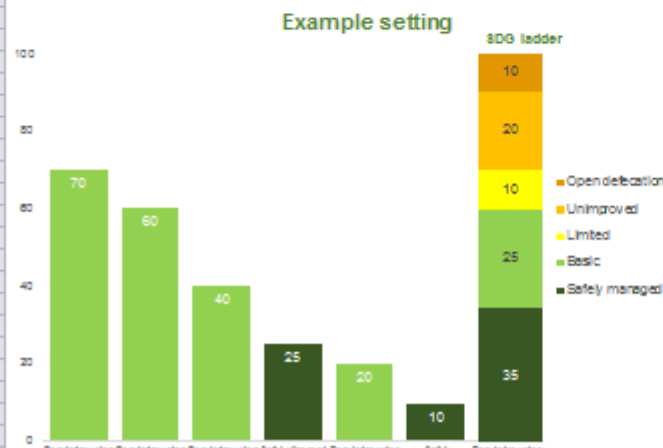
fx

Simplified template for calculating illustrative safely managed sanitation estimates

	A	B	C	D	E	F	G
4	INPUTS (change the values in orange)	Value	Notes (include data source when available)				
5	Setting:	Example setting	Address of the setting, e.g. Urban Tanzania				
6	Population practicing open defecation	10	e.g. from JMP 2015				
7	Population using unimproved sanitation facilities	20	e.g. from JMP 2015				
8	Population using shared improved sanitation facilities	10	e.g. from JMP 2015				
9	Population using private improved sanitation	60	e.g. from JMP 2015				
10	Proportion of improved sanitation facilities which are:						
11	Improved onsite facility	67	Onsite sanitation facilities include latrines and septic tanks				
12	Improved piped sewerage	33	Onsite sanitation facilities include sewer connections				
13	Proportion of onsite facilities which are:						
14	Contained and disposed safely in-situ	50	Proportion of facilities where excreta are safely disposed in-situ				
15	Contained, emptied and transported to treatment	25	Proportion of faecal sludge contained, emptied and transported				
16	Proportion of FS reaching treatment plants which is treated to standard	50	Proportion of faecal sludge treated to national standard				
17	Proportion of improved piped sewerage which:						
18	Reach treatment plants	80	Proportion of sewer connections where wastewater reaches				
19	Proportion of WW reaching treatment plants which is treated to standard	60	Proportion of wastewater treated to national standard				

	A	B	C
21	OUTPUTS	Value	Notes
22	Population using improved sanitation	70	Improved sanitation facilities
23	Population using private improved onsite sanitation	40	Improved sanitation facilities not shared with other households
24	Safely disposed onsite or treated offsite	25	
25	Not safely managed	15	
26	Population using piped sewerage	20	Populations using sewer connected facilities
27	Safely transported and treated offsite	10	
28	Not safely managed	10	
29	Population using basic sanitation facilities	25	Private improved outdoors safely managed
30	Population using safely managed sanitation services	35	Safely dispose in-situ or treated offsite

Adjustment for safely managed



6.3 Water quality

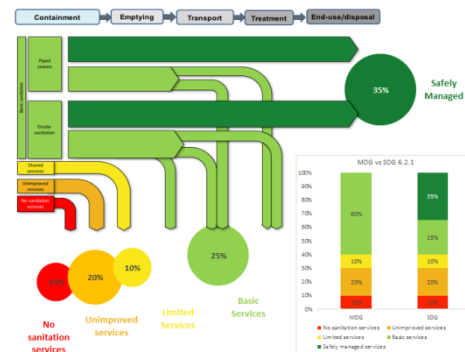
By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.3.1 Proportion of wastewater safely treated

- Domestic wastewater
 - Sewerage, plus deliveries of sludge from onsite
- Hazardous industrial wastewater
 - Pre-treatment

Links between Targets 6.2 and 6.3

- “Proportion of wastewater safely treated”
- Common elements
 - Mass flow approach
- Differences
 - 6.2 includes open defecation and on-site wastes
 - 6.3 includes more on treatment and reuse
 - 6.3 includes hazardous industrial wastes



What does “treated” mean?

