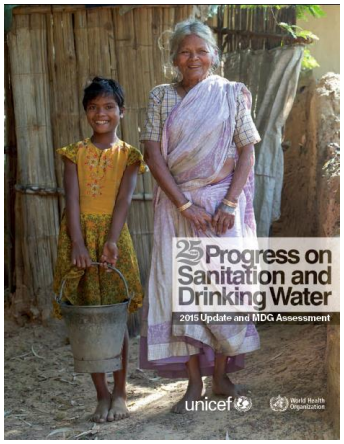
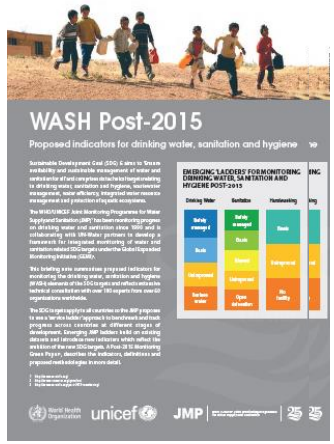
WASH and the 2030 Agenda for Sustainable Development



Regional Symposium
PAHO/WHO

19 August, 2016

Rick Johnston
johnstonr@who.int



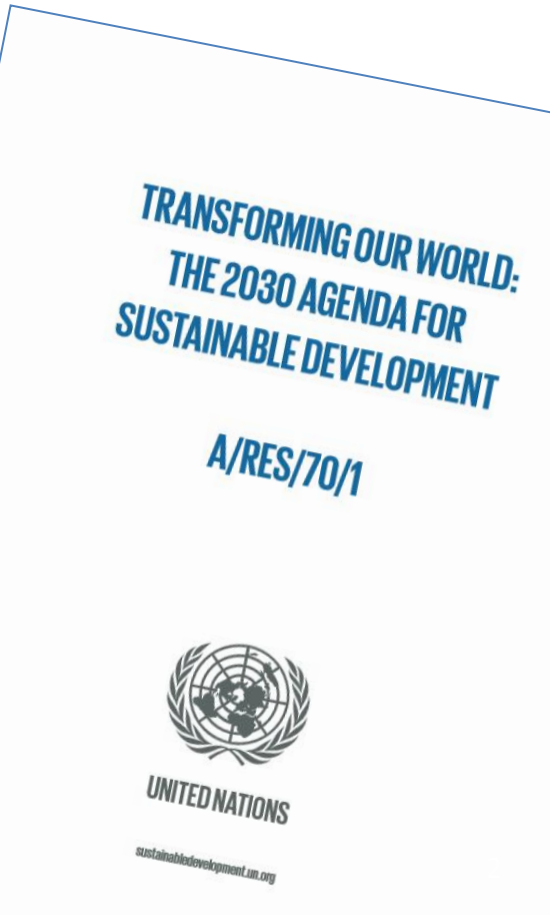
World Health Organization

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

unicef

Towards the 2030 Agenda

- Member States adopting the 2030 Agenda for Sustainable Development, September 2015
  - "plan of action for people, planet and prosperity"
  - "All countries and all stakeholders … will implement this plan"
  - "We are determined to take the bold and transformative steps … to shift the world onto a sustainable and resilient path"
  - "we pledge that no one will be left behind"



Member states are in charge

- Major shift from MDGs
- Impatience, frustration with UN
- Member states are determining
  - Global framework of goals and targets
  - Global framework of indicators
  - National frameworks for targets and monitoring

Global framework of indicators

- Inter-Agency Expert Group for the SDGs (IAEG-SDGs)
  - Established in 2015 by Statistical Commission
  - 28 Member States, numerous observers
- ToR
  - Develop a global indicator framework and list
  - Provide technical support for implementation
  - Review methodological developments and issues
- Activities to date
  - Consultations, review and tiering of indicators

15 Years

17 Goals

169 Targets

230 Indicators

World Health Organization

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From MDGs to SDGs

MDGs	SDGs
8 goals, **21** targets, **60** indicators	**17** goals, **169** targets, **230** indicators
Focus on poverty reduction	Focus on 3 pillars of sustainable development
Primarily relevant to poor countries	Relevant to all countries
1 water and sanitation target	**8** water and sanitation targets
2 core indicators on drinking water and sanitation	**11** core indicators for water and sanitation
Monitoring through household surveys	Monitoring by national authorities, feeding into regional and global reporting

WASH and other targets

Basic services

1.4 For the poor

4.a In schools

11.1 In cities

Gender

4.5 Disparities in education

5.5 Full participation at all levels

Health-related

2.2 Malnutrition

3.1 Maternal mortality

3.2 Child mortality

3.3 Water-related diseases

3.8 Universal health coverage

3.9 Deaths and illness from water pollution

11.5 Deaths from water-related disasters

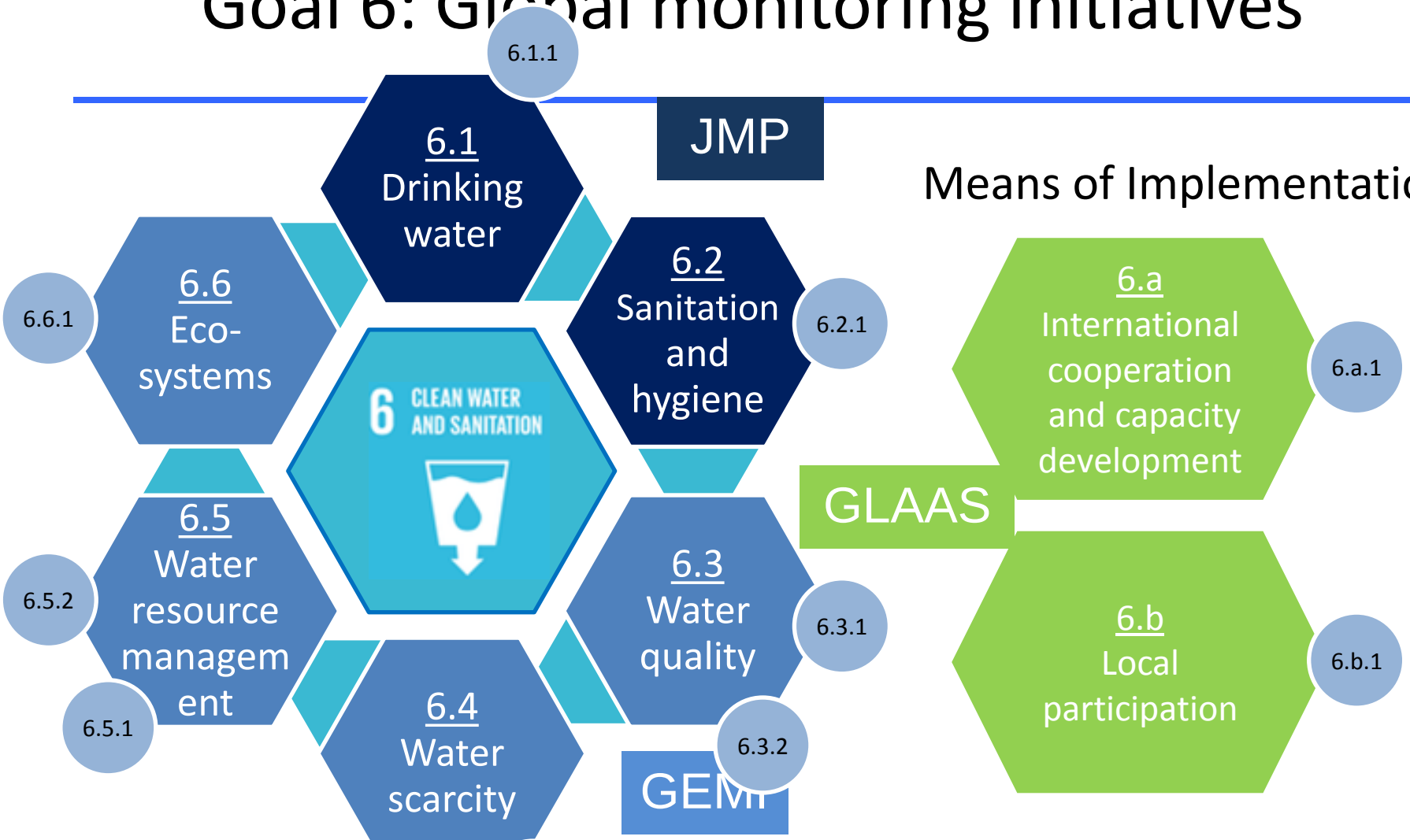
Goal 6: Ensure availability and sustainable management of water and sanitation for all

Means of Implementation

6.a International cooperation and capacity development

6.b Local participation

Goal 6: Global monitoring initiatives



11 proposed global indicators

Indicator	(brief title)	Custodian agency
6.1.1	Safely managed drinking water services	WHO/UNICEF JMP
6.2.1	Safely managed sanitation services including handwashing	WHO/UNICEF JMP
6.3.1	Safely treated wastewater	WHO, UN-Habitat
6.3.2	Ambient water quality in water bodies	UNEP
6.4.1	Change in water-use efficiency over time	FAO
6.4.2	Level of water stress	FAO
6.5.1	Degree of integrated water resource management implementation	UNEP
6.5.2	Transboundary basins with operational cooperation agreements	UNEP
6.6.1	Change in extent of water-related ecosystems over time	UNEP
6.a	Water and sanitation ODA as part of coordinated spending plans	OECD, WHO, UNEP
6.b	Participation of local communities in water and sanitation manageme	WHO, UNEP

JMP

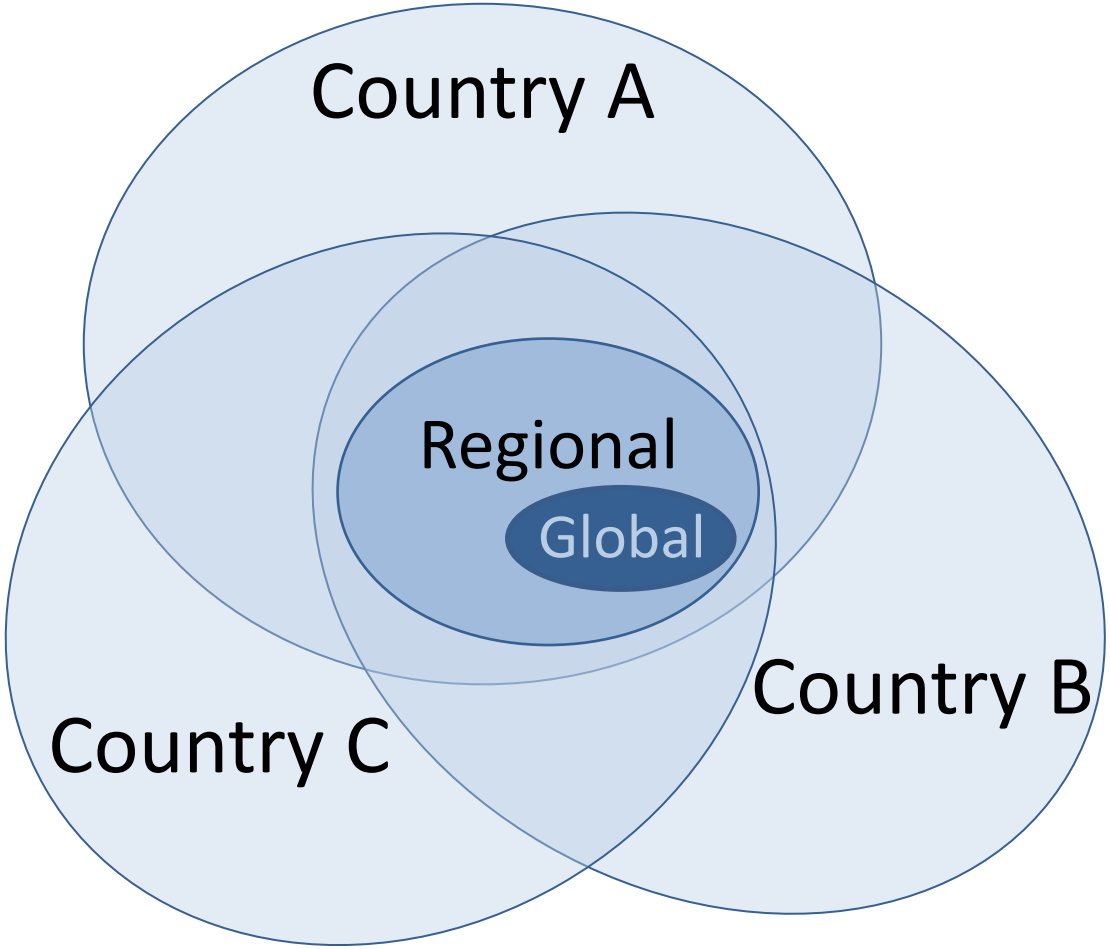
GEMI

GLAAS

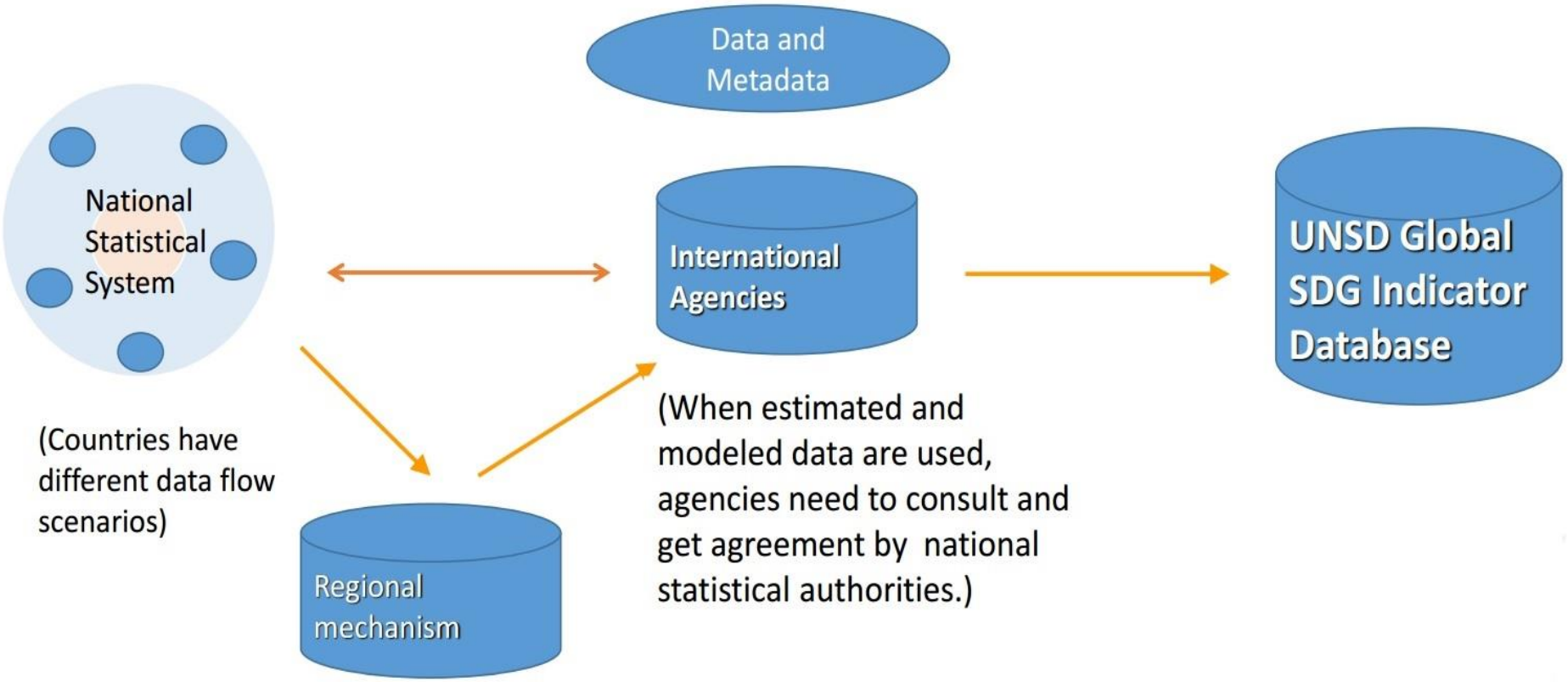
Indicator framework

- Global indicators will be the core of all other sets of indicators
- Member States will develop indicators at regional, national and sub-national levels to complement the global indicators, taking into account national circumstances.
- Thematic indicators are also being developed in a number of areas

