**National drinking water targets – trends and factors associated with target-setting: Supporting Information**

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* Table S1. National coverage levels, targets, and target years.
* Assumptions used to classify national standards of safe water (includes Table S2. Assumptions used in classifying different water technology types.)
* Figure S1. (a) International targets as a function of the date of declaration and (b) corresponding development agendas for drinking water.
* Linear interpolation of international or national targets to allow for their comparison (includes Figure S2).
* Table S3. Criteria and list of countries for each national target trend type.
* Patterns in the distribution of countries by national target trend type (includes Figure S3, S4, and S5).
* Table S4. Criteria and list of countries for each trend type for the required future rate of change.
* Sensitivity analysis for degree of realism of national targets (includes Figure S6).

Inclusion of distance to source and minimum water quantity in national definitions of safe access (includes Tables S5–S9).

* Table S10. Trend type and list of countries for each trend type for the difference between international and national targets.
* Association between individual national target trends and the trend in international targets (includes Figure S7).
* Table S11. Results of unpaired t-tests for the comparison of rates of change between countries with national targets equal to or greater than the MDG target and countries with national targets lower than the MDG target.
* Table S12. Results of paired t-tests for the comparison of rates of change before and after the adoption of the MDGs using the same group of countries.
* References.

**Table S1. National coverage levels, targets, and target years.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1980** | | | **1985** | | | | | **1990** | | | | | | **1995** | | | | | |
| **Country** | **Cvg** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | |
| Afghanistan |  |  |  | 20 | 37 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Angola |  |  |  | 31 | 51 | | 1990 | | 40 | | 73 | | 2000 | |  | |  | |  | |
| Argentina | 57 | 99 | 1990 |  |  | |  | |  | |  | |  | | 65 | | 90 | | 2000 | |
| Bahamas |  |  |  |  |  | |  | | 94 | | 100 | | 2000 | | 94 | | 100 | | 2005 | |
| Bahrain |  |  |  | 80 | 100 | | 1990 | | 100 | | 100 | | 2000 | |  | |  | |  | |
| Bangladesh | 38 | 74 | 1990 | 44 | 12 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Barbados |  |  |  | 99 | 100 | | 1990 | | 100 | | 100 | | 2000 | |  | |  | |  | |
| Benin | 20 | 87 | 1990 | 56 | 90 | | 1990 | | 56 | | 43 | | 2000 | |  | |  | |  | |
| Bhutan | 8 | 62 | 1990 |  |  | |  | | 34 | | 77 | | 2000 | |  | |  | |  | |
| Bolivia | 37 | 75 | 1990 | 43 | 55 | | 1990 | |  | |  | |  | | 70 | | 87 | | 2000 | |
| Brazil |  |  |  |  |  | |  | | 87 | | 92 | | 2000 | |  | |  | |  | |
| Burkina Faso | 30 | 95 | 1990 | 64 | 71 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Burundi | 24 | 91 | 1990 | 26 | 90 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Cameroon |  |  |  | 30 | 91 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Cape Verde | 50 | 76 | 1990 | 63 | 84 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Central African Republic |  |  |  | 4 | 67 | | 1990 | | 7 | | 54 | | 2000 | |  | |  | |  | |