- To national standards
 - Meeting pathogen standard
 - Meeting BOD standard
- No applicable standards (or no data)
 - Considering technology and exposure
 - Considering technology alone

Treatment and exposures

Wastewater Treatment level	<u>High exposure</u> (reuse for food production)	<u>Medium exposure</u> (disposal on land or water bodies – not for food production)	<u>Low exposure</u> (long ocean outfall or groundwater recharge)
Advanced treatment	Safely treated	Safely treated	Safely treated
Tertiary treatment	Safely treated ¹	Safely treated ¹	Safely treated
Secondary treatment	Not safely treated	Safely treated ²	Safely treated
Primary treatment only	Not safely treated	Not safely treated	Safely treated
Untreated discharge	Not treated	Not treated	Not treated

1 – where only advanced N, P removal then classed as ‘not safely treated’

2 – where disposal is in proximity to bathing areas then classes as ‘not safely treated’

- Combination of several tertiary treatments

- Advanced oxidation
- Membrane filtration
- Carbon adsorption
- Ion exchange
- Chemical oxidation
- **Advanced N,P removal**
- **Disinfection (e.g. chlorination, UV)**

Sludges

- **As per treatment of excreta from onsite systems**

- Aerobic suspended or attached growth (e.g. AS or Trickling filters)
- Anaerobic suspended or attached growth (e.g. UASB)
- **Waste stabilisation ponds**
- Wetlands

Sludges

- **As per treatment of excreta from onsite systems**

Screening and grit removal with:

- Sedimentation
- Chemical precipitation
- Filtration
- High rate clarification
- Flotation

Excreta from piped sewers

Wastewater

Advanced treatment ¹

Tertiary treatment ¹

Secondary treatment ¹

Primary treatment

No treatment

Excreta from onsite sanitation

Faecal sludge

Treatment of solid and liquid fraction

Dewatering and/or stabilization of solid fraction and treatment of liquid fraction

Solid-liquid fraction separation

No treatment

Solid fraction

- Co-composting
- Incineration
- Lime stabilization
- Ammonia treatment

Liquid fraction

- **As per treatment for excreta from piped sewers**

- Anaerobic reactors
- Chemical conditioning
- Mechanical dewatering
- Safe burial or storage (e.g. deep-row entrenchment)

Solid fraction only

- Drying beds

Liquid fraction

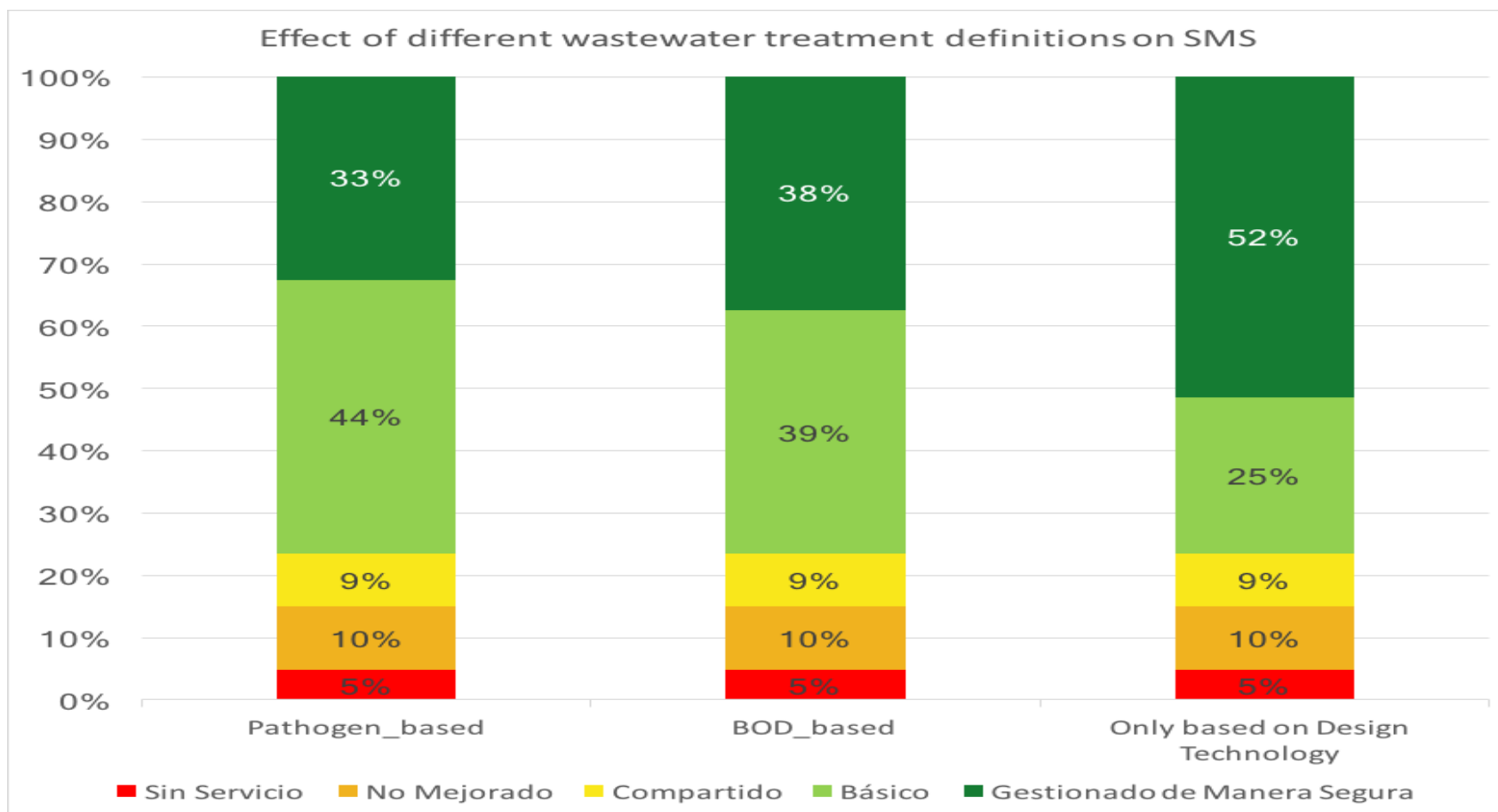
- **As per treatment for excreta from piped sewers**