Global, regional and national indicators



Data flow for global reporting



IAEG-SDG Tiering

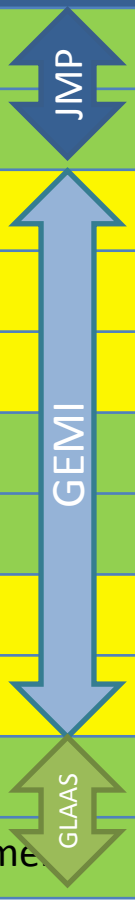
TIER I – Indicator is conceptually clear, established methodology and standards available and data regularly produced by countries

TIER II – Indicator conceptually clear, established methodology and standards available but data are not regularly produced by countries

TIER III – Indicator for which there are no established methodology and standards or methodology/ standards are being developed/tested

11 proposed global indicators

Indicator	(brief title)	IAEG Tier (Mar 16)
6.1.1	Safely managed drinking water services	I
6.2.1	Safely managed sanitation services including handwashing	I
6.3.1	Safely treated wastewater	III
6.3.2	Ambient water quality in water bodies	III
6.4.1	Change in water-use efficiency over time	III
6.4.2	Level of water stress	I
6.5.1	Degree of integrated water resource management implementation	I
6.5.2	Transboundary basins with operational cooperation agreements	III
6.6.1	Change in extent of water-related ecosystems over time	III
6.a	Water and sanitation ODA as part of coordinated spending plans	I
6.b	Participation of local communities in water and sanitation manageme	I



47th Statistical Commission (Mar 16)

- Emphasised that global indicators are for global follow-up and review, and are not necessarily applicable to all national contexts
  - Indicators for regional, national and subnational levels of monitoring will be developed at the regional and national levels
- Agreed that IAEG-SDG should continue with tiering work over 2016
  - To report back to 48th Statistical Commission, especially on methodologies for Tier III indicators

47th Statistical Commission (Mar 16)

- Emphasised that global statistics will be based to the greatest extent possible on comparable and standardized national official statistics, provided by countries to the international statistical systems
  - When other sources and methodologies are used, these will be reviewed and agreed by the national statistical authorities
  - Importance of coordination between national statistical systems and international organizations
  - Recognized need to strengthening the reporting capacity of poorer countries

Timeline and next steps

Sep 15	UN General Assembly	Transforming our world
Dec 15	UN SG Report	
Mar 16	Statistical Commission	Considered global indicator framework
Jul 16	ECOSOC	Considered global indicator framework
Sep 16	UN General Assembly	Should finalize indicator framework
Oct 16	IAEG-SDG Meeting	Further review indicators, esp. Tier III
Mar 17	Statistical Commission	Provide more details on methodology for Tier III indicators
Jul 17	UN SG Report	First annual SDG progress report

Safely Managed
Drinking Water Services

Target 6.1: Drinking water

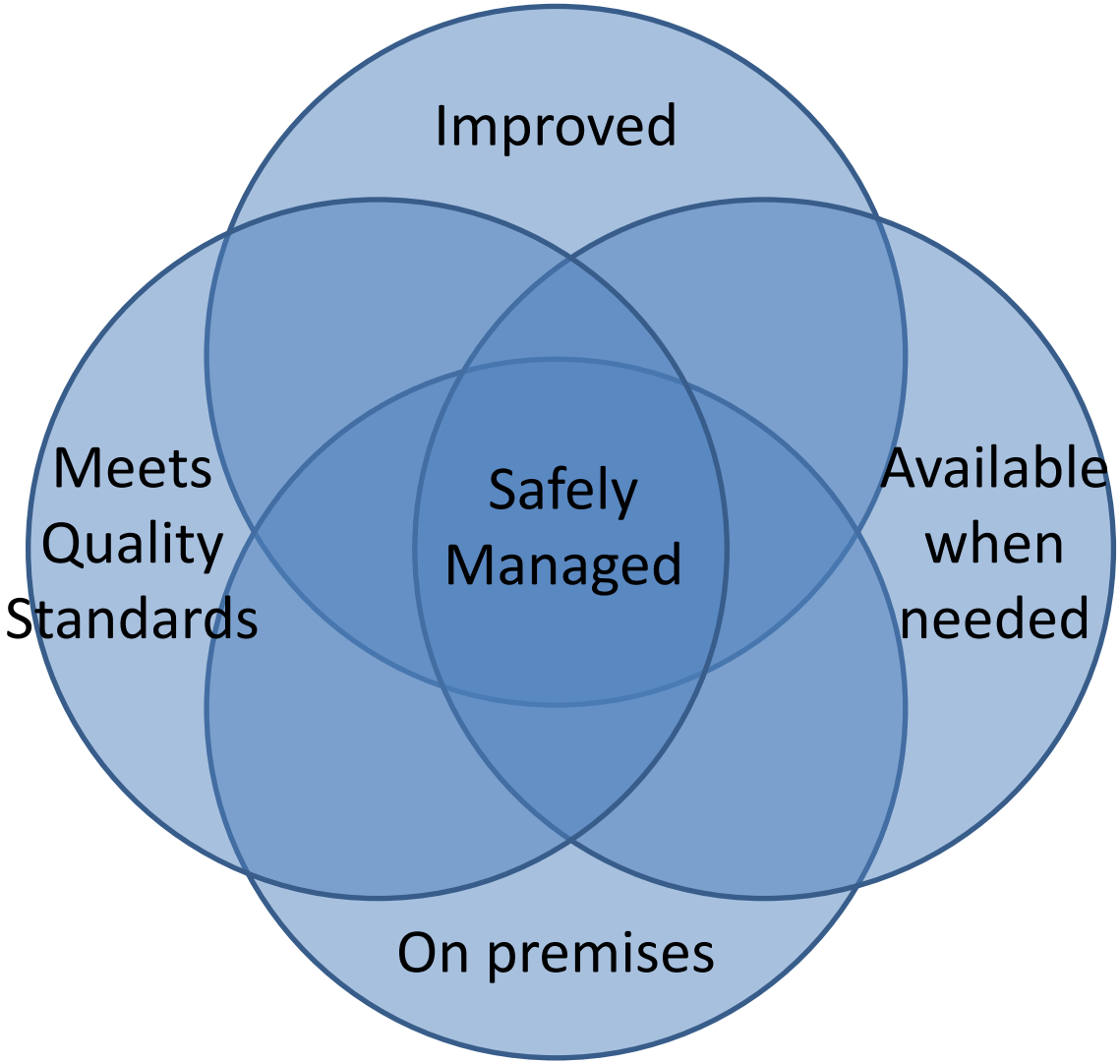
*By 2030, achieve **universal** and **equitable** access to **safe** and **affordable** drinking water **for all***

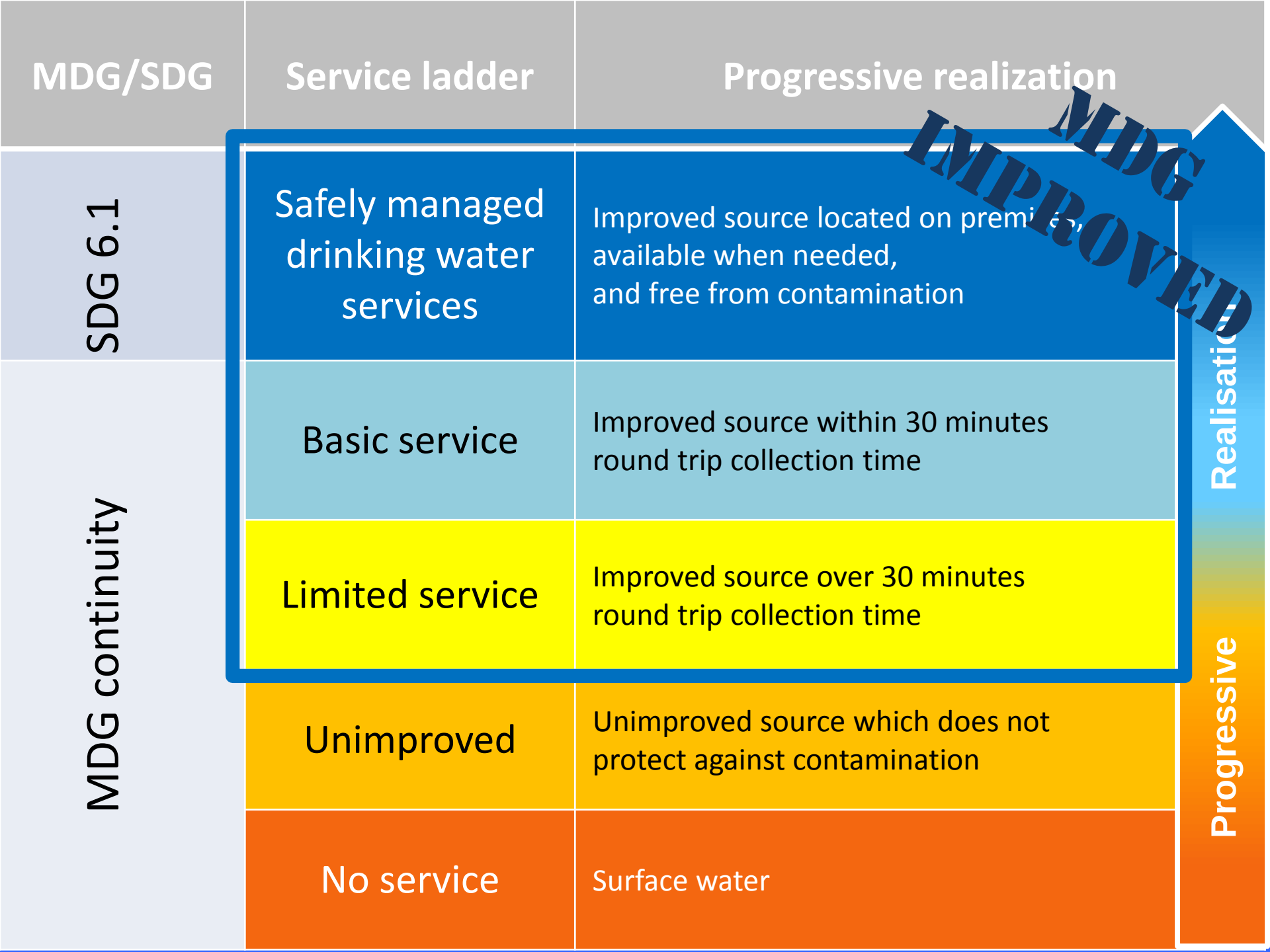
6.1.1: Population using safely managed drinking water services

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

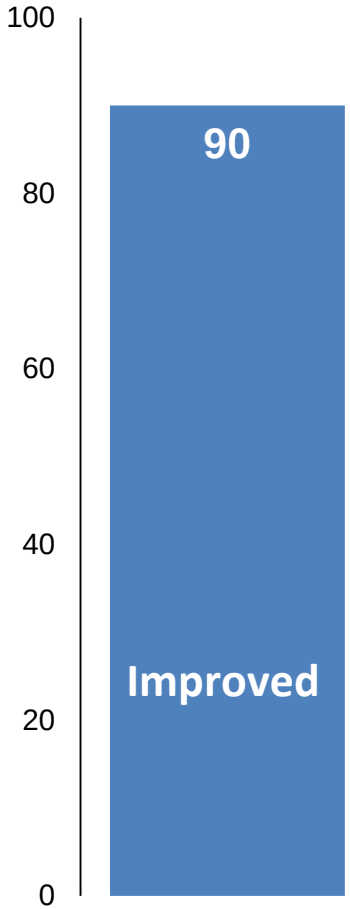
- located on premises, **Accessibility**
- available when needed, and **Availability**
- free of faecal and priority chemical contamination **Quality**

  (*E. coli*/thermotolerant coliforms, arsenic, fluoride)

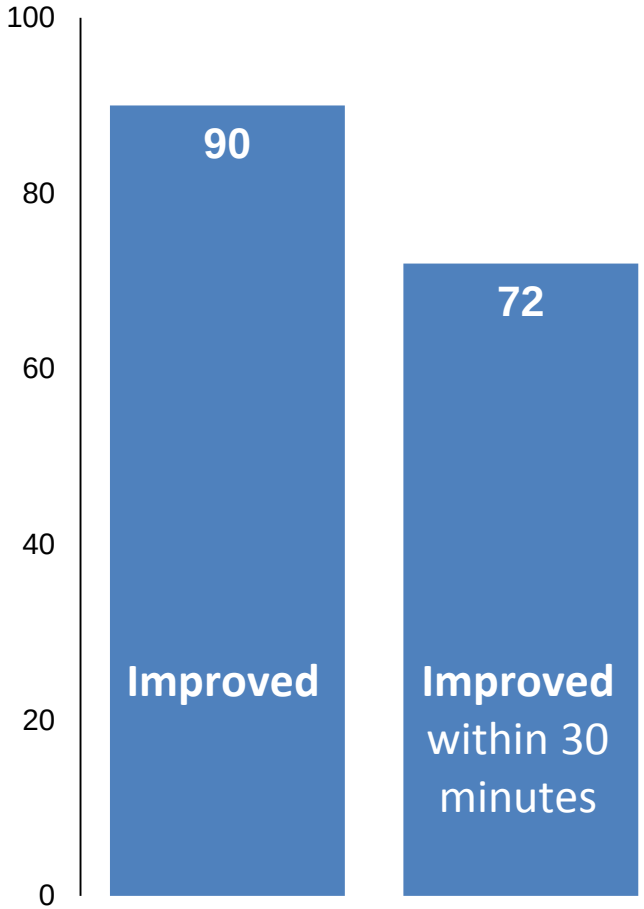

Improved
Meets Quality Standards
Safely Managed
Available when needed
On premises


MDG/SDG
Service ladder
Progressive realization
SDG 6.1
MDG continuity
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 which does not protect against contamination
No service
Surface water
MDG IMPROVED
Realisation
Progressive

