

Statistical Bulletin

Tanzania: Water sector

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Measuring Service Delivery in Southern Africa Project

Study 3: Developing measures and methods for measuring progress towards service delivery targets

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Progress towards water goals

Key targets and indicators from the MDG, which are also contained in the Regional Indicative Strategic Development Plan (RISDP), are assessed to signify progress within the water sector. Target 7.8 sets out that the backlog in the proportion of the population not receiving improved water, which should be halved by 2015.

Table 1. Tanzania Water MDGs

Goal 7: Ensure environmental sustainability	Target 7.8 Access to improved water source	
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KEY	
0	No Progress in meeting target (0/10)
5	Some progress but will not meet MDG target (5/10)
10	Target will be met in 2015(10/10)

A key question in assessing the data on access to safe drinking water is that such data on water safety is difficult to locate and could fluctuate appreciably over a short period of time. Access to an improved drinking source has been adopted¹ as a proxy, as data on access to an improved drinking source is more readily available and more stable over time. An improved water source is defined by the Joint Monitoring Project of WHO/UNICEF according to type of source and is not restricted to a facility at which water is treated, piped within a minimum distance from households or maintains a minimum consistent flow.² The standard is therefore basic and should be within reach of poor countries.

A method to assess progress towards this goal has been devised in this study. As far as is possible the data is accessed from national statistics sources or alternatively from authoritative international sources. A simple model to assess progress over time has been developed, which provides the quantum of the target, calculates the rate of change, and projects existing trends towards the target. The model provides the year in which the MDG level of access will be reached.

Projections from the data available (which is presented in Appendices 2 and 3) indicates that progress is sufficient to meet the MDG target in access to water by 2014.

The supporting data and reflections on the sector are contained in this review.

¹ The international agencies associated in the tracking of progress towards the MDG drinking water and sanitation target are using "improved drinking water source" as a proxy for access to safe drinking water. mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId. This study follows the same procedure.

² In some countries there are national standards for the water sector which do e.g. South Africa defines a basic water facility as the "infrastructure necessary to supply 25 litres of potable water per person per day supplied within 200 metres of a household and with a minimum flow of 10 litres per minute".

Country political and socio-economic context

Tanzania has historically since independence in 1961 had the reputation for setting ambitious social development plans and programmes aimed at the eradication of poverty, ignorance and disease. As a result of these policies most basic services including health, education and water were either freely provided (especially in the rural areas) or heavily subsidised by the state. There have been drastic policy changes however, in the mid 1980s.

Following a period of austerity there are new prospects for positive achievements in service delivery, especially in primary and secondary education. Debt relief, because of the commitment to abide by conditionalities, has also increased the funds available for basic services. Tanzania is a very poor country with 33.6 percent of the population in 2007 living below the poverty line that has declined slightly from 35.7 percent in 2000/01³. This is a level amongst the highest in the world.

Public, private and community actors have joined efforts and mobilised resources to improve the delivery and quality of basic services such as water and sanitation, education and healthcare. However, the role of the state, including local government, especially in resources mobilisation, facilitation, and creation of an appropriate environment, and coordinating and monitoring service delivery remains dominant.

Access to water in MDG & RISDP

Selected MDG Indicators

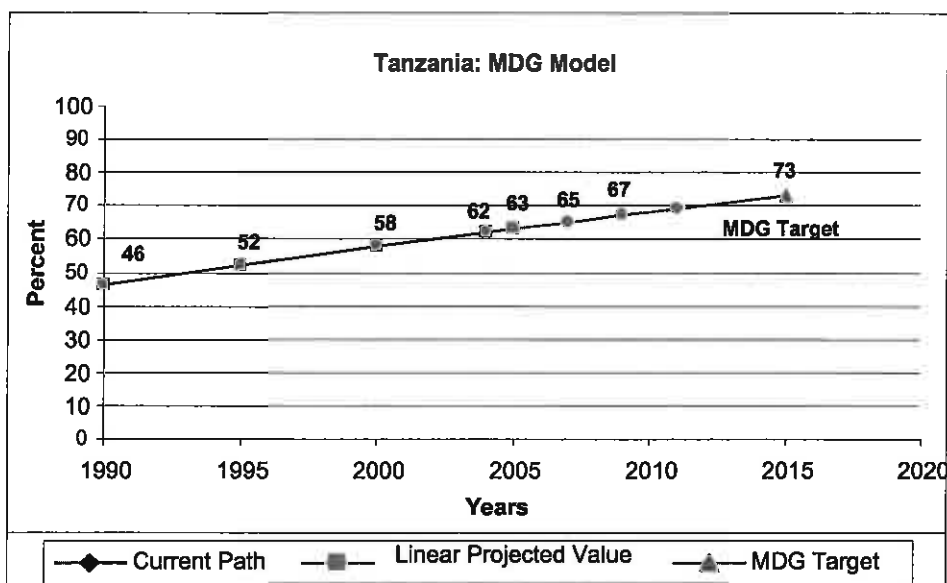
Goal 7: Ensure environmental sustainability: To halve, by 2015, the proportion of people without access to safe drinking water.
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Access to an improved water source does not ensure that the level of service is adequate or quality of water safe. An "improved" source is, however, one that is likely to provide "safe" water. International monitoring cautions that "current information does not establish a relationship between access to safe water and access to improved sources."⁴ Water from house connections, public standpipes or any other "improved" source can be contaminated due to source pollution, absent or inadequate treatment or recontamination in the distribution network. Furthermore, network supply is often intermittent in developing countries.

