



REVIEW OF ENVIRONMENTAL STATISTICS & INDICATORS FOR MEASURING THE MDGs

TOPIC/THEME:
ENVIRONMENTAL HEALTH

Presented by:

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INDICATORS



NUMBER/DISTRIBUTION OF HOUSEHOLDS BY MAIN SOURCE OF WATER SUPPLY

MDG Indicator 30:

Proportion of Population with Sustainable Access to An Improved Water Source, Urban and Rural.



NUMBER OF HOUSEHOLDS BY TYPE OF SANITATION FACILITIES

MDG Indicator 31:

Proportion of Population with Access to Improved Sanitation, Urban and Rural.

DEFINITION OF INDICATORS

HOUSEHOLDS

"A Household is the principal unit of observation and is defined as one or more persons who occupy a dwelling (living quarters), and is/are involved in some common arrangements, sleeping most nights of the week and sharing at least one daily meal." (Census 2001 Population & Housing Report, Concepts & Definitions, p. vii)

DEFINITION OF INDICATORS

❖ (MAIN SOURCE OF) WATER SUPPLY

- *Rainwater in cistern or tank* - This is a system designed to collect rain water in a cistern or a tank.
- *Public piped into dwelling*- this is referred to as "city water".
- *Desalinated water piped into dwelling* - this water is bought and piped into dwelling.
- *Well/Tank* - these are private sources.
- *Drums* - water purchased and stored in drums.
- *Other* - any other not mentioned above

(Census 2001 Enumerator's Manual)

DEFINITION OF INDICATORS (MDGs)

- Proportion of the population with sustainable access to an improved water source, urban and rural

*"The percentage of the population who use any of the following types of water supply for drinking: piped water, public tap, borehole or pump, protected well, protected spring or rain water."
"Improved water sources do not include vendor-provided water, bottled water, tanker trucks or unprotected wells and springs."*

"Access to safe water refers to the percentage of the population with reasonable access (the availability of 20 litres per capita per day at a distance no longer than 1,000 metres) to an adequate supply of safe water in their dwelling or within a convenient distance of their dwelling." "... access and volume of drinking water are difficult to measure, so sources of drinking water that are thought to provide safe water are used as a proxy."

(United Nation (2003). Indicators for Monitoring the Millennium Development Goals. Sales No. E.03.XVII.18, p. 64).

DEFINITION OF INDICATORS (MDGs)

● Proportion of the population with access to improved sanitation, urban and rural

"The percentage of the population with access to facilities that hygienically separate human excreta from human, animal and insect contact. Facilities such as sewers or septic tanks, pour-flush latrines and simple pit or ventilated improved pit latrines are assumed to be adequate, provided that they are not public. To be effective, facilities must be correctly constructed and properly maintained."

(United Nation (2003). Indicators for Monitoring the Millennium Development Goals. Sales No. E.03.XVII.18, p. 66).

DATA COLLECTION **(Source, Method, Design)**

SOURCES, PERIODICITY & LEVEL OF MEASUREMENT:

- **Census of Population & Housing**
 - ✓ 2001
 - ✓ 1990
 - Decennial (Every Census)
 - National, By Island
- **Survey**
 - ✓ 1999 Standard of Living Assessment
(One-time Study, which surveyed about 20 percent of the population.)
 - By Island

DATA COLLECTION

(Source, Method, Design)

2001 CENSUS OF POPULATION & HOUSING

Method: *Structured Interview of each Household (Head)*

Instrument: *Questionnaire, (Housing and Household Items, Section 13)*

Question: **Water Supply:**
(Question 13.12) "What is the main source of your water supply? :"

- 1 *Rain water in cistern or tank*
- 2 *Public piped into dwelling (city water)*
- 3 *Desalinated, piped into dwelling*
- 4 *Well/Tank*
- 5 *Drums*
- 6 *Other (Please Specify)_____*

DATA COLLECTION

(Source, Method, Design)

2001 CENSUS OF POPULATION & HOUSING

Question:

Sanitation Facilities:

(Question 13.15.1) "What type of toilet facility does this household have?"

1 *Flush Toilet with Septic Tank/Soak Away*

2 *Cesspit/Pit-latrine*

3 *Other (Specify)_____*

DATA COLLECTION

(Source, Method, Design)

1990 CENSUS OF HOUSING & POPULATION

Method: *Structured Interview of each Household (Head)*

Instrument: *Questionnaire (Housing, Part B)*

Question: **Water Supply:**
(Question B11) "Apart from rainfall, how else do you obtain water?"

- 1 *Free public issue points*
- 2 *By truck free Government water tanks*
- 3 *By truck free wells*
- 4 *Free wells*
- 5 *No other water needed*
- 6 *Other (Please Specify)_____*

DATA COLLECTION

(Source, Method, Design)

1990 CENSUS OF HOUSING & POPULATION

Question:

Sanitation Facilities:

(Question 13.15.1) "What type of toilet facility does this dwelling have?"