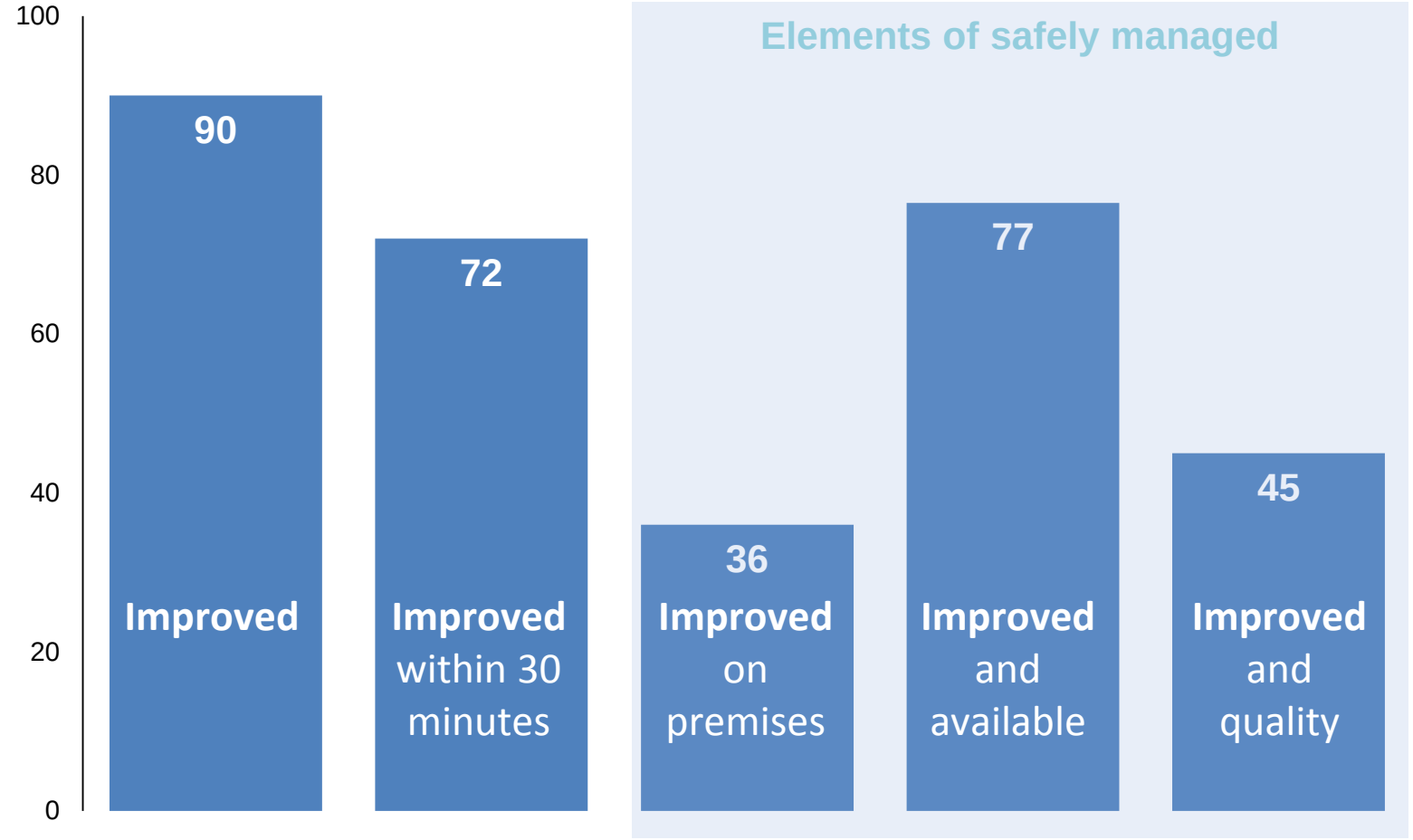
Example: Safely Managed Drinking Water



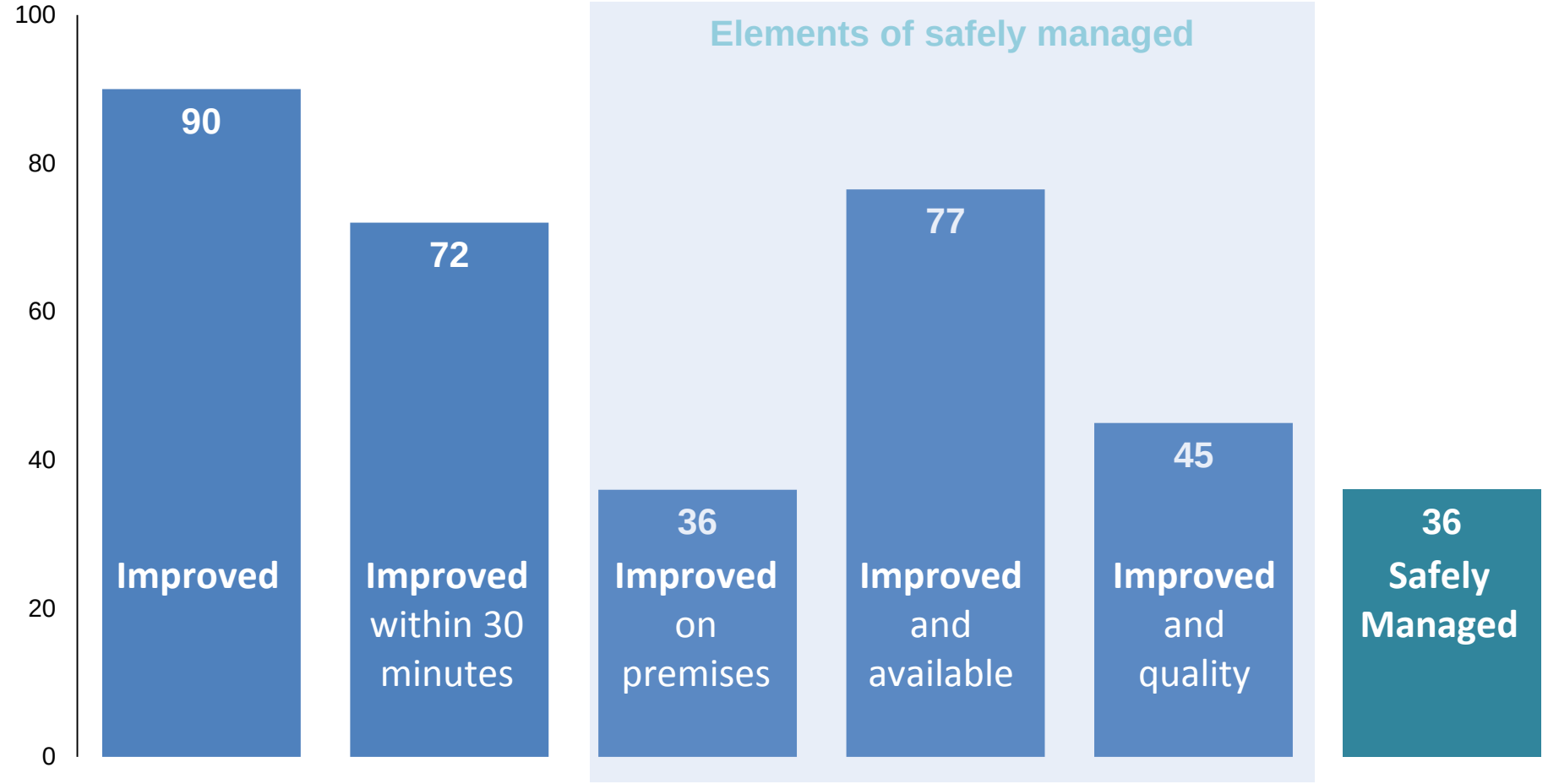
Example: Safely Managed Drinking Water

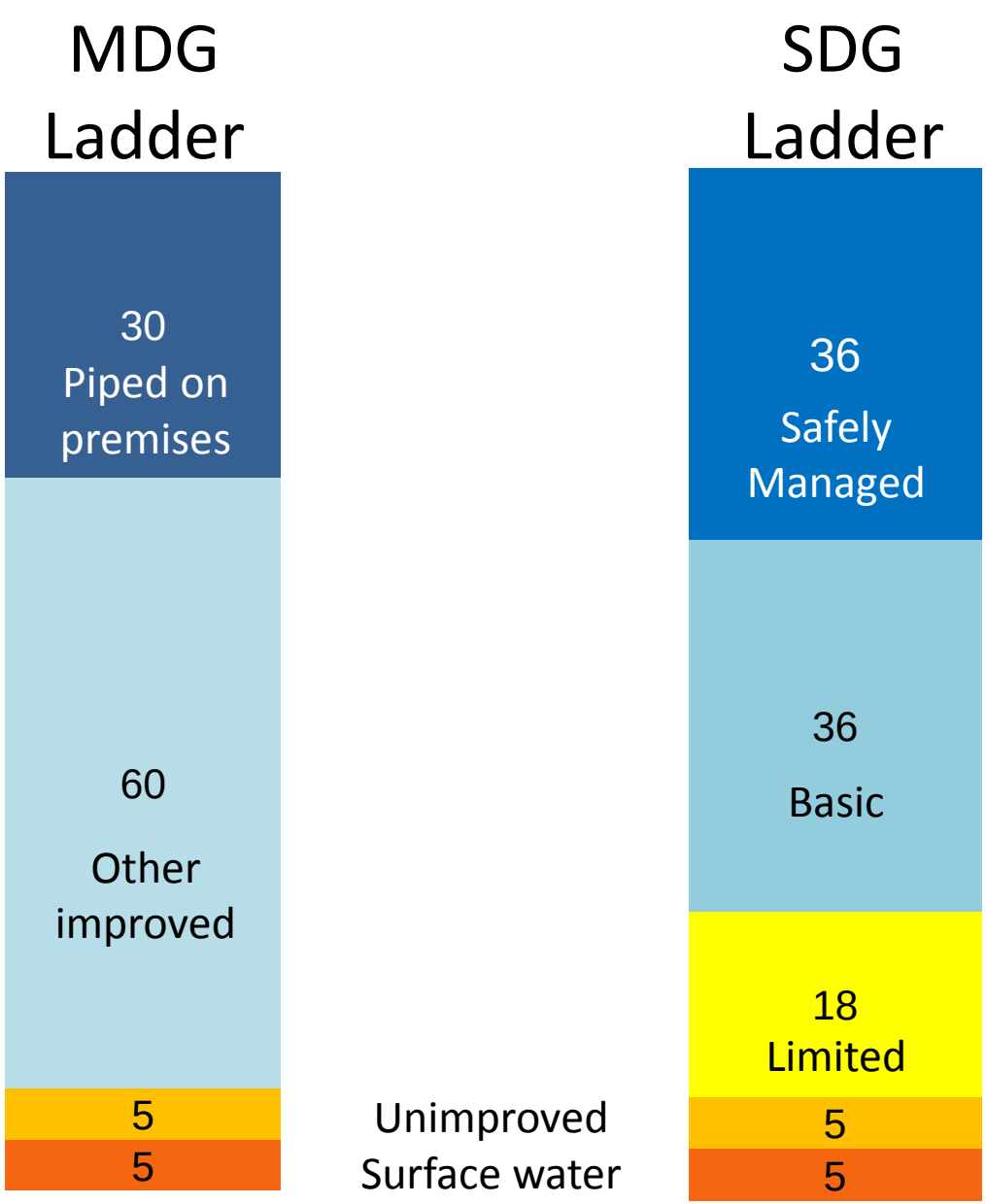


Example: Safely Managed Drinking Water



Example: Safely Managed Drinking Water




MDG Ladder
30 Piped on premises
60 Other improved
5
5
Unimproved
Surface water
SDG Ladder
36 Safely Managed
36 Basic
18 Limited
5
5

Data sources

Criterion	Household Surveys	Sectoral data
Accessibility	Now: Travel time (or distance), is the water supply on premises	Maximum distance/ travel time Household connections (piped supplies)
Availability	Now: What people report using New: In the last two weeks, have you been unable to get water from your main drinking water source?	Coverage Continuity (piped) Hours of service
Quality	New: Water quality testing in household surveys	Compliance with national norms, WSPs

Data availability

- Household surveys and censuses
  - Ca. 1,700 in current JMP database
- Sectoral data
  - New desk review: 871 reports from 194 countries, areas and territories (6.9 B people)
    - IB-NET (utilities)
    - Drinking water regulators
    - Ministries responsible for service provision or oversight
    - Often partial coverage

Preliminary mapping: data availability (# of datasets)

MDG Region	Surveys (Accessibility)	Sectoral data			Sectoral
		Accessibility	Continuity	Quality	TOTAL
Causasus and Central Asia	65	--	7	5	21
Developed Countries	306	2	41	148	292
Eastern Asia	31	--	4	28	52
Latin America and the Caribbean	**367**	**1**	**89**	**40**	**213**
Northern Africa	42	1	9	--	19
Oceania	50	1	16	15	48
Sub-Saharan Africa	486	2	65	53	135
Southern Asia	**101**	2	6	12	24
South-eastern Asia	118	--	10	6	24
Western Asia	49	--	16	5	43
World	**1,615**	**9**	**263**	**312**	**871**

Preliminary mapping: data availability (# of countries)

MDG Region	Surveys (Accessibility)	Sectoral data			Sectoral
		Accessibility	Continuity	Quality	TOTAL
Causasus and Central Asia	8	--	7	4	7/8
Developed Countries	49	1	27	43	52/55
Eastern Asia	4	--	4	4	5/6
Latin America and the Caribbean	**32**	**1**	**40**	**19**	**44/46**
Northern Africa	5	1	5	--	5/6
Oceania	12	1	16	11	18/20
Sub-Saharan Africa	49	2	34	13	36/51
Southern Asia	9	2	6	4	7/9
South-eastern Asia	10	--	7	5	9/11
Western Asia	9	--	10	3	11/13
World	**187**	**8**	**156**	**106**	**194/225**