- Thickening/settling tanks or ponds

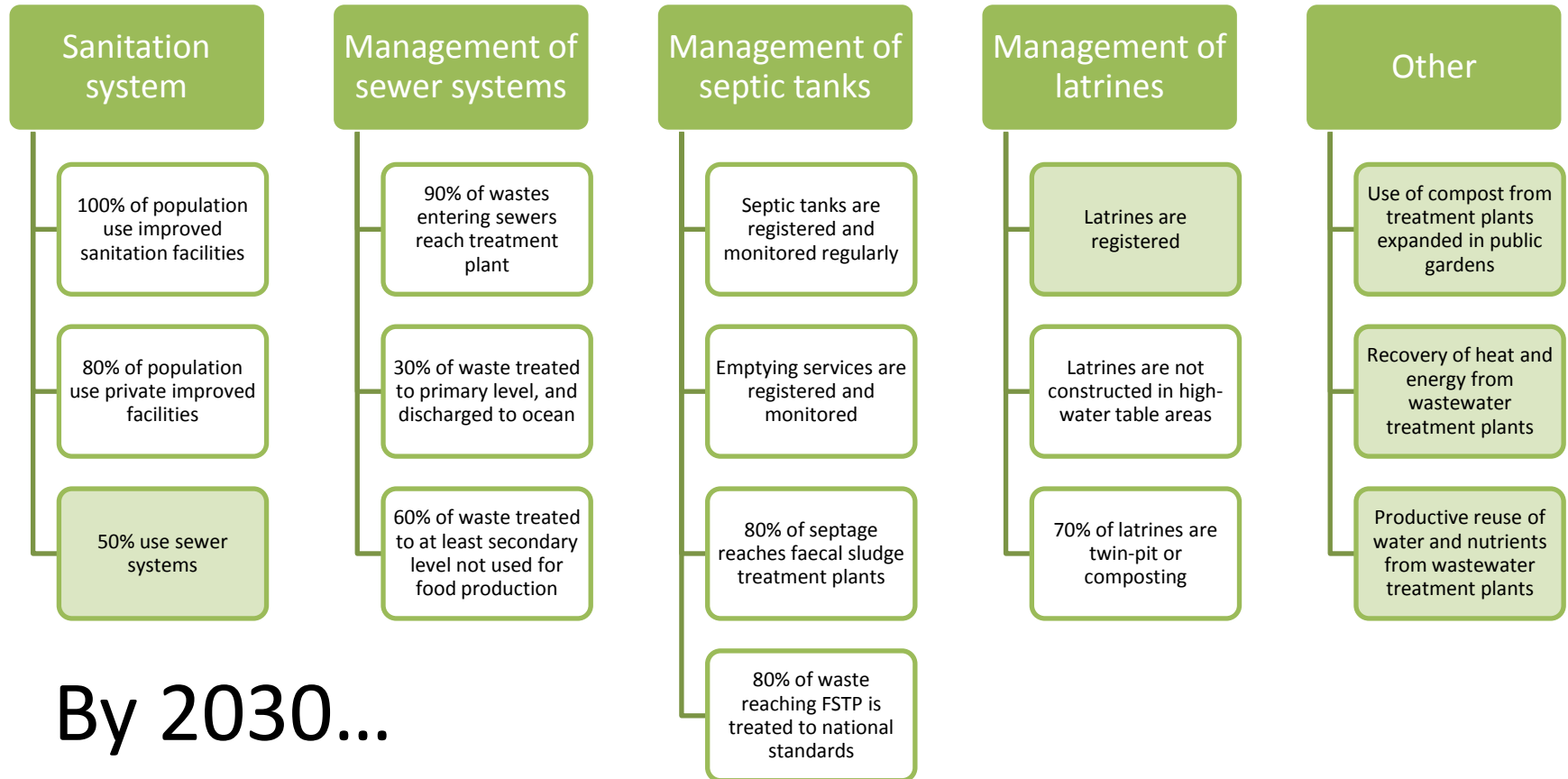
- **Storage/partial treatment**

Onsite sanitation technologies

Peru: Effect of different standards



Example of national target setting



Handwashing facility with soap and water available

6.2.1: Population using safely managed sanitation services, including a handwashing facility with soap and water