| Chad |  |  |  |  |  | |  | |  | |  | |  | |  | |  | |  | |
| Chile | 84 | 88 | 1990 | 86 | 98 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Colombia | 92 | 98 | 1990 |  |  | |  | | 85 | | 95 | | 2000 | |  | |  | |  | |
| Cook Islands | 10 | 100 | 1990 | 94 | 100 | | 1990 | | 100 | | 100 | | 2000 | |  | |  | |  | |
| Costa Rica | 84 | 87 | 1990 | 93 | 94 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Cote d’Ivoire |  |  |  |  |  | |  | |  | |  | |  | |  | |  | |  | |
| Cuba |  |  |  |  |  | |  | | 98 | | 100 | | 2000 | |  | |  | |  | |
| Cyprus |  |  |  | 100 | 100 | | 1990 | | 100 | | 100 | | 2000 | |  | |  | |  | |
| Democratic Republic of the Congo |  |  |  | 33 | 49 | | 1990 | | 39 | | 54 | | 2000 | |  | |  | |  | |
| Dominican Republic | 59 | 73 | 1990 |  |  | |  | |  | |  | |  | | 73 | | 94 | | 2000 | |
| Ecuador | 45 | 82 | 1990 | 57 | 69 | | 1990 | | 55 | | 86 | | 2000 | | 55 | | 81 | | 1997 | |
| Egypt | 75 | 91 | 1990 |  |  | |  | | 90 | | 90 | | 2000 | |  | |  | |  | |
| El Salvador | 51 | 69 | 1990 | 61 | 83 | | 1990 | | 47 | | 67 | | 2000 | | 53 | | 77 | | 1999 | |
| Ethiopia |  |  |  |  |  | |  | |  | |  | |  | |  | |  | |  | |
| Fiji | 77 | 91 | 1990 |  |  | |  | | 79 | | 100 | | 2000 | |  | |  | |  | |
| Gambia |  |  |  |  |  | |  | | 66 | | 59 | | 2000 | |  | |  | |  | |
| Ghana | 47 | 88 | 1990 | 56 | 85 | | 1990 | | 91 | | 53 | | 2000 | |  | |  | |  | |
| Guatemala | 45 | 70 | 1990 | 58 | 74 | | 1990 | | 61 | | 83 | | 2000 | | 60 | | 76 | | 2000 | |
| Guinea | 17 | 35 | 1990 |  |  | |  | |  | |  | |  | |  | |  | |  | |
| Guyana | 72 | 96 | 1990 | 82 | 97 | | 1990 | | 79 | | 96 | | 2000 | |  | |  | |  | |
| Haiti |  |  |  |  |  | |  | | 41 | | 77 | | 2000 | | 39 | | 54 | | 2000 | |
| Honduras | 44 | 90 | 1990 | 45 | 90 | | 1990 | |  | |  | |  | |  | |  | |  | |
| India | 41 | 100 | 1990 | 54 | 72 | | 1990 | |  | |  | |  | |  | |  | |  | |
| Indonesia | 24 | 66 | 1990 | 39 | 66 | | 1990 | | 28 | | 80 | | 2000 | |  | |  | |  | |
|  | **2002 - 2006** | | | | | **2009** | | | | | | **2011** | | | | | | **2013** | | | | |
| **Country** | **Cvg (Year)** | | **Tgt** | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** |
| Afghanistan |  | |  |  | |  | |  | |  | | 50 | | 50 | | 2014 | | 64 | | 50 | | 2014 |
| Angola |  | |  |  | |  | |  | |  | | 47 | | 90 | | 2015 | | 54 | | 53 | | 2017 |
| Argentina |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Bahamas |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Bahrain |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Bangladesh |  | |  |  | | 80 | | 100 | | 2011 | | 84 | | 100 | | 2011 | | 85 | | 100 | | 2015 |
| Barbados |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Benin | 48 (2005) | | 68 | 2015 | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Bhutan |  | |  |  | |  | |  | |  | | 97 | | 100 | | 2013 | | 98 | | 100 | | 2018 |
| Bolivia |  | |  |  | |  | |  | |  | | 88 | | 83 | | 2015 | | 88 | | 90 | | 2015 |
| Brazil |  | |  |  | |  | |  | |  | | 97 | | 93 | | 2015 | | 98 | | 97 | | 2033 |
| Burkina Faso | 63 (2005) | | 82 | 2015 | | 76 | | 79 | | 2015 | |  | |  | |  | | 82 | | 79 | | 2015 |
| Burundi |  | |  |  | | 72 | | 72 | | 2015 | |  | |  | |  | | 75 | | 81 | | 2015 |
| Cameroon |  | |  |  | | 74 | | 87 | | 2015 | | 73 | | 75 | | 2015 | | 74 | | 72 | | 2015 |
| Cape Verde |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Central African Republic |  | |  |  | | 67 | | 65 | | 2015 | | 68 | | 63 | | 2015 | | 68 | | 67 | | 2015 |