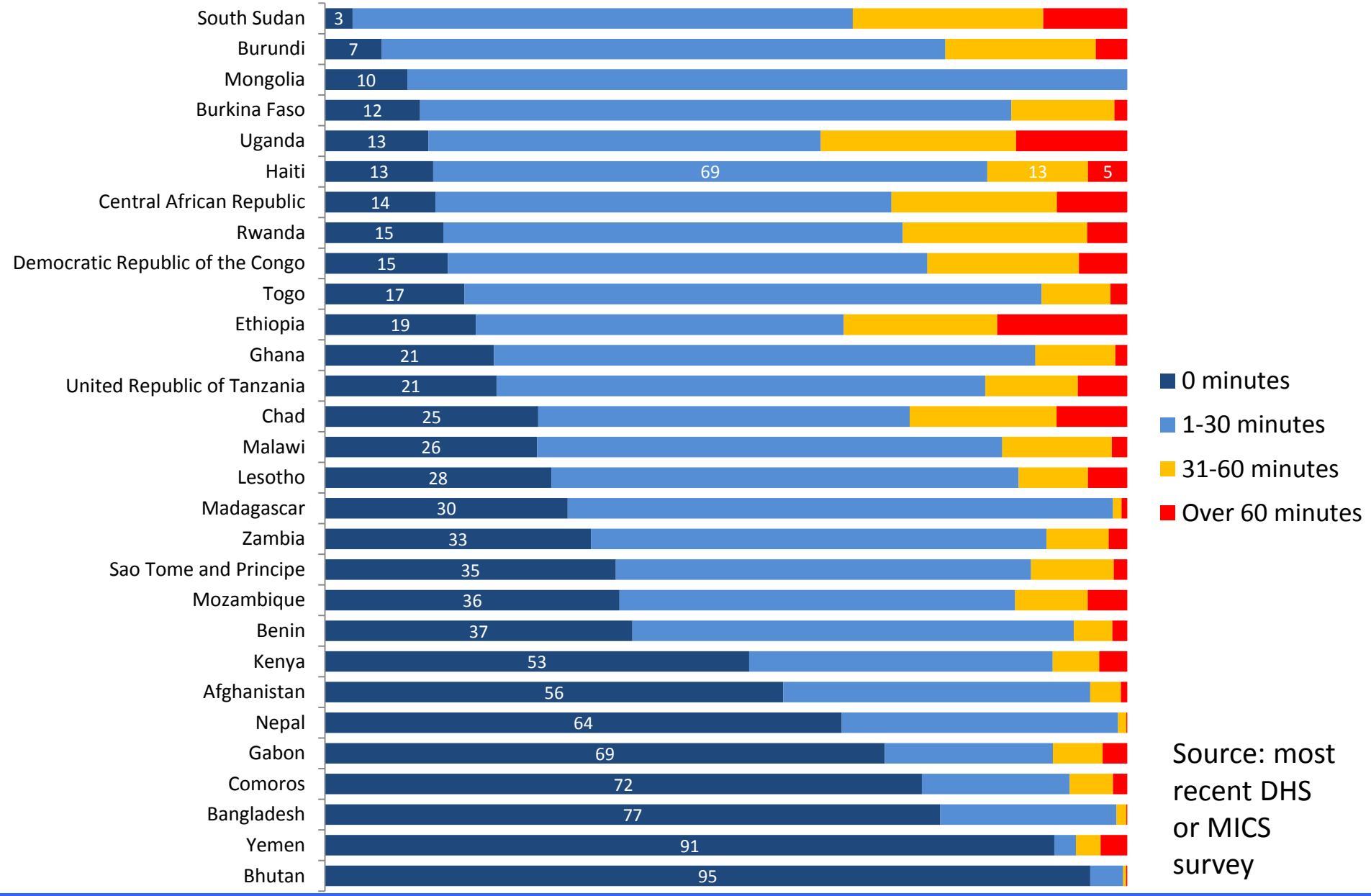
Example: Colombia

ISO 3	Data categor	data type	year	Authority	urban/rural	Title	Web
COL	Utilities	DW continuity	3/2004, 2007/2010		Only urban		https://database.ib-net.org/
COL	Regulator	DW continuity	2015	Superintendencia de Servici	Only total	Informe sectc	http://www.superservicios.gov.co/
COL	Regulator	DW quality	2015	Superintendencia de Servici	Only total	Informe sectc	http://www.superservicios.gov.co/
COL	Regulator	Waste water	2015	Superintendencia de Servici	Only total	Informe sectc	http://www.superservicios.gov.co/
COL	Regulator	DW quality	2014	Superintendencia de Servici	Only total	Informe sectc	http://www.superservicios.gov.co/
COL	Regulator	DW continuity	2014	Superintendencia de Servici	Only total	Informe sectc	http://www.superservicios.gov.co/
COL	Regulator	Waste water	2014	Superintendencia de Servici	Only total	Informe sectc	http://www.superservicios.gov.co/
COL	Regulator	DW quality	2014	Superintendencia de Servici	Only total	Diagnostico c	http://www.superservicios.gov.co/
COL	Regulator	Waste water	2014	Superintendencia de Servici	Only total	Informe tecni	http://www.superservicios.gov.co/
COL	Report	Waste water	2000	PAHO	Only total	Regional repc	http://www.bvsde.paho.org/bvsaas/i
COL	Regulator	DW quality	2015/2016	SIVICAP	Only total	Boletin vigilar	http://www.ins.gov.co/
COL	Regulator	DW quality	2014	SIVICAP	Urban and rural separately	Estado de la	http://www.ins.gov.co/
COL	Survey	DW accessibility	2000	USAID	Urban and rural separately	DHS2000	
COL	Survey	DW continuity	2003	Departamento Administrativo	Nacional de Estadistica	ECV2003	
COL	Survey	DW accessibility	2003	Departamento Administrativo	Nacional de Estadistica	ECV2003	
COL	Survey	DW continuity	2008	Departamento Administrativo	Nacional de Estadistica	ECV2008	
COL	Survey	DW accessibility	2008	Departamento Administrativo	Nacional de Estadistica	ECV2008	
COL	Survey	DW continuity	2009	Departamento Administrativo	Nacional de Estadistica	ECV2009	
COL	Survey	DW continuity	2010	Departamento Administrativo	Nacional de Estadistica	ECV2010	
COL	Survey	DW accessibility	2010	Departamento Administrativo	Nacional de Estadistica	ECV2010	
COL	Survey	DW continuity	2011	Departamento Administrativo	Nacional de Estadistica	ECV2011	
COL	Survey	DW continuity	2012	Departamento Administrativo	Nacional de Estadistica	ECV2012	
COL	Survey	DW accessibility	2010	USAID	Urban and rural separately	DHS2010	
COL	Survey	DW continuity	2013	Departamento Administrativo	Nacional de Estadistica	ECV2013	
COL	Survey	DW continuity	2014	Departamento Administrativo	Nacional de Estadistica	ECV2014	
COL	Survey	DW continuity	2015	Departamento Administrativo	Nacional de Estadistica	ECV2014	

+ Accessibility from 2 censuses, 5 other household surveys

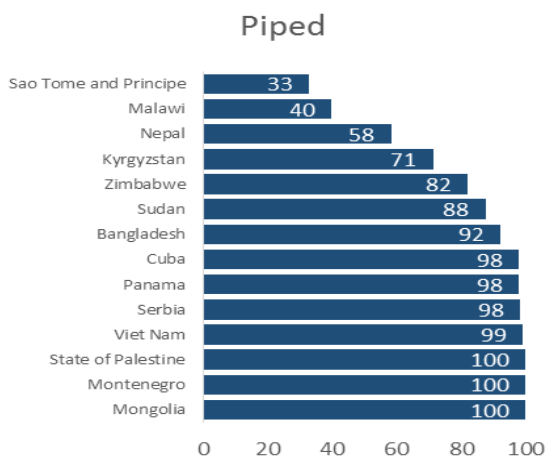
Accessibility (on premises, 30 min)

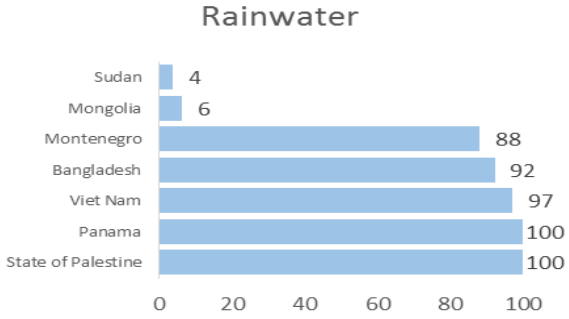
- Household surveys and censuses
  - On premises (piped water)
  - Travel time (sometimes distance)
  - Available for all DHS and MICS countries
- Sector data
  - Household connections, among piped water services
  - Only found data from 8 countries, 1.5B people

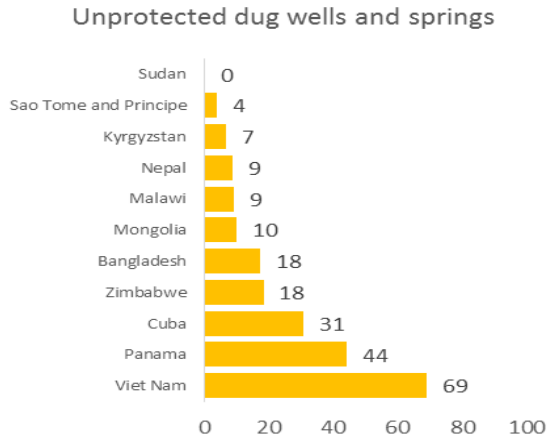


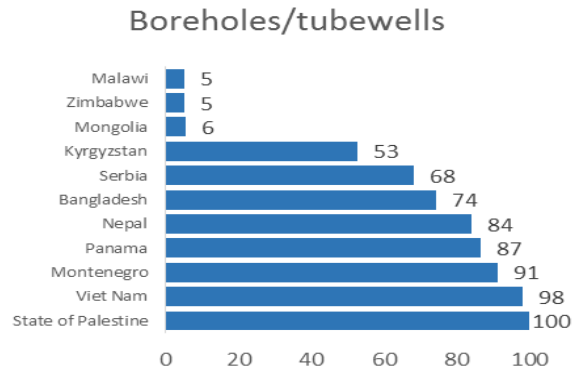
Source: most recent DHS or MICS survey

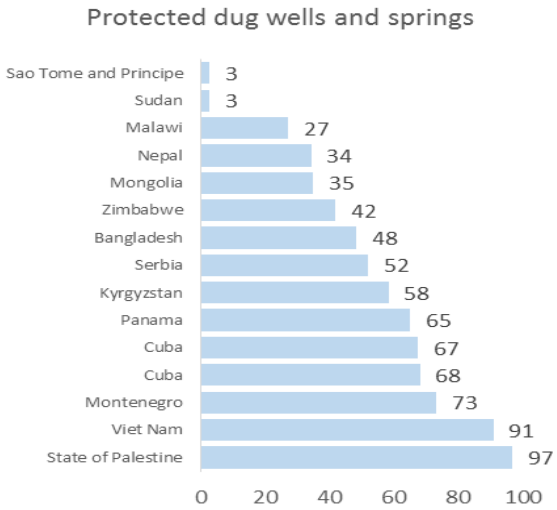
“On premises” varies widely by source and by country

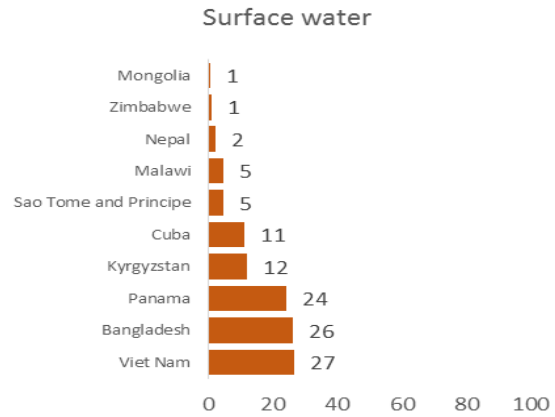










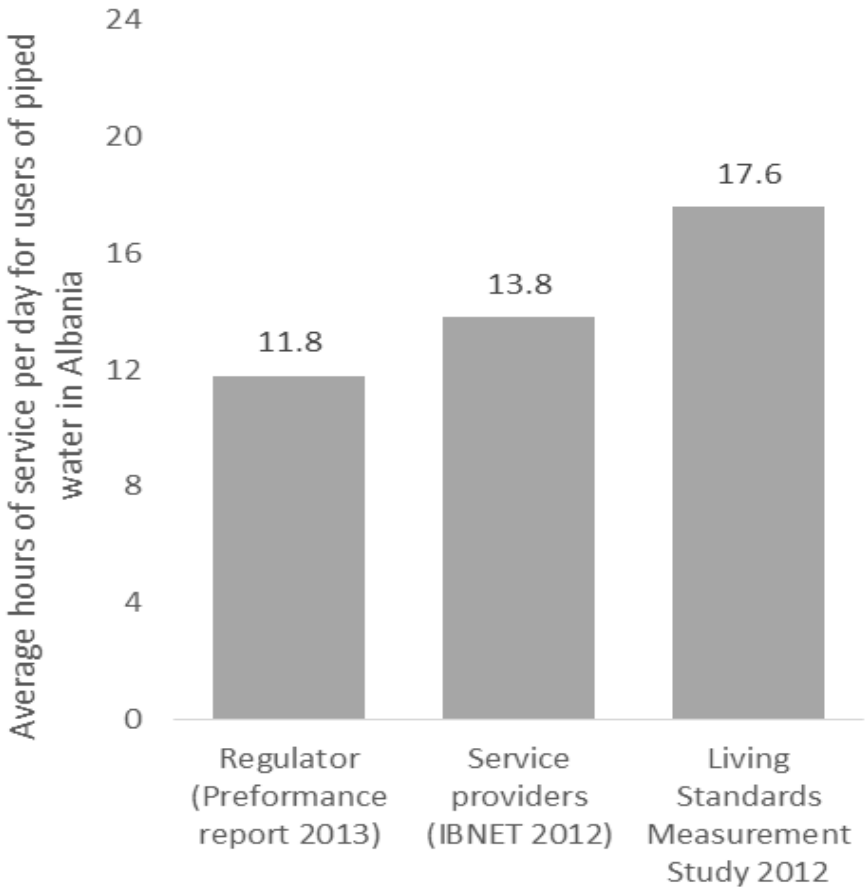


Availability

- Household surveys and censuses
  - Introducing new questions
    - Continuity (hours of service) of piped water supplies
    - In the last two weeks, have you been unable to get water from your main drinking water source?
- Sector data
  - Continuity of piped supplies (mainly from IB-NET)
  - Different benchmarks (24/7, 20 hours, 16 hours…)
  - Data from 156 countries, 6.3B people

Variability among data sources

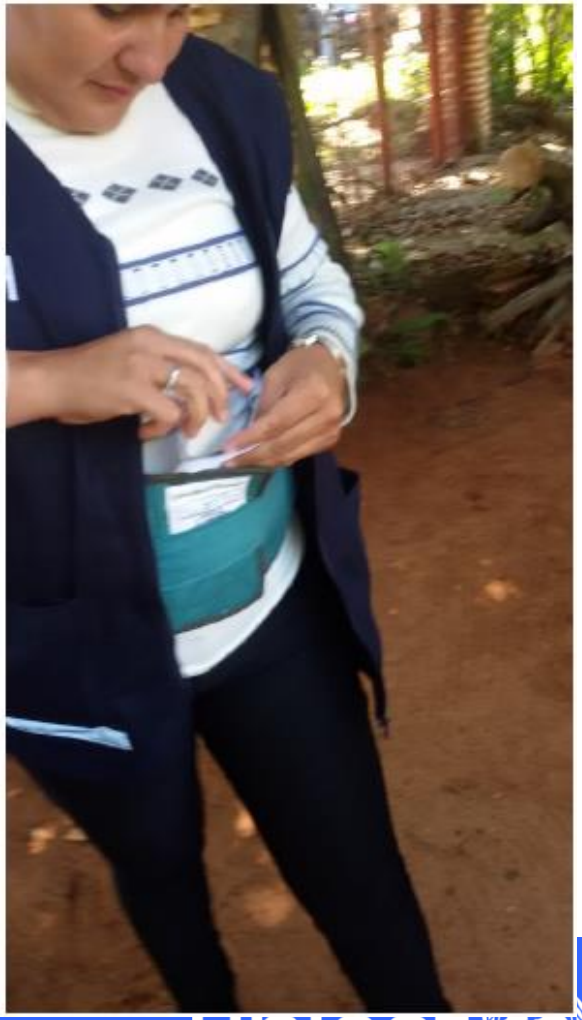
- Example: Albania
- Good Performance Objective
  - 18 hours per day
- Strategic objective for 2013
  - 14 hours per day
- Triangulation



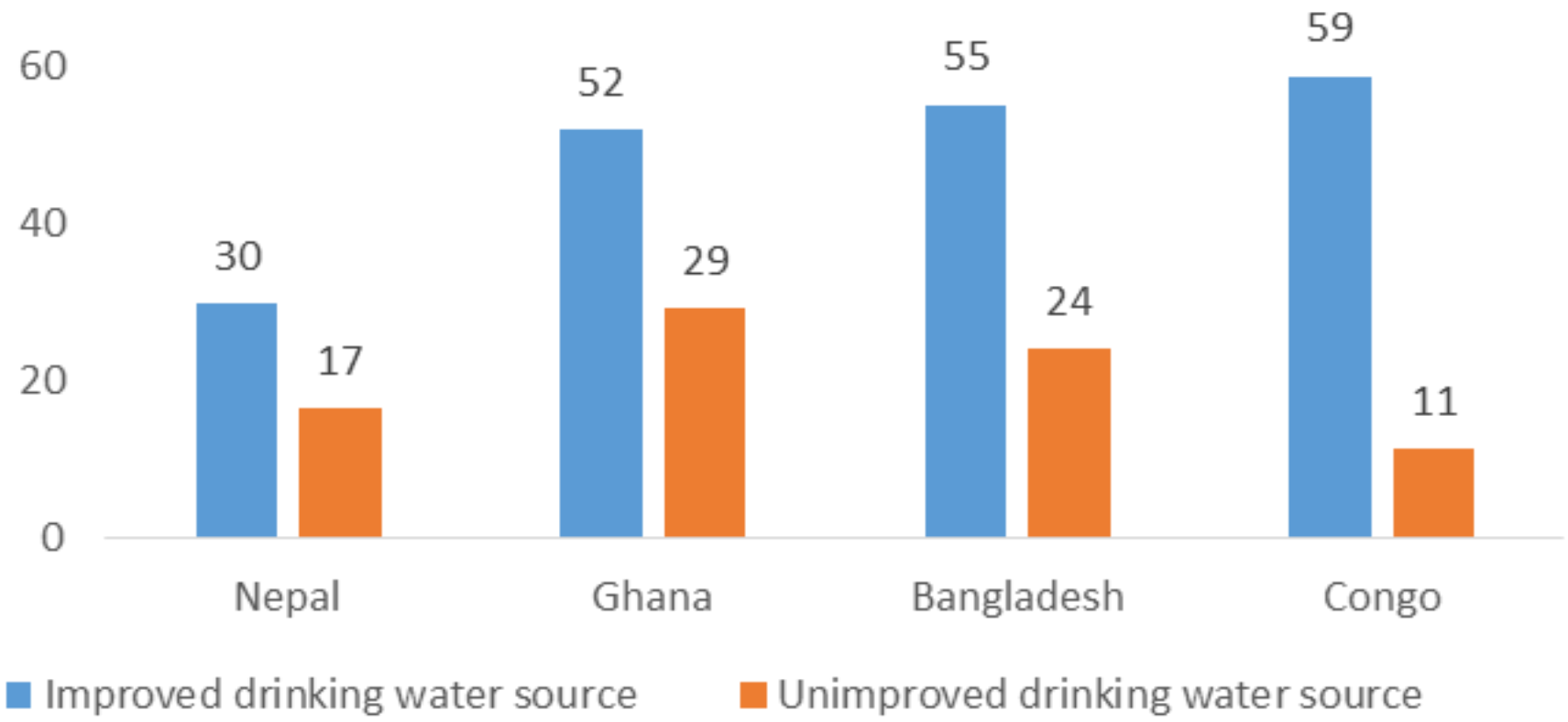
Quality

- *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
  - Data from 106 countries, 5.2B people
  - Many for only formal systems, mainly urban
  - Some lack *E. coli* or thermotolerant coliforms
  - Many lack arsenic and fluoride

