
UN Women

In collaboration with ECLAC

Expert Group Meeting

Structural and policy constraints in achieving the MDGs for women and girls

Mexico City, Mexico

21-24 October 2013

**Challenges and achievements in Millennium Development Goals
for water & sanitation for women and girls**

Expert paper prepared by:

Isha Ray*
University of California, Berkeley
USA

Drinking water and sanitation appear in Millennium Development Goal 7 (“Ensure environmental sustainability”) under Target C:

Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation.

The indicators of success under Target 7C are:

*7.8: Proportion of the population using an improved drinking water source.*¹

UNICEF considers 20 liters per person per day to be the minimum volume necessary for meeting basic daily needs. “Improved” water sources include piped water, protected wells, harvested rainwater, etc., which are less likely to have microbial contamination. Bottled water is counted as “improved” only when the family’s cooking and bathing water is from another improved source. This is the one (implicit) reference to the cost of water in Indicator 7.8.

7.9: Proportion of the population using an improved sanitation facility. “Improved” sanitation facilities include pour flush or flush toilets into a sewer, ventilated improved pits, composting toilets, etc., through the use of which pathogenic waste is more likely to be removed from human

* The views expressed in this paper are those of the author and do not necessarily represent those of the United Nations.

¹ The distance between the source and the user’s dwelling was originally specified as 1km or less, but Target 7C is now written with no distance specified:

<http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>.

contact. Pits without slabs, toilets with no sewers and shared facilities, all of which are common in low-income countries, are considered unimproved.

Progress under MDG 7 Target C

The UNICEF/WHO Joint Monitoring Program (JMP) is the primary source of data on Water, Sanitation and Hygiene (WASH) access for all countries; it is compiled from several relatively reliable datasets such as the Demographic and Health Surveys (DHS), the Multi-Indicator Cluster Surveys (MICS), the Living Standards Measurement Surveys (LSMS), and other nationally conducted surveys where possible (<http://www.wssinfo.org/definitions-methods/data-sources/>). These data show that Target 7C has been met for drinking water, comfortably in advance of the 2015 end-date. More than 2 billion people have gained access to improved drinking water sources since 1990.² Two-thirds of the newly served live in urban areas (JMP 2013).³ Piped water is associated with better health outcomes than other improved sources; of the two most populous countries, China has achieved greater than 50% piped water coverage but India remains at less than 25%. The number of people relying on unimproved water has fallen to below 800 million globally. It is well known that improved sources, including piped sources, may not be safe for drinking.

Progress on improved sanitation has been almost as rapid, with 1.9 billion people acquiring such access between 1990 and 2011. East Asia saw the highest rate of progress (in the sense of proportion of people that had crossed the threshold of Target 7C). But because fewer people had access to improved sanitation than to improved drinking water at the start, Indicator 7.9 will not be met by 2015. Over 2.5 billion people still have no access to an improved latrine; of these, 700 million use shared facilities, which the JMP does not count as “improved”. Open defecation remains the norm for over 1 billion people, 90% of whom are rural residents.

The interpretation of these progress statistics is complicated. This is because the poorest people in the world are the hardest to count, and therefore the numbers of unserved are likely to be higher than the official estimates. Objections have also been raised to how the targets and indicators associated with each MDG have been defined, operationalized and used.

Limitations of the MDGs as development goals

The MDG targets and their indicators have been critiqued from multiple standpoints. A common criticism is that there are no sex-disaggregated data so we cannot know the gendered impacts of implementing the MDGs (e.g. Mehta 2013)⁴. Other trenchant critiques – and I list only a selection -- include the side-stepping of equity within and across regions in favor of average measures (Vandermoortele 2011)⁵; the perverse incentives caused by the obsession with “meeting the target” at the expense of equity, quality and affordability considerations (Langford

² Though the MDGs were formulated in 2000, the agreement was that 1990 should be considered the starting date in order to minimize the inevitable failures.