| Chad |  | |  |  | | 50 | | 60 | | 2020 | | 50 | | 63 | | 2015 | |  | |  | |  |
| Chile |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Colombia |  | |  |  | |  | |  | |  | |  | |  | |  | | 91 | | 95 | | 2021 |
| Cook Islands |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Costa Rica |  | |  |  | |  | |  | |  | |  | |  | |  | | 97 | | 97 | | 2015 |
| Cote d’Ivoire |  | |  |  | |  | |  | |  | | 81 | | 82 | | 2015 | | 80 | | 83 | | 2015 |
| Cuba |  | |  |  | |  | |  | |  | |  | |  | |  | | 94 | | 98 | | 2017 |
| Cyprus |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Democratic Republic of the Congo |  | |  |  | |  | |  | |  | | 51 | | 49 | | 2015 | |  | |  | |  |
| Dominican Republic |  | |  |  | |  | |  | |  | |  | |  | |  | | 81 | | 100 | | 2020 |
| Ecuador |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Egypt |  | |  |  | |  | |  | |  | | 99 | | 100 | | 2012 | |  | |  | |  |
| El Salvador |  | |  |  | |  | |  | |  | | 91 | | 83 | | 2015 | |  | |  | |  |
| Ethiopia | 39 (2005) | | 62 | 2015 | |  | |  | |  | | 50 | | 98 | | 2015 | | 52 | | 98 | | 2015 |
| Fiji |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Gambia |  | |  |  | |  | |  | |  | | 89 | | 100 | | 2020 | |  | |  | |  |
| Ghana | 56 (2004) | | 85 | 2015 | |  | |  | |  | | 84 | | 78 | | 2015 | | 87 | | 100 | | 2025 |
| Guatemala |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Guinea |  | |  |  | |  | |  | |  | | 74 | | 76 | | 2015 | |  | |  | |  |
| Guyana |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Haiti |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Honduras |  | |  |  | | 86 | | 86 | | 2015 | |  | |  | |  | |  | |  | |  |
| India |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| Indonesia |  | |  |  | |  | |  | |  | | 85 | | 67 | | 2014 | | 85 | | 71 | | 2015 |

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|  | **1980** | | | | | **1985** | | | | | **1990** | | | | | | **1995** | | | | | |
| **Country** | **Cvg** | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | |
| Iran |  |  | |  | |  | |  |  | | 89 | | 100 | | 2000 | |  | |  | |  | |
| Iraq |  |  | |  | | 84 | | 93 | 1990 | | 78 | | 82 | | 2000 | |  | |  | |  | |
| Jordan | 89 | 98 | | 1990 | |  | |  |  | | 99 | | 100 | | 2000 | |  | |  | |  | |
| Kenya | 26 | 70 | | 1990 | |  | |  |  | |  | |  | |  | |  | |  | |  | |
| Lao PDR |  |  | |  | |  | |  |  | | 28 | | 76 | | 2000 | |  | |  | |  | |
| Lesotho | 14 | 35 | | 1990 | | 35 | | 66 | 1990 | |  | |  | |  | |  | |  | |  | |
| Liberia |  |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
| Madagascar |  |  | |  | | 31 | | 34 | 1990 | |  | |  | |  | |  | |  | |  | |
| Malawi | 41 | 100 | | 1990 | | 55 | | 69 | 1990 | |  | |  | |  | |  | |  | |  | |
| Malaysia | 63 | 90 | | 1990 | | 83 | | 90 | 1990 | | 78 | | 94 | | 2000 | |  | |  | |  | |
| Maldives | 5 | 83 | | 1990 | | 24 | | 84 | 1990 | |  | |  | |  | |  | |  | |  | |
| Mali | 6 | 69 | | 1990 | | 17 | | 39 | 1990 | | 39 | | 54 | | 2000 | |  | |  | |  | |
| Mauritania |  |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
| Mexico | 56 | 75 | | 1990 | | 70 | | 79 | 1990 | |  | |  | |  | | 83 | | 88 | | 2000 | |
| Mongolia |  |  | |  | |  | |  |  | | 80 | | 46 | | 2000 | |  | |  | |  | |
| Mozambique |  |  | |  | | 14 | | 70 | 1990 | |  | |  | |  | |  | |  | |  | |