³ According to the Tanzania Household Budget Survey 2006-7 that focus on poverty-relevant indicators, including those defined in the Government's five year programme for economic and social development (MKUKUTA).

⁴ IRC International Water and Sanitation Centre. April 2004. Monitoring Millennium Development Goals for Water and Sanitation: A review of experiences and challenges. p41.
www.irc.nl/content/download/12311/.../file/Monitoring_MDGs.pdf

Figure 1. Access to improved water source: Projection



Source: This model and projections are developed from data found in Table 1.

Figure 1 is compiled from data provided in Table 2 and summarizes national access to improved drinking water data⁵. The model developed in Table 2 projects both the MDG target and rate of improved access. The projection indicates that the MDG target of 73 percent will be met in 2014.

Table 2. Tanzania water: MDG Projection

		a	b	c	d	e	f	g
Year	Population	Coverage %	Backlog %	1/2 Backlog %	MDG Target	Growth rate pa	No. of years	MDG Target Met
1990	26,231,000	46.0	54.0	27.0	73.0	-	24	2014
2004	37,627,000	62.0				1.1		

Source: Data accessed from Joint Monitoring Programme for Water Supply and Sanitation, July 2008 (refer to Appendix 3)

The data presented here provide further detail and explanation. In Table 2 the baseline coverage of 46.0 percent in 1990 rises to 62.0 percent in 2004. The backlog to be halved

⁵ Sourced from JMP data in table 10 in Appendix 3 that presents a selection of key data sources on access to improved drinking water sources at the national, urban and rural levels over time.

in 1990 is calculated at 54.0 percent (b) and half of this figure is 27.0 percent (c). The target by 2015 (after this value is added to the baseline figure) is 73.0 percent (d).

The rate of increased access from 1990 to 2004 is 1.1 percent per annum (e). A linear progression on this basis in years to reach the MDG target is 24 years (f), which will be reached in the year 2014. On the basis of this model, the MDG target of access to an improved water source to be met in 2015 stands at 73.0 percent. The projection based on the growth rate indicates that the MDG target of 73 percent will be met in 2014.

In conclusion it can be stated that Tanzania has made considerable progress over the past 25 years and will reach the MDG target of halving the backlog by 2014.

Analysis and comment

Based on the projections above, Tanzania has shown to have made significant progress towards halving the backlog of access to safe drinking water (as of 1990) by 2015. The MDG target in this regard will be met before the target year 2015.

The Tanzania MDG Progress Report of 2008 compiled by the Ministry of Planning, Economy and Empowerment⁶ reviewed progress on the target of access to safe drinking water by 2015. Unfortunately it does not report data at a national level but by urban and rural sectors. According to this report, by 2005, 53 percent of rural households and 73 percent of urban households in the Mainland had access to improved water sources. However, this report anticipates that the MDG in access to improved water sources will be reached in urban but not in rural areas by 2015.

There has been a significant improvement in the access to improved water sources in both urban and rural areas. However, efforts are still required in rural areas to improve the pace of access to improved water sources.

A challenge currently faced in rural areas is that woman and children are tasked with long distances to sources of drinking water that impose a heavy workload. There are different levels in both rural and urban areas in the pace of achieving the MDG targets. The national average seems to distort the overall national target of access to water.