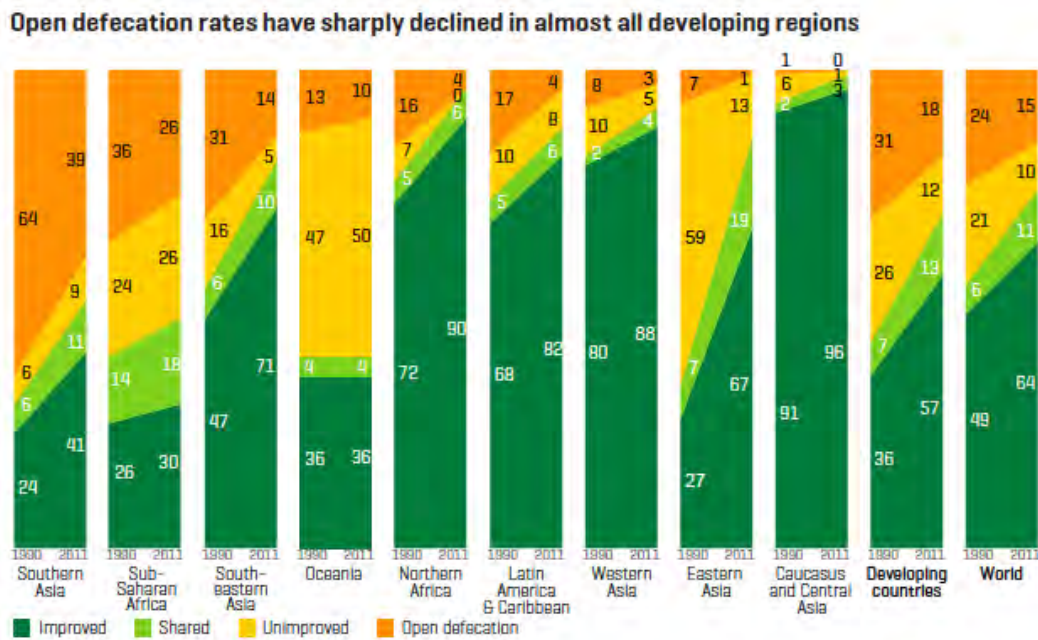
³ UNICEF/WHO JMP 2013 Update

⁴ Mehta, Lyla. 2013. Ensuring rights to water and sanitation for women and girls. Paper for the 57th UN Commission on the Status of Women.

⁵ Vandermoortele, Jan. 2011. The MDG Story: Intention Denied. *Development and Change*, 42: 1 – 21.

& Winkler 2013)⁶; the use of the MDGs as “pass-fail” judgments on entire nations as opposed to as performance measures en route to greater human well-being (Fukuda-Parr et al 2013)⁷; and the binary nature of the thresholds such that progress along the desired paths cannot be acknowledged, especially in the poorest nations or in difficult-to-reach areas such as slums (Easterly 2008;⁸ Bartram 2008⁹). The cumulative effect of these and other critiques has been to undermine the validity and interpretation of the MDGs, and by extension of MDG 7 and its targets, as appropriate development goals in the first place.

In response to these critiques, the JMP has started to present more data as ladders of service (see figure below for an example). This is a useful change. Such laddered data, as a complement to threshold-style targets and indicators, can be used to track rates of change and the quality of service within regions. Shared toilet facilities can be presented as an intermediate point along the sanitation ladder (see Bartram 2008) as opposed to dismissed as “unimproved”. Community-led total sanitation (CLTS) efforts that may not meet the JMP’s standards (because the toilets do not have a slab or a sewer) can still be acknowledged as progress. Countries that have not “met” their target can still claim a measure of success if they show progress along the ladder.



[from JMP 2013 Update; page 4]

The JMP has always presented water and sanitation regional data by rural coverage and urban coverage. But JMP data based on surveys that collect information on household assets, and with new datasets being added since 2011, also allows for disaggregating access by income quintile

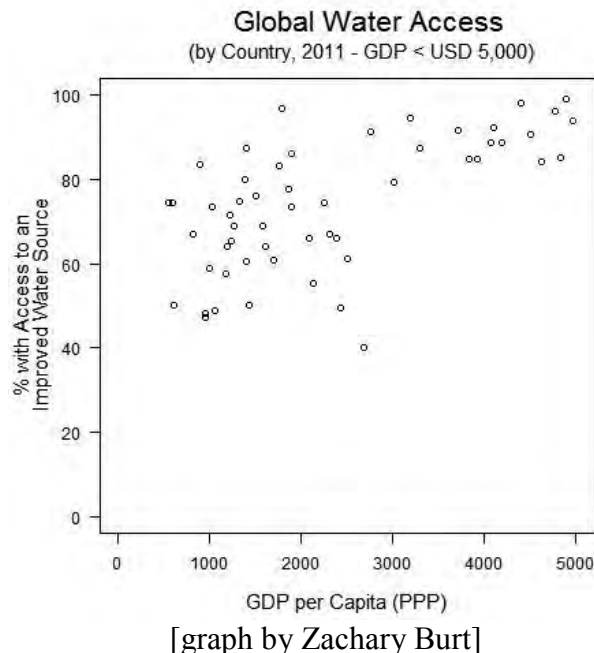
⁶ Langford, Michael & I. Winkler 2013. Quantifying Water and Sanitation in Development Cooperation: Power or Perversity? Working Paper: *The Power of Numbers*.