MICS Paraguay, 2016



Improved sources are more often free from *E. coli*



Data completeness assessment

- Many of the sector data are incomplete
  - Geographically
    - Formal supplies only, no water quality for rural areas
  - Different proxies
    - E.g. residual chlorine, instead of *E. coli*/TTC measures
- Global estimates may require assumptions
  - As long as they don't affect too much population
  - Results in less robust assessment (lower grade)

Data completeness score

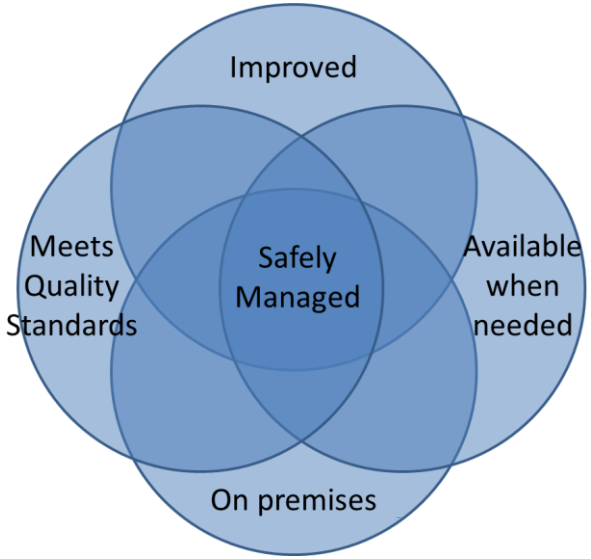
4	• NSO endorses all data sources used • Assumptions affect < 10% of the population
3	• Assumptions affect < 10% of the population
2	• Assumptions affect 10-25% of the population
1	• Assumptions affect 25-50% of the population • Estimate made in JMP reports but not sent to UNSD
0	• Assumptions affect > 50% of the population • No estimate made

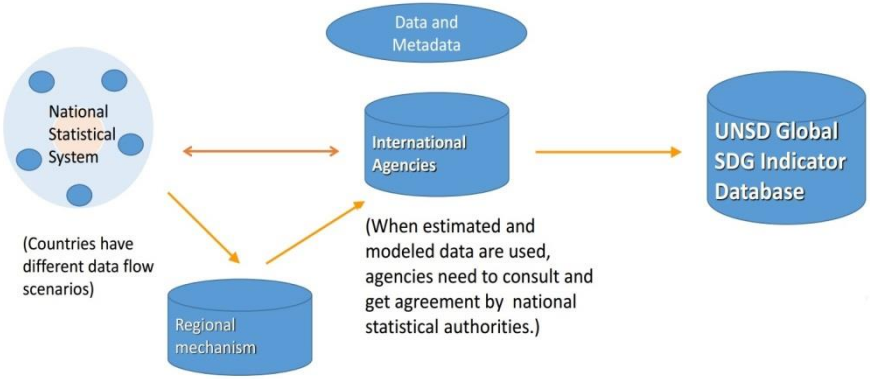
Examples of assumptions

- 5% of the population uses traditional wells, no information on if these are improved
  - Assume 50% improved, Grade 3
- 20% of the population uses boreholes, no information on availability
  - Assume 50% available, Grade 2
- 40% of the population uses informal supply, no information on quality
  - Assume 50% meet standards, Grade 1

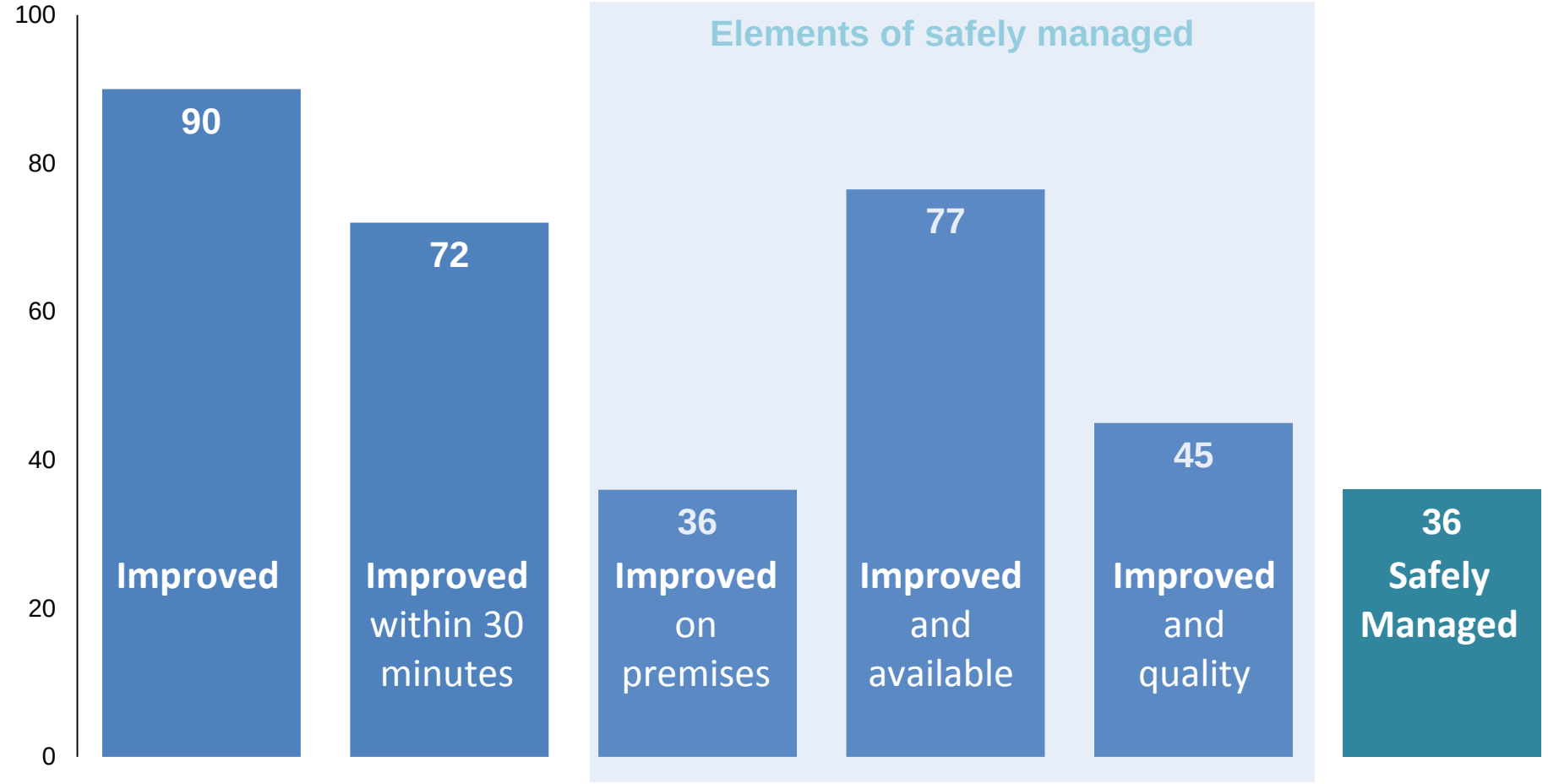
Putting it all together

- Combine elements at lowest possible level
  - Household
  - Service provider
  - National
- Triangulate when multiple sources are available





Example: Safely Managed Drinking Water



SDG targets 'leave no one behind'

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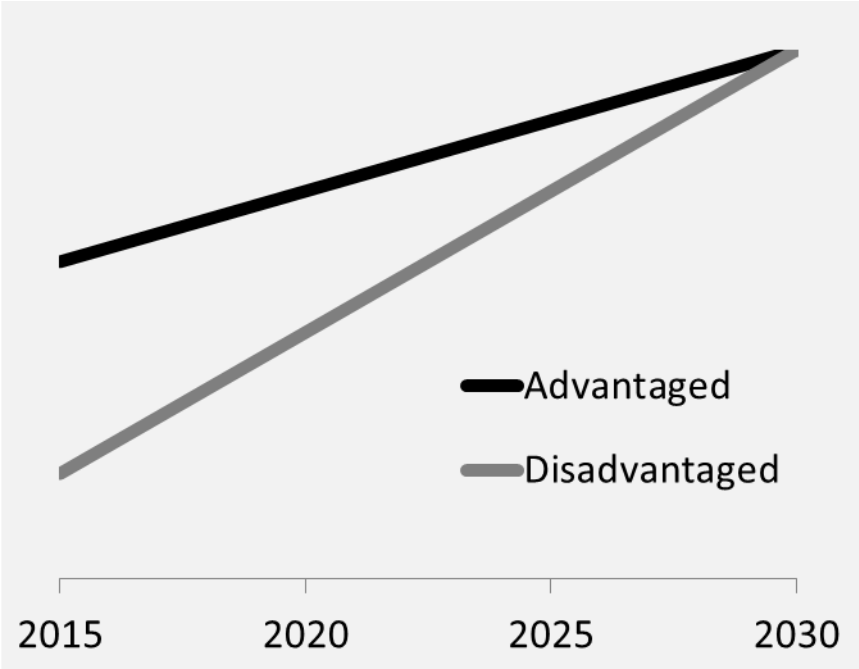
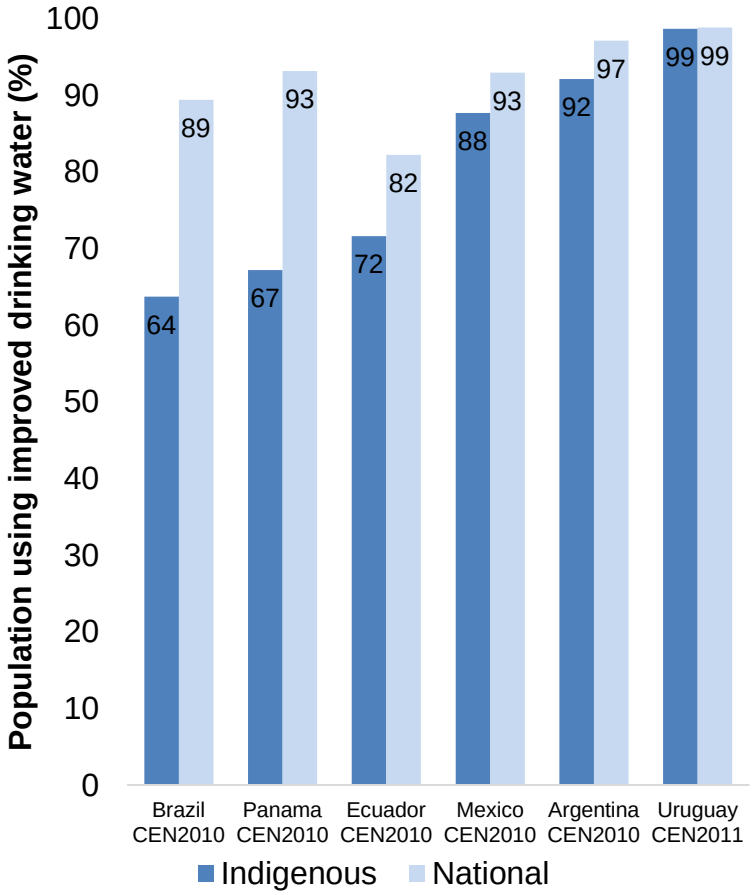
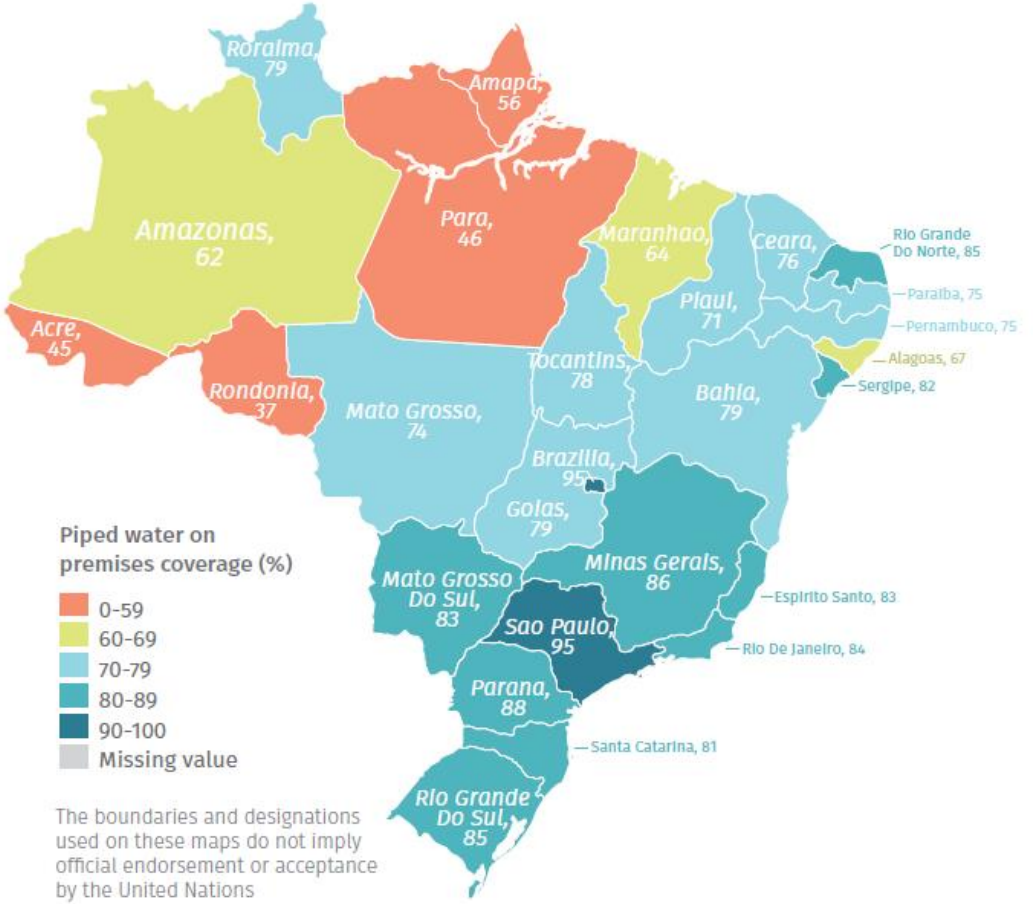


Inequalities in LAC





Next steps

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  - September: data request to regional and country offices
- Data analysis through end of 2016
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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:

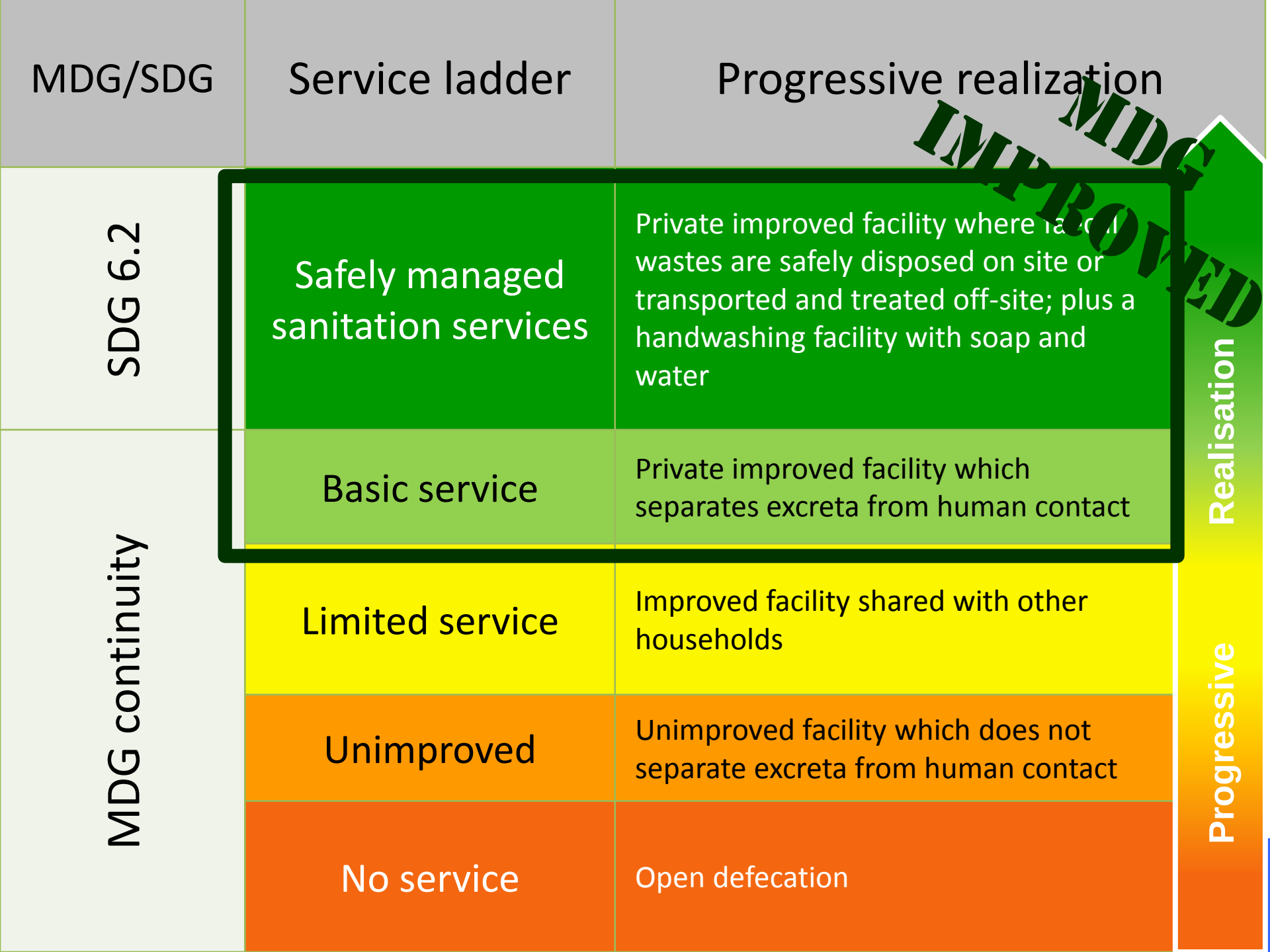
- not shared with other households and where — **Accessibility**
- excreta are safely disposed in situ or
- transported and treated off-site — **Quality**

Safely treated offsite

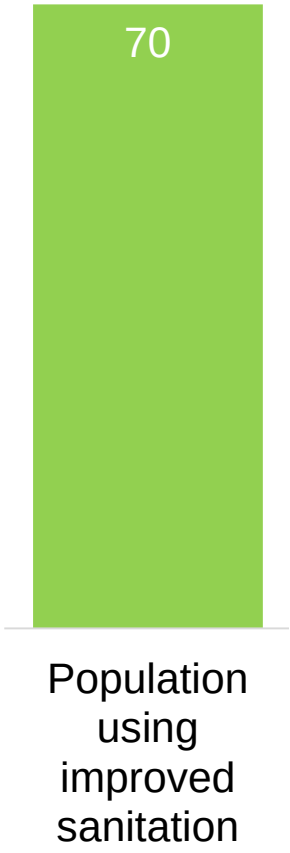
Safely treated onsite

Not Shared

Improved


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

Example of Safely Managed Sanitation



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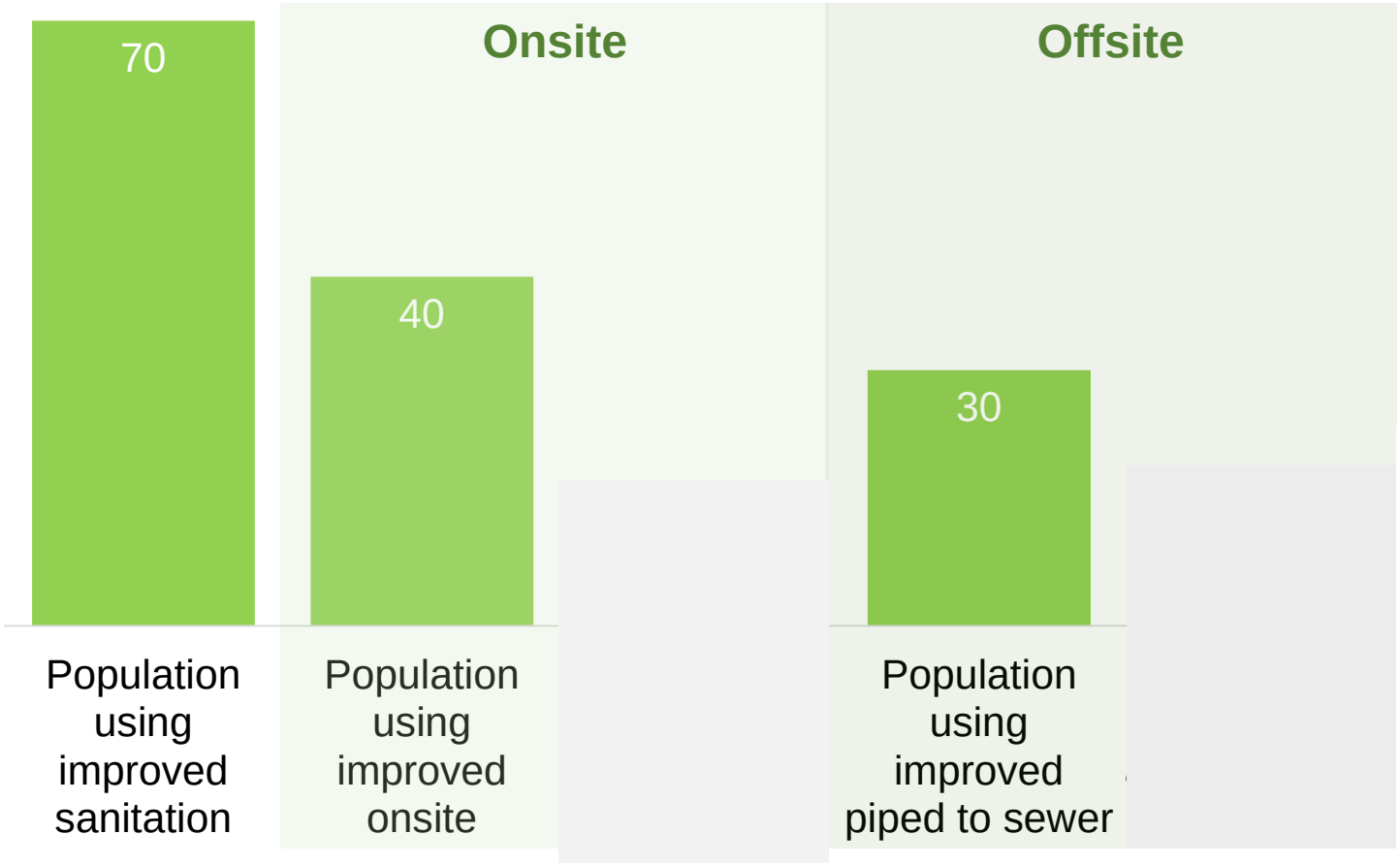
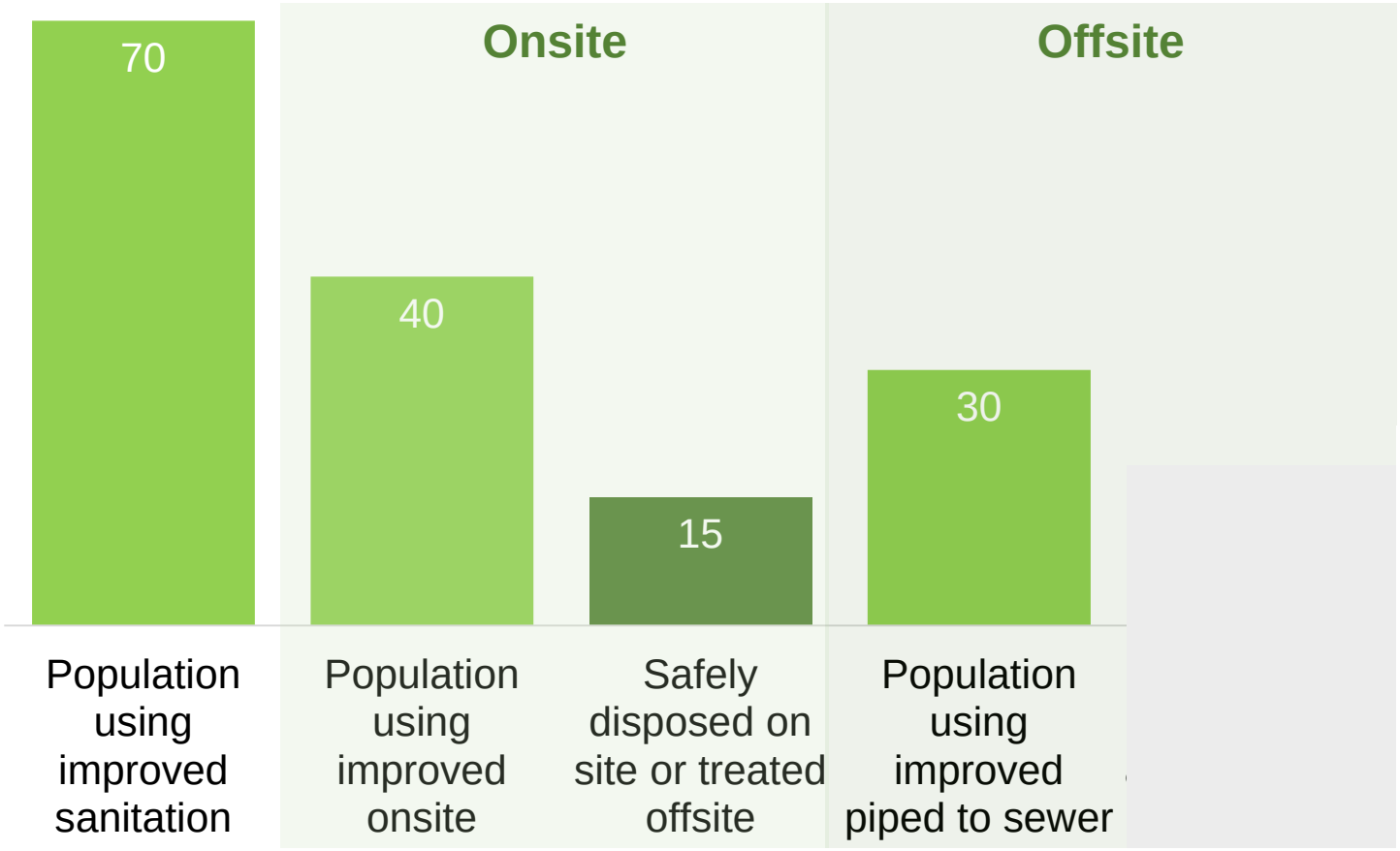