Emerging data on handwashing show that the presence of facilities with water and soap varies widely between countries and regions

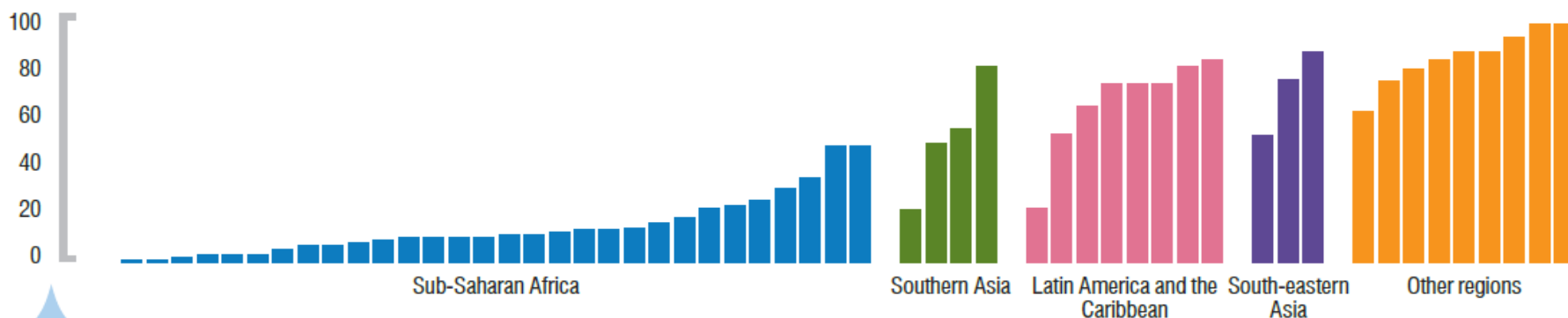


Fig.40 Proportion of the population with a handwashing facility with soap and water (2009-2014)

JMP handwashing ladder

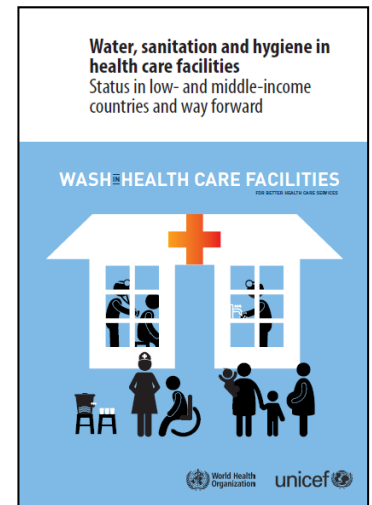
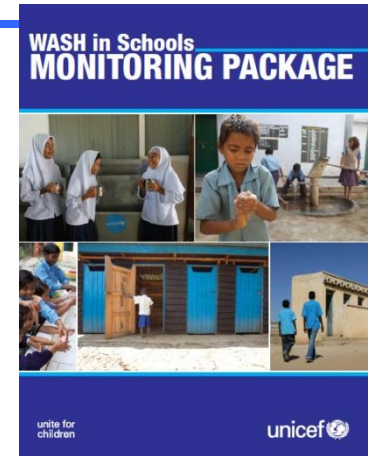