- 1 *Flushing toilet with fresh water flush*
- 2 *Flushing toilet with salt water flush*
- 3 *Pit-latrine*
- 4 *No toilet*

DATA COLLECTION

(Source, Method, Design)

1999 SURVEY OF LIVING CONDITIONS

Method: *Structured Interview of each Household (Head)*

Instrument: *Questionnaire (Housing, Part I)*

Question: **Water Supply:**
(Question 15) "What is the main source of water supply?"

- 1 *Private, piped into dwelling*
- 2 *Private catchment, not piped*
- 3 *Public, piped into dwelling*
- 4 *Public, piped into yard*
- 5 *Public standpipe*
- 6 *Public well or tank*
- 7 *Other (Specify)_____*

DATA COLLECTION

(Source, Method, Design)

1999 SURVEY OF LIVING CONDITIONS

Question:

Sanitation Facilities:

"What type of toilet does this dwelling have?"

1 *Flush Toilet linked to sewer*

2 *Flush Toilet with septic tank*

3 *Pit-latrine*

4 *None*

5 *Other (Specify)*_____

METHOD OF COMPUTATION

(Using the Census 2001 Data)

1a. NUMBER OF HOUSEHOLDS BY MAIN SOURCE OF WATER SUPPLY

The total of the number of households with water supply.

Number of Households with Water Supply	7,254
Total Number of Households	7,254

METHOD OF COMPUTATION

(Using the Census 2001 Data)

1b. PROPORTION OF POPULATION WITH SUSTAINABLE ACCESS TO AN IMPROVED WATER SOURCE

The ratio of the number of people who use piped water, public tap, borehole or pump, protected well, protected spring or rainwater to the total population, expressed as a percentage.

METHOD OF COMPUTATION **(Using the Census 2001 Data)**

2a. NUMBER OF HOUSEHOLDS **BY TYPE OF SANITATION FACILITIES**

The total of the number of households with sanitation facilities.

Number of Households with Sanitation Facilities	6,987
Total Number of Households	7,254

METHOD OF COMPUTATION

(Using the Census 2001 Data)

2b. PROPORTION OF POPULATION WITH ACCESS TO IMPROVED SANITATION

The ratio of the number of people with access to improved excreta-disposal facilities to the total population, expressed as a percentage.

Example:

No. of HH times the Average HH Size

Source of Water	No. of Households	No. of Persons
Piped into Dwelling	1,585	4,345 (1,585 x 2.74)
Private Catchments, Not Piped	4,928	13,510
Public Well or Tank	434	1,190
Other/ Not Stated	307	841
TOTAL	7,254	N = 19,886

$$\frac{\sum f_i}{N}$$

i=Source of Water

f_i: population with sustainable access to improved water source

Proportion of Population with Sustainable Access to Improved Water Source

$$= \frac{19,045}{19,886} \times 100$$

$$= 95.77 \%$$

Ratio of the Total Population to the Total Number of Households

Average Household Size = (19,886 / 7,254) = 2.74

TABULATION PRODUCED FROM DATA

HOUSEHOLDS BY SOURCE OF WATER SUPPLY, 2001

Source of Water	No. of HH
1. Piped into Dwelling	1,585
2. Piped into Yard	...
3. Private Catchments, Not Piped	4,928
4. Public Stand-pipe	...
5. Public Well or Tank	434
6. Other/Not Stated	307
Total Number of Households	7,254
Total Number of HH with Water Supply	7,254
Proportion of Population with Sustainable Access to Improved Water Source	95.77%
... not a response in the Census Questionnaire HH indicates Households	

TABULATION PRODUCED FROM DATA

HOUSEHOLDS BY SANITATION FACILITIES, 2001

Source of Sanitation	No. of HH
1. None	267
2. W.C. Linked to Sewer	...
3. W.C. Cesspit/Septic Tank	4,954
4. Pit Latrine	2,000
5. Other	33
Total Number of Households	7,254
Total Number of HH with Sanitation Facilities	6,987
Proportion of Population with Access to Improved Sanitation	95.87%
... not a response in the Census Questionnaire	
HH indicates Households	

STRENGTHS & WEAKNESSES/LIMITATIONS

(Data Collection Procedure and Methods)

- **STRENGTHS**
 - Sufficient Resources (budget, field interviewers, etc.)
 - Small Population
- **WEAKNESSES/LIMITATIONS**
 - Questionnaire Design (Questions and Responses Inconsistencies)
 - Sustainability
 - Proper documentation/record keeping
 - Lack of experienced and capable field staff
 - Poor field supervision
- **AREAS OF IMPROVEMENT**
 - ✓ Conduct inter-censal household & living standards surveys
 - ✓ Continuity of activities
 - ✓ Training of staff in sampling methodology and survey analyses
 - ✓ Conduct intensive trainings
 - ✓ More efficient and effective field supervision strategies

PROCEDURES FOR MONITORING DATA QUALITY & PROGRESS TOWARDS MDGs & CORE STATISTICS

- **Efficient sampling methodology**
 - **Validation of data**
 - **Maintenance of an accurate database**
 - **Review and/or update questionnaire**
- **Goal and target of environmental sustainability are achievable.**



End of Presentation

Thank You!

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