⁷ Fukuda-Parr, Sakiko, J. Greenstein & M. Stewart. 2013. How Should MDG Success and Failure be Judged: Faster Progress or Achieving the Target? *World Development*, 41: 19 – 30.

⁸ Easterly, William. 2008. How the Millennium Development Goals are Unfair to Africa. *World Development*,

⁹ Bartram, Jamie. 2008. Improving on Haves and Have-nots. *Nature*, 452: 20 November 2008.

(see e.g. Narayanan et al 2012)¹⁰. This is key to understanding equity within nations and regions. There is little correlation between access to water (or sanitation) and GDP per capita at low levels of national income (see figure below); coverage by income quintile is a better indicator of equitable access for low-income or vulnerable populations.



The unknowns within MDG 7 Target C

What do we not know about MDG 7’s achievements, *even if we agree* to evaluate progress by simple and static outcome measures? I discuss four unknowns within the current Indicators 7.8 and 7.9 that are salient for sustainability, and that should be incorporated as we move into the post-2015 water and sanitation era.

(i) *Water and wastewater quality*

In the developing world, piped systems are almost 90% compliant with respect to WHO’s microbiological standards, but the other allegedly improved sources perform much worse (JMP 2012). We know nothing about the fecal or arsenic contamination of the improved water supply, even though the target is safe water. Similarly, the definition of improved latrines is technology-centric, saying nothing about wastewater treatment before disposal, or sludge removal if the toilet is a dry toilet. Untreated sewage and fecal sludge from overflowing pits – however ventilated and improved -- are highly polluting and unsustainable. Even CLTS, the community-centered approach to ending open defecation, has little to say on waste disposal beyond the latrine (UNICEF 2009;¹¹ www.cltsfoundation.org/home.html). But Baum, Luh and Bartram

¹⁰ Narayanan, Ravi, et al. 2012. Equity and Inclusion in Sanitation and Hygiene in S. Asia: A Regional Synthesis. *IDS Bulletin*, v 43(2).

¹¹ UNICEF 2009. Community Approaches to Total Sanitation. *Field Notes*, New York: UNICEF.

(2013)¹² estimate that if improved sanitation required sewage to be treated before its discharge into the environment, 4.1 billion rather 2.5 billion would be unserved.

(ii) *Affordability*

Affordability is critical to access. Households pay for utility-provided water, or for at-home treatment, or for vended water, or in time spent collecting, treating and storing, or all of these. Despite many studies that have measured willingness to pay, or have developed affordability criteria, or have attempted to evaluate coping costs and/or travel time, the MDG targets are silent on affordability (see Langford & Winkler 2013). Households may also need to pay for the use of shared or public toilets in urban areas, or to pay, at least in part, towards the cost of building a latrine. In short, there is no viable access without affordability.

(iii) *Distance*

How far the dwelling is from the improved water source determines how much water a family can use, but the MDG water and sanitation indicators say nothing specific about distance. Women and girls (in the main) fetch water for un-piped homes. The quantity of water the household uses is negatively correlated with distance (Howard & Bartram 2003)¹³, and the health impacts of carrying water (which weighs 1 kg per liter) from an early age are well-known (Page, 1996)¹⁴. The distance of the latrine from the house is just as critical an omission from the current indicators. Walking to a toilet in the dark is unsafe; open defecation or plastic bags may well seem better options in the middle of the night.

(iv) *Permanence*

The MDG 7 targets have no way of assessing whether families who acquire improved water or improved sanitation continue to have access over time, or if their access is precarious. Without this measure, access is essentially a snapshot of presence of supply with no link to the core of MDG 7-- sustainability. Yet just as people can move in and out of poverty, they can move in and out of the range of access. Of quality, affordability, distance and permanence, this last characteristic may be the hardest to incorporate into the post-2015 targets and indicators.