Example of Safely Managed Sanitation



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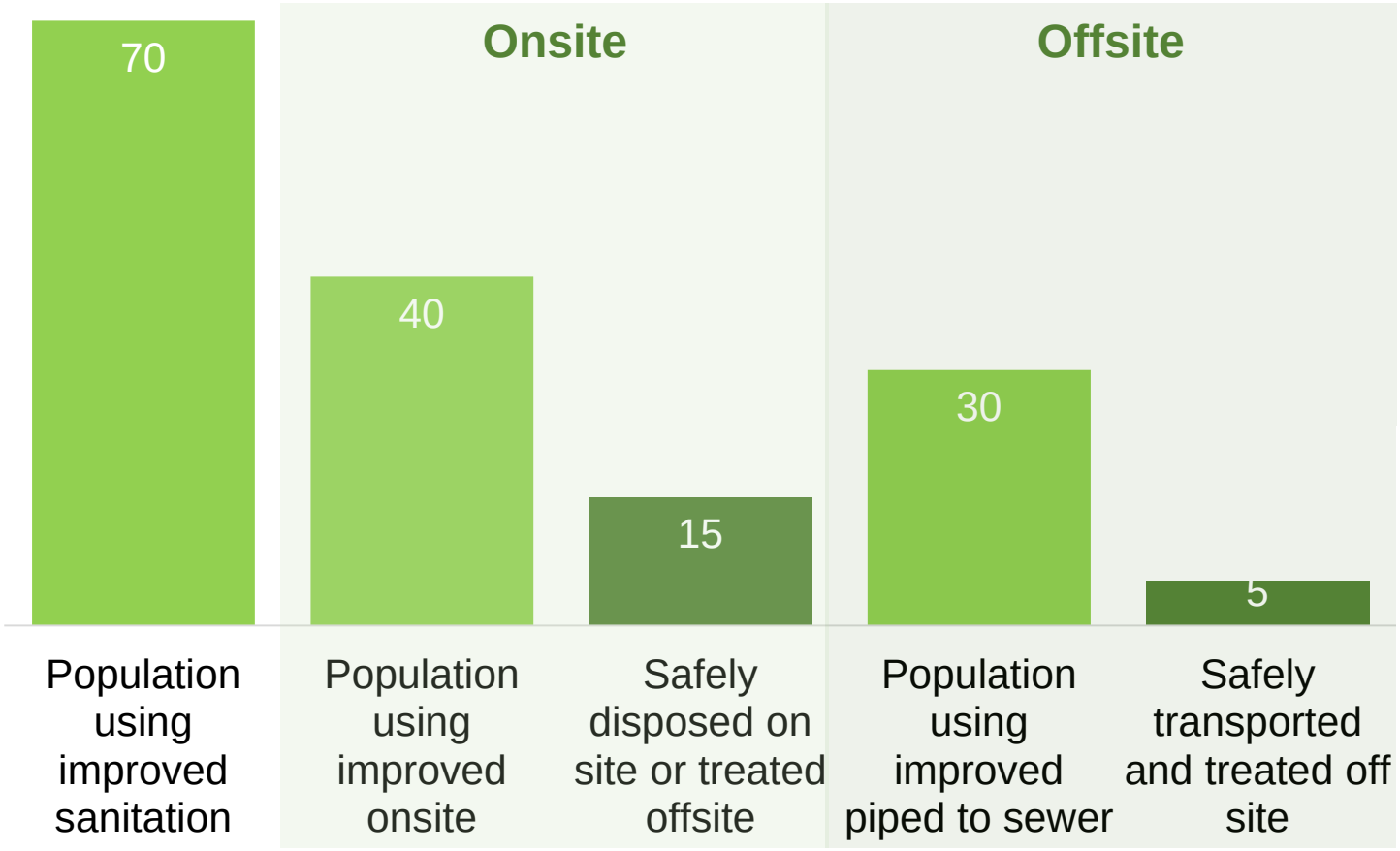
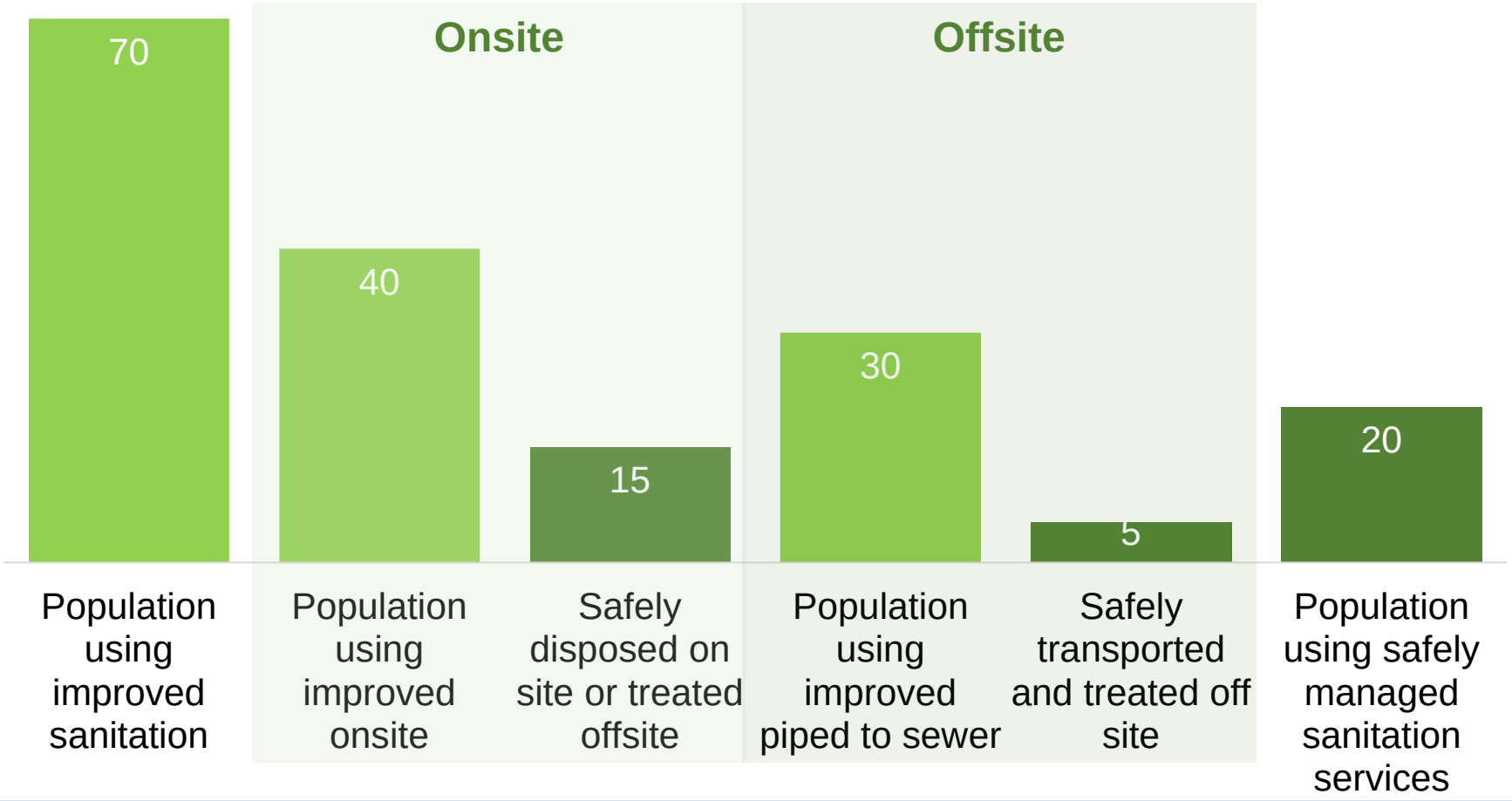
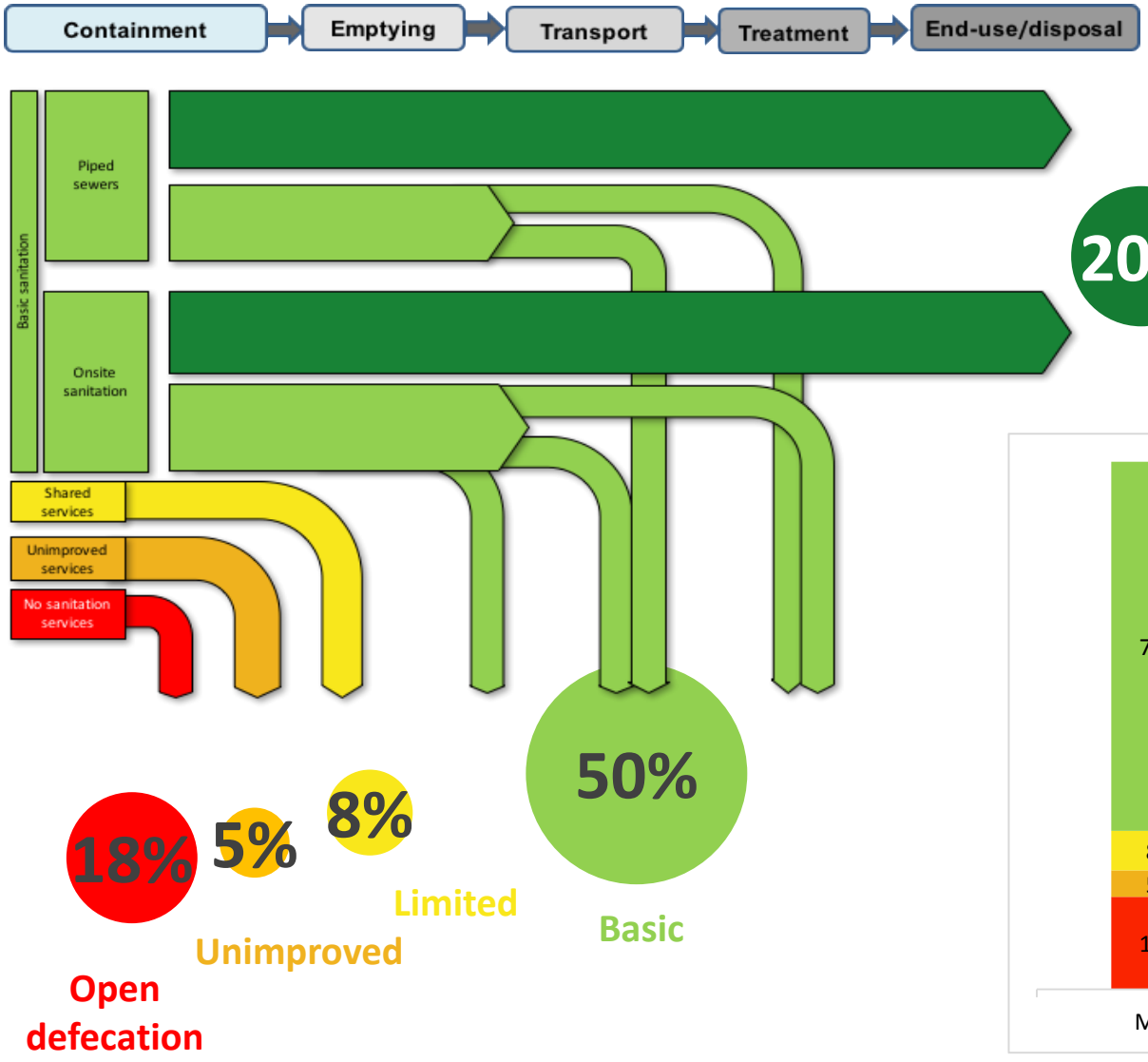
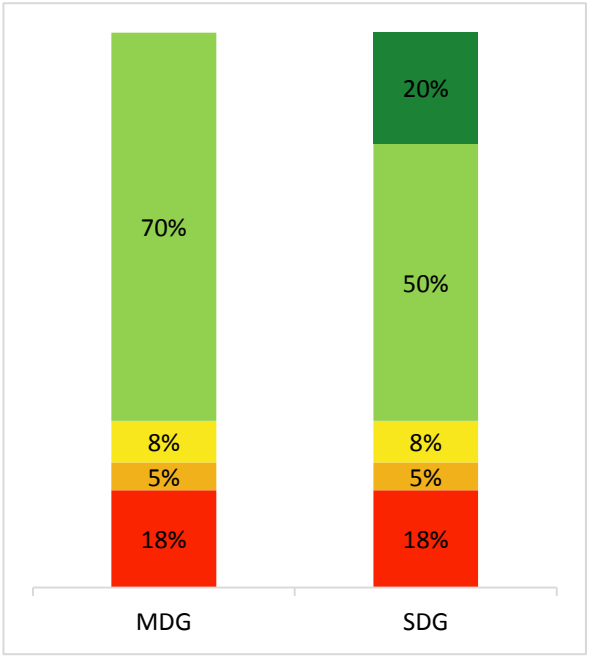


Example of Safely Managed Sanitation




Containment
Emptying
Transport
Treatment
End-use/disposal
Basic sanitation
Piped sewers
Onsite sanitation
Shared services
Unimproved services
No sanitation services
20%
Safely Managed Services
18%
5%
8%
50%
Open defecation
Unimproved
Limited
Basic


70%
8%
5%
18%
20%
50%
8%
5%
18%
MDG
SDG

Spreadsheet Tool

Guidance note - simplified calculation of safely-managed servicesv4.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Acrobat

B21 =B11*B9/100

Simplified template for calculating illustrative safely managed sanitation estimates

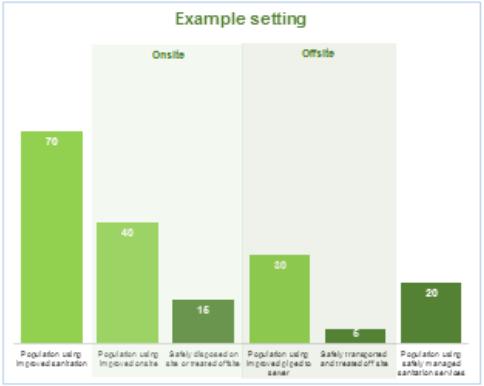
To use this template enter values in the orange cells, the charts will update automatically

INPUTS (change the values in orange)	**Values**	**Notes** (include data source when available)
Setting:	Example setting	*Add name of the setting, e.g. Urban Tanzania*
Population practising open defecation	17.50	*e.g. from JMP 2015*
Population using unimproved sanitation facilities	5.00	*e.g. from JMP 2015*
Population using shared sanitation facilities	7.50	*e.g. from JMP 2015*
Population using improved sanitation	70.00	*e.g. from JMP 2015*
Proportion of improved sanitation facilities sources which are:	-	
Improved onsite facility	57.71	*Onsite sanitation facilities include latrines and septic tanks*
Improved piped to sewer	42.29	*Offsite sanitation facilities includes sewer connections*
Proportion of onsite facilities which are:	-	
Contained, emptied and transported to treatment	47.50	
Disposed safely in-situ	28.50	*Proportion of facilities where excreta are safely disposed*
Proportion of improved piped to sewers which:	-	
Reach treatment plants	100.00	*Proportion of sewer connections where wastewater reaches*
Proportion of wastewater treated	17.50	*Proportion of wastewater adequately treated*

OUTPUTS	**Values**	**Notes**
Population using improved onsite	40	
Safely disposed onsite or treated offsite	15	
Not safely managed	26	
Population using improved piped to sewer	30	
Safely transported and treated offsite	5	
Not safely managed	24	
Population using basic sanitation facilities	50	*Improved minus safely-managed*
Population using safely managed sanitation services	20	*Calculated treating availability and quality independently*

MDG vs SDG ladder

Adjustment for safely-managed

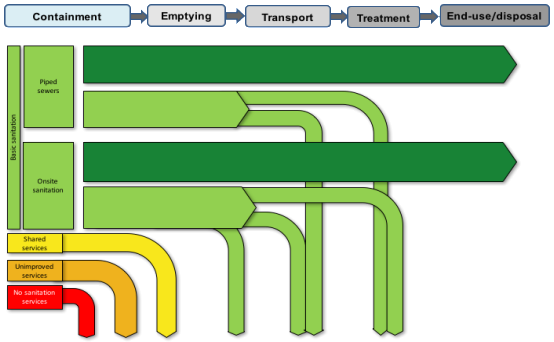


water worksheet | s-m sanitation | sanitation worksheet | sanitation chart | sanitation chart (2)

Ready 50%

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 commercial and hazardous industrial wastes



6.3 Treatments and exposures

Design Treatment level	High exposure (reuse for restricted irrigation and/or disposal in water used for drinking)	Medium exposure (reuse for unrestricted irrigation, disposal in large water body)	Low exposure (long ocean outfall, river water)
Advanced treatment of effluent and sludges (pathogen minimization)	Safely treated	Safely treated	Safely treated
Tertiary treatment (enhanced pollutants removal)	Safely treated	Safely treated	Safely treated
Secondary treatment	Not safely treated	Safely treated	Safely treated
Primary treatment only	Not safely treated	Not safely treated	Safely treated
Untreated discharge into water bodies	Not safely treated	Not safely treated	Not safely treated

6.3 Domestic and industrial wastewater

- Domestic wastewater
  - Sewerage, plus deliveries of sludge from onsite
- Industrial wastewater
  - Non-hazardous
  - Hazardous
  - Treated on-site, discharged to environment
  - Discharged to sewers (with or without treatment)

Preliminary mapping for 6.2: data availability (# of datasets)

MDG Region	Surveys (Improved)	Surveys (Shared)	Sectoral (Wastewater)
Causasus and Central Asia	53	15	9
Developed Countries	372	55	101
Eastern Asia	28	7	20
Latin America and the Caribbean	**340**	**120**	**83**
Northern Africa	32	9	9
Oceania	50	17	16
Sub-Saharan Africa	471	157	15
Southern Asia	**92**	24	4
South-eastern Asia	108	31	8
Western Asia	40	13	22
World	**1,586**	**448**	**287**

Improved facilities, not shared

- Household surveys and censuses
  - Facility classification
  - Shared or not (some surveys)
- Sector data
  - Connection to sewerage
  - Little to no data on septic tanks and latrines
  - Little to no data on sharing

Safely treated off-site

- Household surveys and censuses
  - Connected to sewer line
  - No information about if wastes reach treatment plant
- Sector data
  - Wastewater treatment
    - Primary, secondary. Possibly reuse and exposures?
  - Little to no information on faecal sludge management (from onsite systems)

Safely disposed onsite

- Household surveys and censuses
  - New questions:
  - Has pit latrine/septic tank ever been emptied?
- Sector data

Data completeness assessment

- Many of the sector data are incomplete
  - Geographically
    - Formal supplies only, no information for rural areas
  - Wastes lost in transport
  - On-site sanitation
- Global estimates may require assumptions
  - As long as they don't affect too much population
  - Results in less robust assessment (lower grade)

Data completeness score

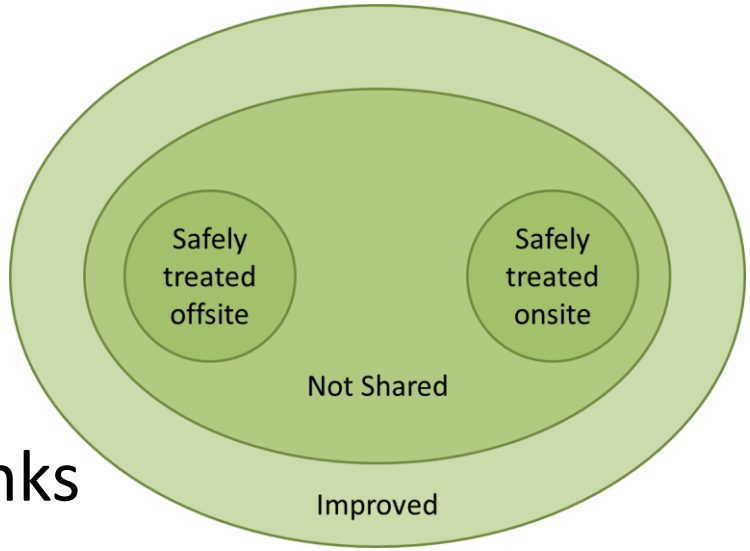
4	• NSO endorses all data sources used • Assumptions affect < 10% of the population
3	• Assumptions affect < 10% of the population
2	• Assumptions affect 10-25% of the population
1	• Assumptions affect 25-50% of the population • Estimate made in JMP reports but not sent to UNSD
0	• Assumptions affect > 50% of the population • No estimate made