Proportion of population with a
handwashing facility, soap and water
Yemen DHS 2013



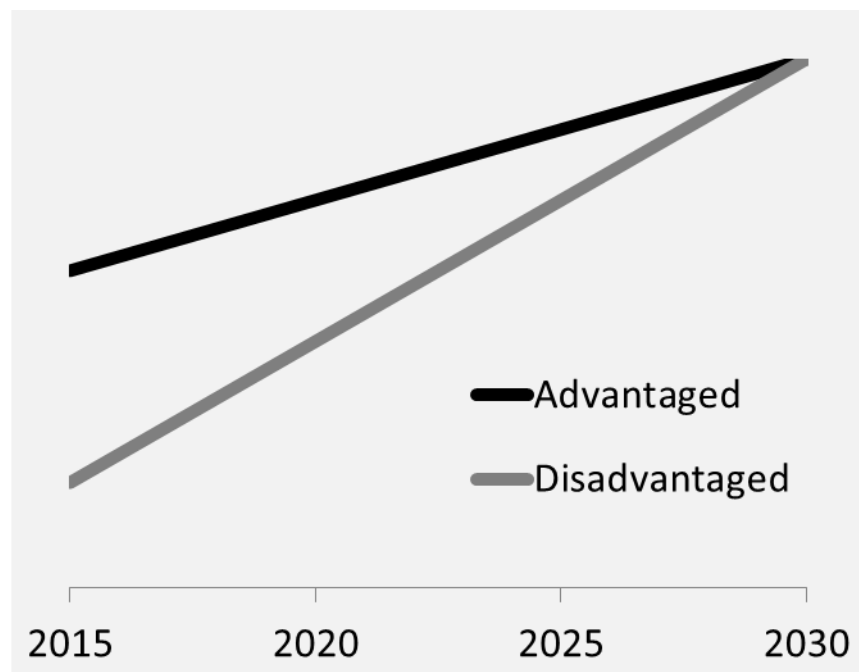
WASH in institutions

- WASH sector priority:
move beyond the house
- Explicit SDG link for WASH in Schools
 - Target 4.a: basic WASH services
- Health sector priority:
WASH in Health Care Facilities
- Both settings to be included in
reporting of Targets 6.1 and 6.2



SDG targets 'leave no one behind'

- SDG indicators to be disaggregated where relevant
 - income,
 - sex,
 - age,
 - race,
 - ethnicity,
 - migratory status,
 - disability and
 - geographic location,
 - or other characteristics



Timeline and next steps

- Data collection through end of 2016
 - Data request to regional and country offices
- Data analysis through end of 2016
 - Produce estimates and data completeness grades
- Country consultation on estimates, early 2017
- Publish 2017 baseline report, mid-2017

MENU

DATA & ESTIMATES

maps
graphs
tables

DOCUMENTS

POST-2015 MONITORING

green paper
factsheets
consultations
working groups

SDG BASELINES

DEFINITIONS & METHODS

wat/san categories
wat/san ladder
data sources
method

TASK FORCES

WATER QUALITY

WEALTH QUINTILES

HANDWASHING

COUNTRY COLLABORATIONS

data updates
data reconciliation



JMP

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

Search...



SDG baselines

www.wssinfo.org
sdgbaselines@wssinfo.org

WASH baselines for the Sustainable Development Goals

In September 2015, at the 70th Session of the UN General Assembly, world leaders unanimously adopted Transforming our world: the 2030 Agenda for Sustainable Development. The 2030 Agenda for Sustainable development comprises 17 Sustainable Development Goals and 169 targets and constitutes "a plan of action for people, planet and prosperity". It is also intended to be a "universal agenda" to be implemented by "all countries and all stakeholders, acting in collaborative partnership".