Have the MDG targets on water and sanitation promoted women's rights and gender equality?

As indicated above, it is difficult to know the extent to which the MDG targets have promoted gender equity, as no sex-disaggregated data are routinely collected on water and sanitation coverage. Despite decades of researchers' and practitioners' calls for gender-specific data (see e.g. Benería 1982, Alderman et al 1995, Ray 2007, Seager 2010)¹⁵, JMP's unit of analysis is still "the household". This despite Dublin Principle 3 -- agreed to by all UN member states in 1992 --

¹² Baum, Rachel, J. Luh & J. Bartram. 2013. A Global Estimate of Sewerage Connections Without Treatment and the Resulting Impact on MDG Progress. *Environmental Science and Technology*, 47: 1994 – 2000.

¹³ Howard, Guy & J. Bartram. 2003. *Domestic Water Quantity: Service Level and Health*. Geneva: World Health Organization.

¹⁴ Page B. 1996. Taking the strain—the ergonomics of water carrying. *Waterlines* 14:29–31

¹⁵ Benería, L, 1982. *Women and Development*. New York: Praeger; Alderman H, Chiappori P-A, Haddad L, Hoddinott J, Kanbur R. 1995. Unitary versus collective models of the household: Is it time to shift the burden of proof? *World Bank Res. Observ.* 10:1–19; Ray, Isha. 2007. Women, Water and Development. *Annual Review of Environment and Resources*, 32: 421- 449.

which states that women have a central role in the management and safeguarding of water resources. So we have to infer gender parity from the targets and the achievement data that we have. Social expectations dictate that women and girls fetch, treat and store (most of) the water used in the home, so they bear the burdens of unimproved access. These burdens include the health costs of carrying water, the time and wages given up to collect water and the costs of missing school because the schools have no toilets (UN HDR 2006)¹⁶. Therefore greater access to improved water – even when defined in the limited ways of Target 7C – does represent a benefit to women and girls. In this sense, greater access must be taken as good gender news.

Sanitation presents a more complex story. Sanitation research and practice has largely been focused on extending improved access (as defined by Target 7C) through building facilities, encouraging toilet uptake and discouraging open defecation (also called “behavior change”) (Jenkins & Curtis 2005¹⁷, Black & Fawcett 2008¹⁸; www.water.org). But women and girls need more privacy than men when they use the facilities, need more time in the toilet as they have to sit or squat, may have small children in their care, need safety to access outside toilets, and may need multiple daily visits during their menstrual period. Indeed the enormous gap in the MDG target, possibly reinforced by trying to meet the MDGs as they are written, is menstrual hygiene management (see Bharadwaj & Patkar 2004)¹⁹. Sanitation access is, in all these ways, possibly more germane to gender parity and dignity than even access to water. Therefore greater sanitation access post-1990 *may* represent good gender news – *but only if* the additional sanitary facilities are indeed convenient enough for women’s daily and consistent use. We do not know, however, the extent to which this is the case.

Overall, looking to 2015 and beyond – and taking the MDG targets at face value for now -- progress towards the water target has benefited women and girls and has partially advanced gender parity. Progress towards the sanitation target has been lower even by official count. But sanitation access, if we include the sustainable disposal of feces and the management of menstruation, is even lower and more gender-unequal than the official count of “improved access”. Thus there is much less progress towards gender parity on this front.

How can the post-2015 agenda embed a gender perspective in future targets on water and sanitation?

It is widely accepted that we cannot manage (some would even say “value”) that which we cannot measure. It is less openly accepted that we measure that which we have decided we value. The very act of measuring and presenting data confers value. Several proposals (literature cited above) are on the table already for the post-2015 targets to measure rates of change rather than levels, to measure distribution than averages, and to include affordability and quality of access criteria. It is likely that the post-2015 targets will remain simplified, even if some of these

¹⁶ UN Development Program. 2006, Power, Poverty and the Global Water Crisis. *Human Development Report*.

¹⁷ Marion Jenkins & V. Curtis. 2005. Achieving the ‘good life’: why some people want latrines in rural Benin. *Social Science and Medicine*, 61: 2446 – 2459.

¹⁸ Maggie Black & B. Fawcett. 2008. *The Last Taboo: Opening the Door on the Global Sanitation Crisis*. London: Earthscan.