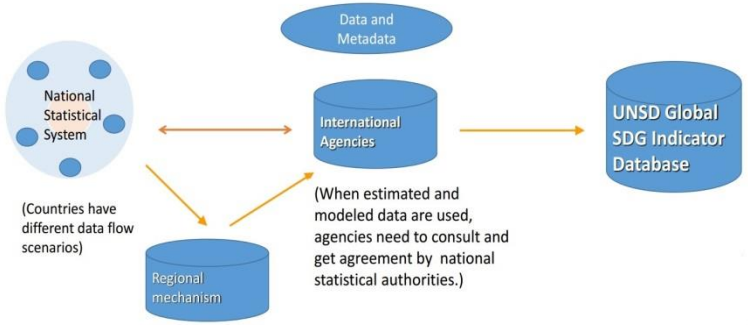
Examples of assumptions

- 5% of the population uses latrines, no information on if these are improved
  - Assume 50% improved, Grade 3
- 20% of the population uses septic tanks, no information on emptying or safe disposal
  - Assume 50% safely disposed on site, Grade 2
- 40% of the population uses rural latrines, no information on emptying or safe disposal
  - Assume 50% safely disposed on site, Grade 1

Putting it all together

- Additive approach
  - Safely managed wastes from sewerage
  - Safely managed wastes from pit latrines, septic tanks treated off-site
  - Safely managed wastes from pit latrines, septic tanks disposed of on-site





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*

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

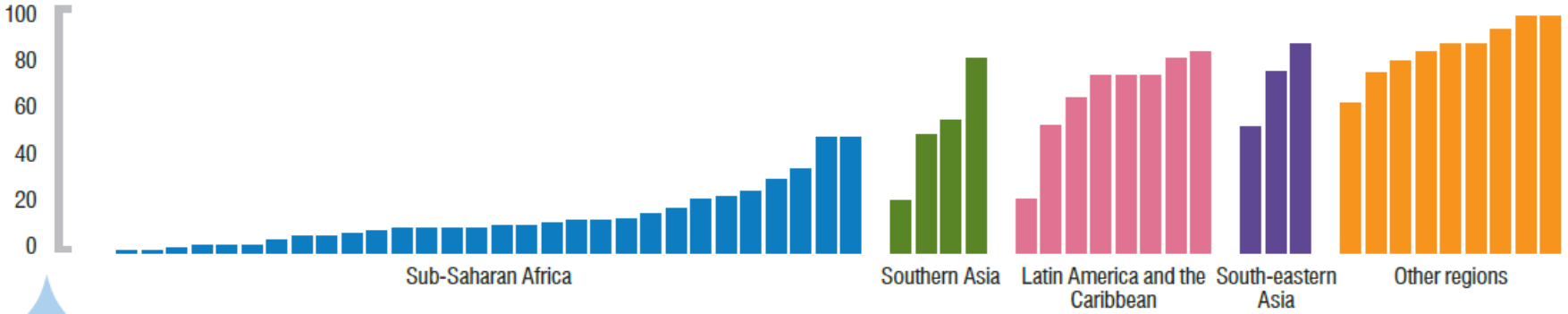


Fig. 40 Proportion of the population with a handwashing facility with soap and water (2009-2014)

SDG targets 'leave no one behind'

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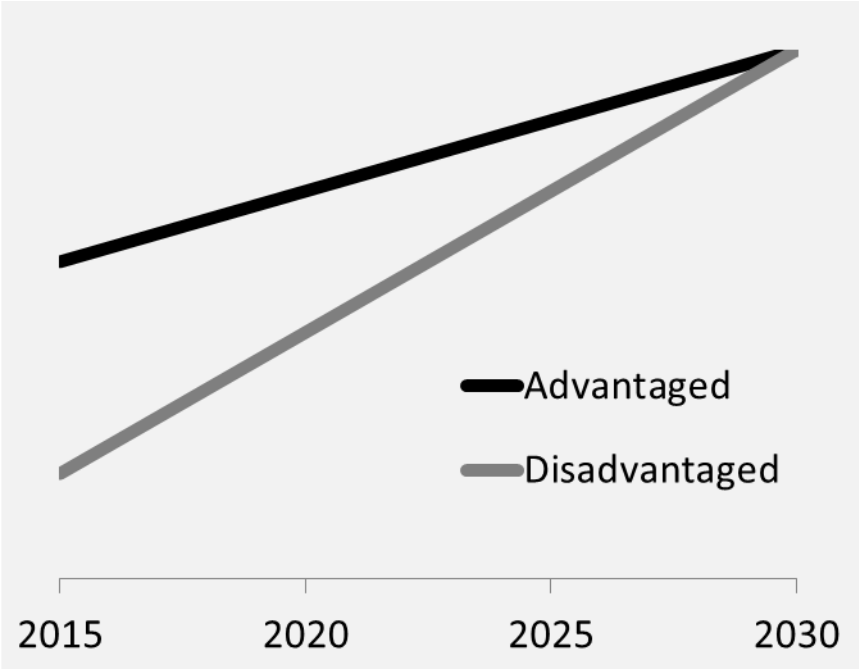
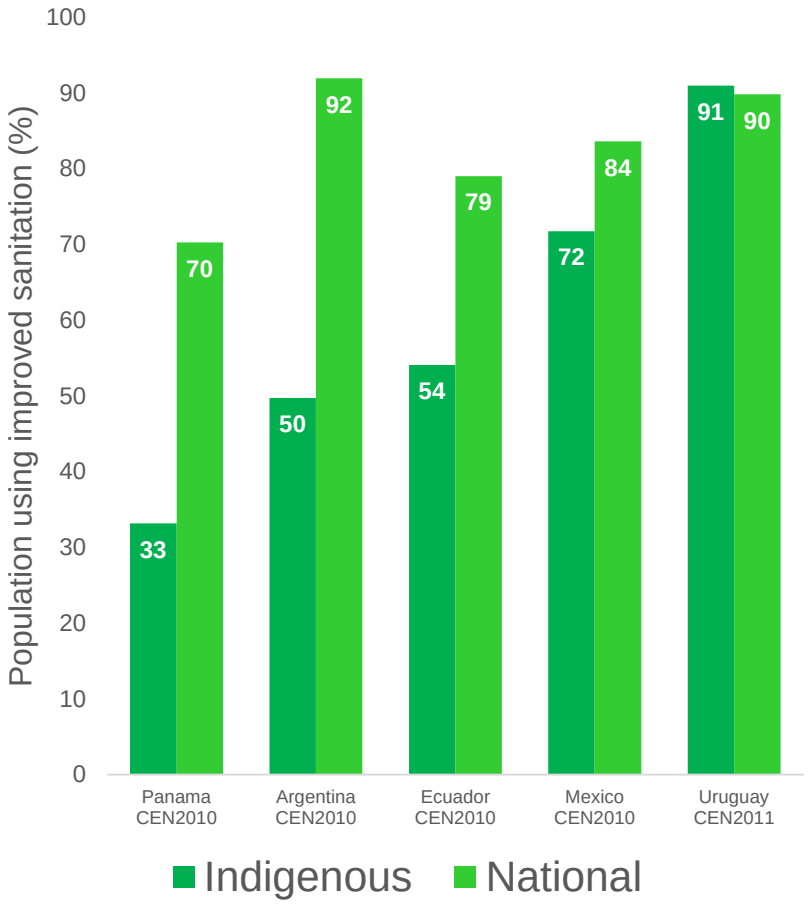
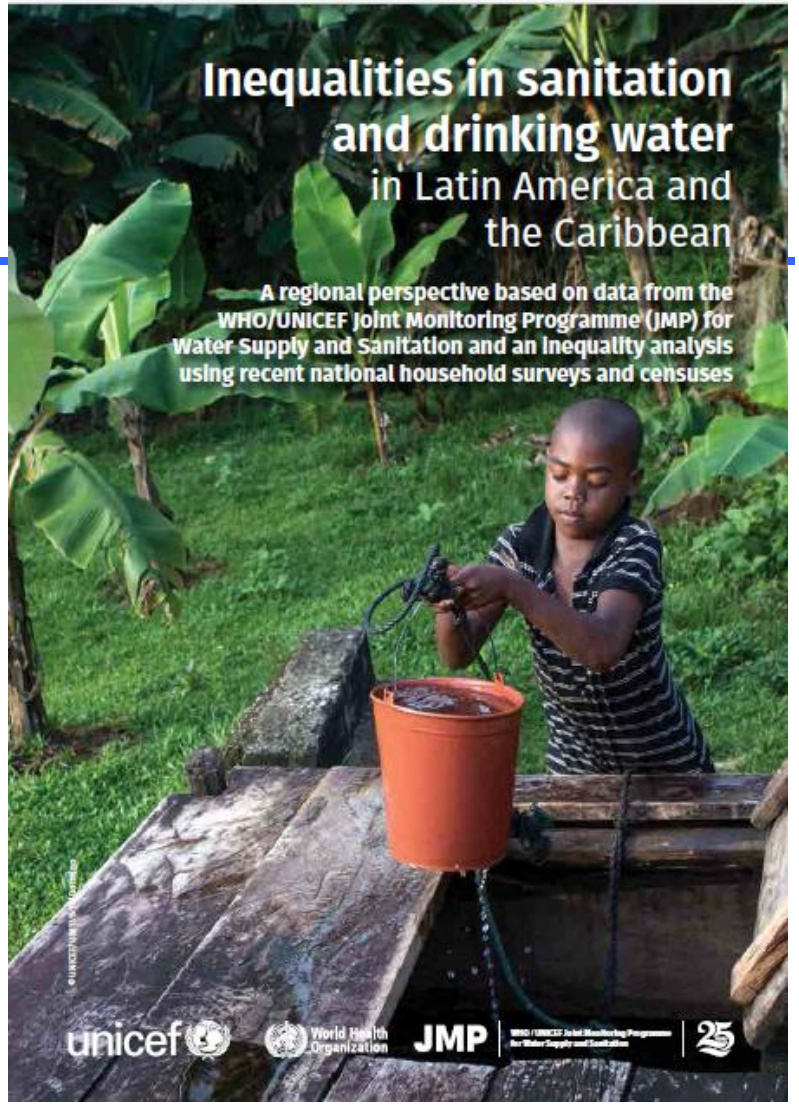


Gap between indigenous and national populations





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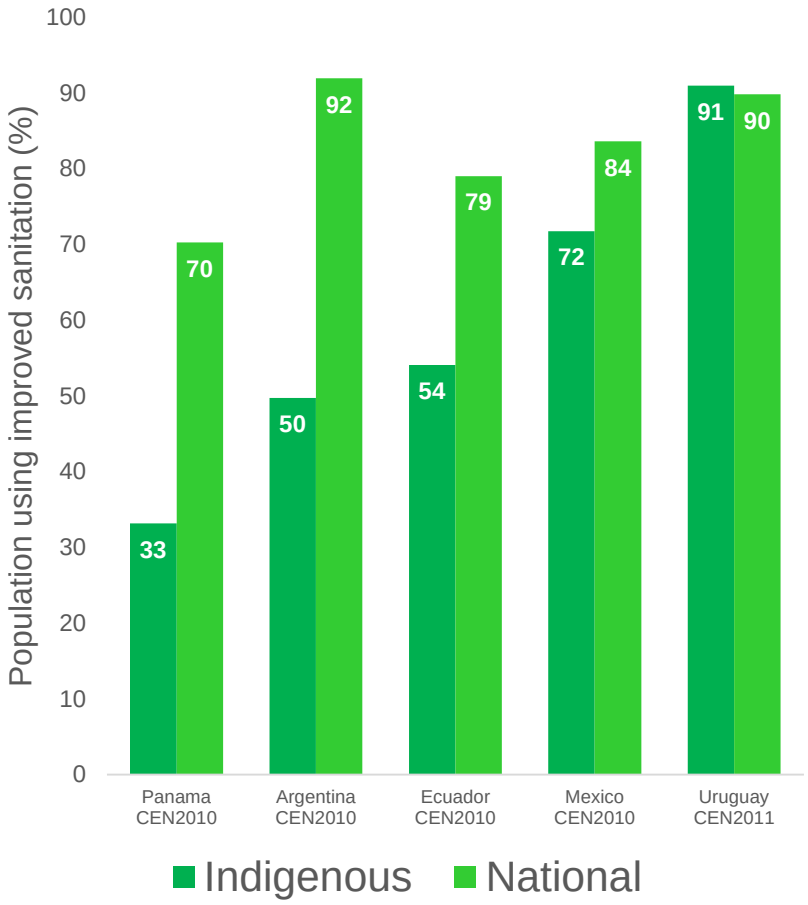
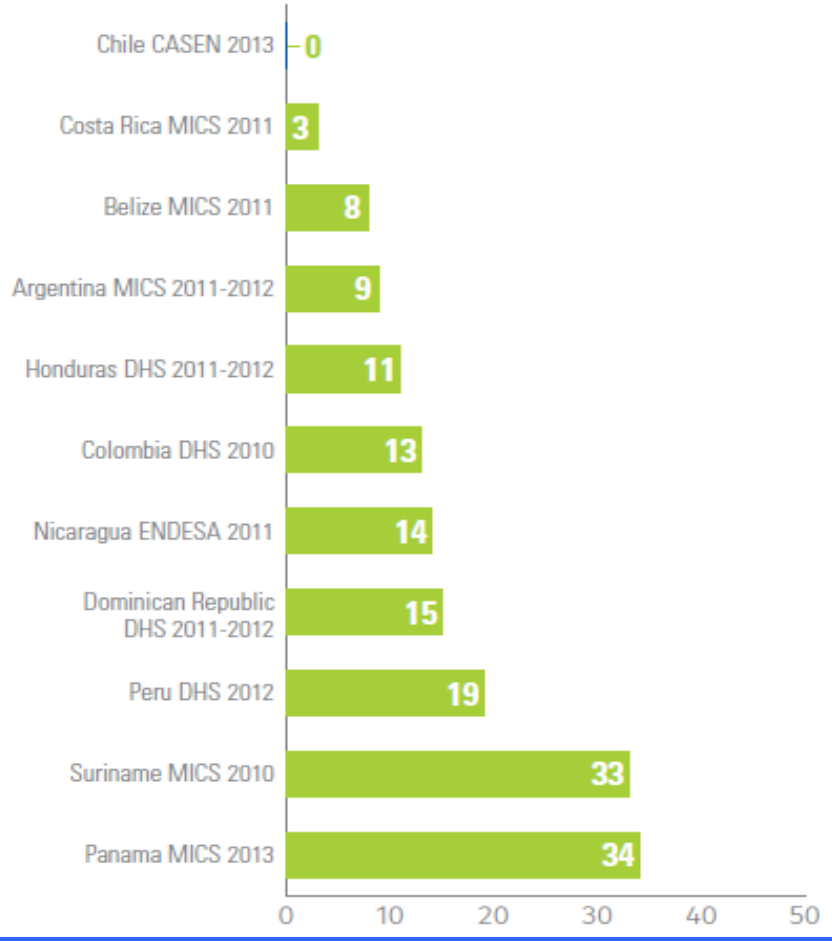


Gap between national and those with no formal education



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