The Inter Agency and Experts Group on SDG indicators (IAEG-SDGs), a 28 Member State group created by the 46th Statistical Commission in March 2015 and endorsed by the UN General Assembly, has been tasked with developing the global indicator framework. The IAEG-SDGs report to the 47th Statistical Commission included an official list of 230 global indicators which the Commission endorsed as a practical starting point for SDG monitoring. The IAEG-SDGs subsequently identified international agencies to serve as 'custodians' for the SDG global indicators based on their existing mandates and global monitoring expertise.

The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) has produced estimates of global, regional and national progress on drinking water, sanitation and hygiene (WASH) since 1990 and was responsible for monitoring progress towards MDG target 7c. WHO and UNICEF convened a series of international consultations on global monitoring of WASH post-2015 and actively supported the development of SDG global targets and indicators for WASH. The JMP will be responsible for global monitoring of the SDG targets 6.1 and 6.2 which relate to drinking water, sanitation and hygiene.

6.1 By 2030, achieve universal access to safe and affordable drinking water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

The new SDG targets are highly ambitious. They call for universal access, which goes beyond the household and includes institutional settings such as schools and healthcare facilities, and call for the reduction of inequalities in service levels. The indicators selected by the IAEG-SDGs for monitoring targets 6.1 and 6.2 establish ambitious new global service

Data requested for calculating SDG baseline estimates

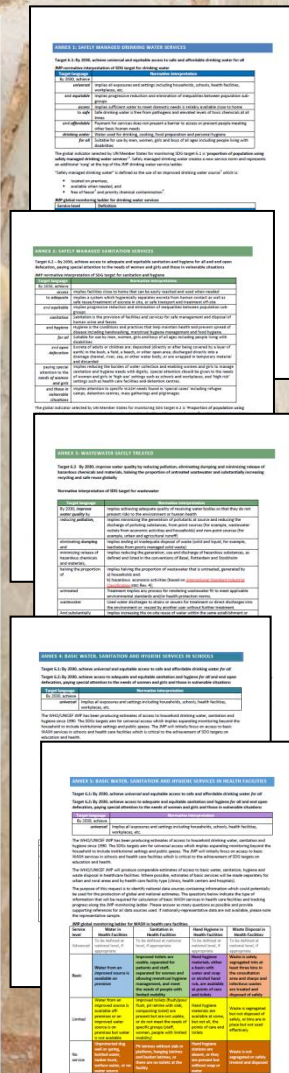
- SDG 6.1.1 Safely managed drinking water services
- SDG 6.2.1 Safely managed sanitation services
- SDG 6.3.1 Wastewater treatment
- Multipurpose indicator: Basic WASH services in healthcare facilities
- Multipurpose indicator: Basic WASH services in schools

Supplementary materials on safely managed drinking water and sanitation

- Draft tool for calculating safely managed drinking water and sanitation services
- Draft definitions for safely managed sanitation services and safely treated wastewater
- Draft step-by-step guide to safely managed sanitation services

Supplementary materials on WASH in institutions

- WASH in schools expert group meeting report
- WASH in healthcare facilities expert group meeting report
- WASH in schools core questions
- WASH in healthcare facilities core questions



Extra slides

Target 6.a: International cooperation

*By 2030, expand **international cooperation and capacity-building support** to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies*

6.a.1: Amount of water and sanitation related Official Development Assistance that is part of a government coordinated spending plan

Target 6.b: Participation

*Support and strengthen the **participation of local communities** in improving water and sanitation management*

6.b.1: Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

Basic Services in Schools

Basic drinking water

Drinking water from an **improved** source is **available** at the school

Basic sanitation

Improved facilities, which are **sex-separated** and **usable** (accessible, functional, private) at the school

Basic handwashing

Handwashing facility with **water and soap** available to students

Basic Services in Health Care Facilities

Basic drinking water

Water from an improved source is available on premises

Basic sanitation

Improved sanitation facilities are available and usable, separated for patients and staff, separated for women and allowing menstrual hygiene management, and meeting the needs of people with limited mobility

Indicator Definitions of Basic Service

Basic hand hygiene

Hand hygiene materials, either a basin with water and soap or alcohol hand rub, are available at points of care and toilets

Basic health care waste management

Waste is safely segregated into at least three bins in the consultation area and sharps and infectious wastes are treated and disposed of safely