¹⁹ Bharadwaj, Soumyaa & A. Patkar. 2004. Menstrual Hygiene and Management in Developing Countries. *Junction Social Report*, Mumbai, India.

criticisms are taken on board, as one of the goals of target setting is to compare outcomes across space and across time.

The UN argues that the goals of sustainable development, for which targets will be developed, (<http://sustainabledevelopment.un.org/index.php?menu=1300>) must be action-oriented, concise, communicable, few in number, and global in nature (but taking into account differences in national capacities). Taking these criteria into account, four steps would enable the new targets to embed a gender perspective and to promote gender parity.

(i) *Sex disaggregated data*

This step is essential. It requires a “binary” model of the household, not with one decision-maker or “head of household” but with potentially more than one adult decision-maker (see Alderman et al 1995). Ideally the surveys on which JMP data are based would be separately administered to an adult male and an adult female in every household. If the cost of these additional surveys is too high, and it may well be, the current surveys should add questions on access, use, and time / cost separately for adult males and females, and for boys and girls. Indeed some of these distinctions are already made in national health surveys and in MICS datasets, for example. The results will help deconstruct the indicators and assess the gender impact of the targets they measure.

(ii) *Water quality, affordability and distance from dwelling data*

It is possible, with more, but not vastly more, effort, to include an estimate of at least microbial and arsenic contamination in “improved” sources. These estimates may be based on geography, and on whether the primary source is surface or groundwater, rather than on a household-by-household basis. The JMP is already considering the inclusion of microbial contamination criteria post-2015 – this is welcome, and would bring the target of “improved” closer to the goal of “safe”. Similarly, closing the gaps on sanitation indicators, i.e. including even modest standards of fecal matter disposal, wastewater treatment, and menstrual hygiene needs, is essential for sustainability as well as gender parity in future targets (especially if these targets remain under a “sustainable environment” goal).

Affordability can be estimated in terms of money spent, usually, but not only, for urban systems. The opportunity costs of travel time to water can also be roughly estimated. Such questions are already asked in many existing water and sanitation questionnaires. A ladder of affordability can be presented as part of reporting water and sanitation access, for example with percentage of income spent on water per income quintile in each nation, and assessed against a benchmark range of acceptable cost.²⁰ This change would embed equity into future indicators and targets. A similar ladder could be presented for distance of the water source or the sanitation facility from the dwelling. Both affordability and distance affect the quantity of water used, and the regularity with which the toilet is used, and both are profoundly gendered.

(iii) *Ladder format data*

The JMP should present more data in the ladder format that they have now started to use. This will avoid the “pass-fail” nature of the current targets. These ladders could be of quality of

²⁰ Income responses are not always accurate and cost of water is not always paid in cash. Therefore this is admittedly an imperfect suggestion. But it could be a first step.

service (such as for the sanitation ladder shown above) or for access (including distance and affordability) per income quintile. Even if numerical (or proportional) targets remain post-2015, complementary laddered data will track towards-the-target progress, and will communicate simply and visually the range of access within a country or region. With laddered outcomes made more prominent in representation and communication, more policy efforts in the intermediate ranges – such as improving and adding block toilets in slums or partially-improved household latrines constructed with CLTS efforts – would receive recognition.

(iv) *An explicit prototype (or “default”) body*

Finally: Every universal human needs- or human rights-driven goal, target or indicator has, embedded within it, an assumption about the human body. We can call this assumption the “default” or the “prototype” – it is always there, it is most often implicit, and it allows us to propose simple and universal targets for complex and diverse needs. An improved water source or an improved latrine has to be an improvement with respect to bodily needs and functions. The default body in today’s Target 7C is clearly poor, but what else is he/she?

If the post-2015 targets cannot be tailored to different bodily needs and their associated social expectations, then they must become explicit about the body that they and their indicators are written for. We must imagine the water and sanitation targets that could serve an undernourished body that will carry water, must always sit or squat to use the toilet, will manage small children in the toilet, must be able to wash her own and the children’s hands immediately after defecation, should be safe from assault on her way to the facilities or the water source, and will bleed for four days a month for forty years, except if she is pregnant or very sick. Gender parity in water and sanitation means designing the post-2015 targets for *that* body. And for the next round of indicators – 2040 and after -- we’ll hope that the first of these assumptions will no longer be needed.