A review of key *constraints* and *drivers* of trends has been undertaken. The key possible *constraints* identified are as follows:

- Changing priorities during annual budget for instance, following wide spread hunger (in last year) the Government of Tanzania (GoT) priorities has changed to

⁶ The mid-way report anticipates that access to urban water supplies will meet Tanzania. Millenium Development Goals Report: Mid-Way Evaluation: 2000-2008:
<http://www.tz.undp.org/docs/MDGprogressreport.pdf>

Agriculture (Kilimo Kwanza). This being the top priority is likely to overshadow previous set priority areas;

- Unplanned settlements, pollution, contamination of water sources;
- Inadequate operation and maintenance of water systems, and a high leakage rate (50 percent) specifically in urban areas;
- Corruption and embezzlement of public funds, where most of the government (water) projects are not closely supervised especially in rural areas;
- General poverty and the increased costs of domestic water; and
- Poor equitable access, especially in rural areas due to poor infrastructure.

Possible *drivers* are as follows:

- Budget increase in water sector over the past ten or more years;
- Sustained donor support in the sector;
- Well considered targets of National Water Policy of 2002 that stated that safe water; should be available within a radius of 400m from each home and that a single water point should serve safe water to 250 people with an average consumption of 40 litres per person per day.

Unique challenges in delivery in water sector

There are three unique challenges in delivery in the water sector in Tanzania. These are outlined as follows:

- Abrupt change in policies and priorities shift between the interests of both the government and donors from one sector to another. For example Education and KILIMO KWANZA (Agriculture First) has shifted their interests from other service sectors;
- There is a lack of or poor infrastructure maintenance culture amongst majority of Local Government Authorities (LGA's) in the countryside;
- There is currently a lack of capacity to tap and fairly distribute the abundant water resources in the country e.g. water in lakes and rivers.

Quality issues in water service delivery

The issue of quality services is highly compromised, especially for the very poor as there are outdated water delivery infrastructure in most parts of the country, including the city of Dar es Salaam. Low income housing areas are provided with water supply from water vendors. This is due to regulatory mechanisms being in place.

However, the majority of Tanzanians, especially in rural areas obtain water from sources that are unsafe because they are unregulated resulting in exposure to waterborne diseases. This is illustrated by the frequent outbreak of waterborne diseases such as diarrhea, typhoid and cholera in many parts of the country. These waterborne diseases are a source

of disruption to livelihoods, particularly among poor households and point to the important distinction between access to an improved water source and to safe drinking water itself.

Equity in access to improved water sources

This section provides an analysis of the latest available datasets on access by size of family, number of children, districts, and other qualitative indicators that highlight whether poorer households and vulnerable sections of the population have access to improved water sources.

Table 3. No access to improved water source by household size

	1996	2004
Less than and equal to 6 members	58.6%	47.7%
Greater than 6 members	63.9%	48.3%

Source: 1996 and 2004 Demographic Health Survey. (HSRC Analysis)

Analysis and comment

In Table 3 above, data is presented on no access to an improved water source by size of family. There is a decreasing trend in percentage of persons without access to improved water source by household size for both families with less than, equal and greater than 6 members over the period 1996-2004.

Families with greater than 6 members have a slightly higher percentage of household without access to an improved water source probably because families with large number of people are generally poorer, and have limited housing choices, as such they may live even in places where water availability is poor due to high costs associated with housing and general poverty. As the family size increases, the choices for decent housing and access to improved water services decreases.

Table 4. No Access to improved water source by number of children

	1996	1999
No children under 5 in household	56.4%	29.0%
Only one child under 5 in household	58.6%	33.1%
More than one child under five in household	67.1%	36.8%

Source: Demographic Health Survey 1996 and 1999) (HSRC Analysis)

Table 4 presents data on access to improved water by children under five for the years 1996 and 1999. The available data reveals that there is a significant improvement in

terms of percentage of people with access to improved water source from 1996 to 1999 for both families with or without children under five. However, families with more than one child under five have the highest percentage *without* access to an improved water source as compared to household without children under five. This is because families that are larger the size (with more children) are generally poorer households. This therefore reduces those choices a household has to obtain clean portable water.

An analysis of Table 5 below that presents data on access to improved water source by District is provided.

Access to water by region 2004 TDHS

	Access to improved source	No access to improved source
Tabora	14%	86%
Mara	26%	75%
Mtwara	34%	66%
Mbeya	34%	66%
Kagera	35%	65%
Lindi	35%	65%
Singida	36%	64%
Mwanza	36%	64%
Pwani	41%	59%
Tanga	45%	55%
Ruvuma	46%	54%
Kigoma	46%	54%
Rukwa	46%	54%
Manyara	46%	54%
Shinyanga	49%	51%
Iringa	49%	51%
Morogoro	56%	44%
Pemba North	62%	38%
Arusha	62%	38%
Dodoma	64%	36%
Kilimanjaro	70%	30%
Zanzibar North	79%	21%
Dar Es Salam	79%	21%
Pemba South	83%	17%
Zanziba South	86%	14%
Town West	88%	12%

Source: 2004 Demographic Health Survey. (HSRC Analysis)

The access by region to safe /unsafe drinking water tabulated above is the true representation of the extent to which delivery is meeting the needs of remote rural regions because majority of Tanzania's population (70 percent) live in rural areas.

The table indicates significant inequality in terms of access to improved water across the regions in Tanzania (Mainland and Island). Urban districts such as Dar es Salaam, Kilimanjaro, Zanzibar South or Town West have three to five times more access than regions such as Tabora and Mara. Although the table does not show the extent to which delivery is meeting the needs of the more remote rural population, it is apparent that regions with large urban centers in the country such as Arusha, Dar es Salaam, Dodoma, Morogoro and Iringa are overall better off than those with smaller urban centers such as Tabora, Mara, Mtwara, Lindi, etc.

Conclusion

Despite progress in reaching the MDG in increased access to improved water sources there is a challenge to water services in quality. Even in the capital, Dar es Salaam, there are regular outbreaks of cholera which threaten households and the local economy. A large proportion of rural households also still depend on unprotected sources of drinking water. They have to traverse long distances to sources of drinking water and women and girls particularly have to carry heavy workloads and spend considerable time. This burden undermines the engagement in other livelihood activities which would assist in alleviating poverty.

Appendix 1

Definitions:

The proxy of access to an improved drinking source has been adopted⁷ as a measure of safe drinking water. While an “improved” source is likely to provide "safe" water. Access to water, arguably, may not always imply that the level of service or quality of water is adequate or safe. However, information currently available does not establish the relationship between access to safe water and access to improved sources.

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In this report, drinking water coverage is presented as

1. Improved drinking water sources:
 1. Piped household water connection located inside the user’s dwelling, plot or yard
 2. Public taps or standpipes
 3. Tube wells or boreholes,
 4. Protected dug wells, protected springs
 5. Rainwater collection.

2. Unimproved drinking water sources:
 1. Unprotected dug well
 2. Unprotected spring
 3. Cart with small tank/drum
 4. Tanker truck
 5. Surface water (river, dam, lake, pond, stream, canal, irrigation channels)
 6. Bottled water.

Source:

World Health Organization and United Nations Children’s Fund Joint Monitoring Programme for Water Supply and Sanitation (JMP). Progress on Drinking Water and Sanitation: Special Focus on Sanitation. UNICEF, New York and WHO, Geneva, 2008. page22

⁷ The international agencies associated in the tracking of progress towards the MDG drinking water and sanitation target are using “improved drinking water source” as a proxy for access to safe drinking water. mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId. This study follows the same procedure.

Appendix 2

Original Tables from Survey

Table 5. Tanzania 1996 TDHS

Category	Percentage
Piped into residence	9.80
Public tap	30.09
Well in residence	1.34
Public /private well	27.92
Spring	11.79
River, stream	15.13
Pond, lake	2.89
Dam	0.68
Rainwater	0.08
Other	0.29

Table 6. Tanzania 1999 TDHS

Category	Percentage
Piped into dwelling	9.44
Piped into yard	15.30
Public tap	19.23
Unprotected well	16.49
Protected dug well	12.26
Borehole or tubewell	8.27
Protected spring	3.04
Unprotected Spring	4.90
Pond, River, Stream	10.02
Rainwater	0.08
Tanker truck	0.89
Bottled water	0.08

Table 7. Tanzania 2004 TDHS

Category	Percentage
Piped into dwelling	7.55
Piped into yard/plot	4.51
Public tap	19.64
Neighbor's tap	8.74
Open well in dwelling	0.10
Open well in yard/plot	0.82
Open public well	25.08
Neighbor's open well	1.14
Protected well in dwelling	0.12
Protected well in yard/plot	0.14
Protected public well	10.62
Neighbor's borehole	0.63
Spring	5.06
River, stream	10.48
Pond, lake	3.07
Dam	0.90
Rainwater	0.06
Tanker truck	0.76
Water vendor	0.50
Bottled water	0.06
Other	0.03
Total	100.00

Appendix 3

Table 8. Improved Water Source (Joint Monitoring Programme Data)

Source	Year	Drinking Water							
		National population	National Access	URBAN			RURAL		
				Urban Population	HC	Urban Access	Rural Population	HC	Rural Access
JMP Data ¹	1990	26,231,000	46.0%	5,770,820	33.0%	85.0%	20,460,180	3.0%	40.0%
Tanzania Demographic and Health Survey 199 ²	1992	--	--	--	38.6%	85.5%	--	2.4%	38.4%
Living Standards Measurement Study Survey, Tanzania, 1993 ²	1993	--	--	--	33.2%	88.4%	--	1.1%	32.2%
JMP Data ¹	1995	30,930,000	52.0%	8,351,100	37.0%	85.0%	22,578,900	3.0%	45.0%
Tanzania Demographic and Health Survey 1996 ²	1996	--	--	--	31.5%	87.4%	--	2.0%	44.6%
Monitoring Progress towards the Goals of the World Summit for Children through MICS 1996 ²	1996	--	--	--	27.4%	79.2%	--	2.4%	44.1%
Tanzania DHS, 1999 ²	1999	--	--	--	48.2%	92.1%	--	4.1%	56.3%
JMP Data ¹	2000	34,763,000	58.0%	11,124,160	40.0%	85.0%	23,638,840	3.0%	49.0%
Tanzania Households Budget Survey, 2000/2001 ²	2001	--	--	--	32.2%	89.0%	--	2.9%	45.9%
Census 2002 ²	2002	--	--	--	47.0%	86.0%	--	4.0%	43.1%
Tanzania HIV/Aids Indicator Survey, 2003 ²	2003	--	--	--	40.3%	78.9%	--	4.4%	42.5%
JMP Data ¹	2004	37,627,000	62.0%	13,545,720	43.0%	85.0%	24,081,280	3.0%	49.0%
Tanzania Demographic and health Survey 2004 - 2005 ²	2005	--	--	--	44.3%	77.4%	--	4.2%	39.2%

Source: ¹ Data accessed from Joint Monitoring Programme for Water Supply and Sanitation, July 2008.

² Joint Monitoring Programme for Water Supply and Sanitation, WHO and UNICEF. Coverage Estimates. Improved Water. Updated in July 2008. Tanzania URL: http://documents.wssinfo.org/resources/documents.html?type=country_files

NOTE: -- Missing Data

For definitions see below. This data is closest to an "official" set of data on the water and sanitation as it is accessed from national surveys and discussed between the JMP and statistical bodies. This data is reconciled by liaising with national authorities in collaboration with regional bodies.

Source: Rifat Hossain. 2008. Current Developments in JMP, How does the JMP monitor progress towards the MDG drinking-water and sanitation target? Slide 30. World Health Organization www.unecce.org/stats/documents/ece/ces/ge.31/2009/mtg2/zip.9.e.ppt

Table 9. Improved Water Source (Computed and analysed from datasets)

Source	Year	Improved Drinking Water							
		Population	National Access	Urban			Rural		
				Urban Population	HC	Urban Access	Rural Population	HC	Rural Access
Tanzania Household Budget Survey 1991/1992 ¹	1992	--	46.0%	--	--	--	--	1.1%	56.1%
Tanzania Demographic and Health Survey 1991 ¹	1992	27,236,073	68.8 %	5,321,929	38.6%	85.5%	21,914,144	2.4%	38.4%
Tanzania Demographic and Health Survey 1996 ²	1996	30,715,489	67.6%	6,407,251	31.5%	87.4%	24,308,238	2.0%	44.6%
Tanzania Household Budget Survey 2000/2001 ¹	2001	31,900,000	72.9%	6,250,000	16.3%	86.9%	25,650,000	0.8%	63.5%
Tanzania Demographic and health Survey 2004 - 2005 ²	2005	38,477,873	67.6%	9,311,645	44.3%	77.4%	29,166,228	4.2%	39.2%
Tanzania Household Budget Survey 2007 ¹	2007	39,446,000	69.7%	11,163,218	11.3%	80.4%	28,282,782	0.9%	76.6%

Source:

¹Data for 1992, 2001 and 2007 compiled from the Household Budget Survey, 1992, 2001 and 2007 is sourced from the Household Budget Survey 2007. Analytical Report (Table 1.6, page 4)

URL: <http://www.nbs.go.tz/HBS/HBS2007/3Household%20Construction.%20Facilities%20and%20Ownership%20of%20Consu-f>

²Dataset: Tanzania Demographic and Household Survey 1991
Dataset: Tanzania Demographic and Household Survey 1996
Dataset: Tanzania Demographic and Household Survey 2005

NOTE: -- Missing Data