| Myanmar | 21 | 50 | | 1990 | | 27 | | 56 | 1990 | | 32 | | 100 | | 2000 | |  | |  | |  | |
| Nepal | 14 | 66 | | 1990 | | 28 | | 70 | 1990 | | 37 | | 77 | | 2000 | |  | |  | |  | |
| Nicaragua | 53 | 81 | | 1990 | |  | |  |  | |  | |  | |  | | 62 | | 67 | | 2000 | |
| Niger | 33 | 100 | | 1990 | |  | |  |  | |  | |  | |  | |  | |  | |  | |
| Nigeria |  |  | |  | |  | |  |  | | 100 | | 89 | | 2000 | |  | |  | |  | |
| Oman |  |  | |  | | 58 | | 69 | 1990 | |  | |  | |  | |  | |  | |  | |
| Pakistan | 35 | 76 | | 1990 | | 43 | | 76 | 1990 | |  | |  | |  | |  | |  | |  | |
| Panama | 82 | 93 | | 1990 | | 80 | | 62 | 1990 | |  | |  | |  | | 84 | | 94 | | 1999 | |
| Paraguay | 21 | 39 | | 1990 | | 22 | | 35 | 1990 | |  | |  | |  | | 33 | | 45 | | 1998 | |
| Peru |  |  | |  | | 52 | | 73 | 1990 | |  | |  | |  | | 66 | | 73 | | 2000 | |
| Philippines | 51 | 100 | | 1990 | | 52 | | 75 | 1990 | | 84 | | 100 | | 2000 | |  | |  | |  | |
| Rwanda | 54 | 100 | | 1990 | | 49 | | 71 | 1990 | |  | |  | |  | |  | |  | |  | |
| Samoa | 95 | 100 | | 1990 | | 69 | | 82 | 1990 | | 82 | | 100 | | 2000 | |  | |  | |  | |
| Saudi Arabia | 91 | 100 | | 1990 | | 93 | | 100 | 1990 | |  | |  | |  | |  | |  | |  | |
| Senegal |  |  | |  | | 55 | | 77 | 1990 | | 44 | | 56 | | 2000 | |  | |  | |  | |
| Sierra Leone | 16 | 81 | | 1990 | |  | |  |  | | 39 | | 82 | | 2000 | |  | |  | |  | |
| Solomon Islands | 27 | 98 | | 1990 | |  | |  |  | | 61 | | 89 | | 2000 | |  | |  | |  | |
| South Africa |  |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
| Sri Lanka | 33 | 59 | | 1990 | | 40 | | 61 | 1990 | | 60 | | 100 | | 2000 | |  | |  | |  | |
| Suriname |  |  | |  | | 97 | | 100 | 1990 | |  | |  | |  | | 89 | | 97 | | 2010 | |
| Tajikistan |  |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
| Thailand | 63 | 89 | | 1990 | | 64 | | 88 | 1990 | |  | |  | |  | |  | |  | |  | |
| Togo | 42 | 94 | | 1990 | | 57 | | 99 | 1990 | |  | |  | |  | |  | |  | |  | |
| Trinidad and Tobago | 98 | 99 | | 1990 | |  | |  |  | | 96 | | 99 | | 2000 | | 96 | | 95 | | 2000 | |
| Tunisia | 63 | 70 | | 1990 | | 70 | | 77 | 1990 | |  | |  | |  | |  | |  | |  | |
| Uganda |  |  | |  | | 21 | | 45 | 1985 | | 33 | | 33 | | 2000 | |  | |  | |  | |
| United Republic of Tanzania |  |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |
|  | **2002 - 2006** | | | | | | **2009** | | | | | | | **2011** | | | | | | **2013** | | | | |
| **Country** | **Cvg (Year)** | | **Tgt** | | **Tgt Yr** | | **Cvg** | | | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** | | **Cvg** | | **Tgt** | | **Tgt Yr** |
| Iran |  | |  | |  | |  | | |  | |  | | 96 | | 99 | | 2015 | | 96 | | 98 | | 2015 |
| Iraq |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Jordan |  | |  | |  | |  | | |  | |  | | 97 | | 99 | | 2015 | | 96 | | 98 | | 2016 |
| Kenya | 62 (2002) | | 80 | | 2015 | |  | | |  | |  | |  | |  | |  | | 62 | | 76 | | 2015 |
| Lao PDR |  | |  | |  | | 57 | | | 56 | | 2020 | | 70 | | 80 | | 2015 | |  | |  | |  |
| Lesotho |  | |  | |  | | 85 | | | 100 | | 2020 | | 81 | | 100 | | 2020 | | 81 | | 68 | | 2014 |
| Liberia |  | |  | |  | |  | | |  | |  | | 72 | | 50 | | 2011 | | 75 | | 80 | | 2017 |
| Madagascar | 31 (2005) | | 55 | | 2015 | | 41 | | | 69 | | 2012 | |  | |  | |  | | 50 | | 66 | | 2018 |
| Malawi | 67 (2002) | | 75 | | 2015 | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Malaysia |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Maldives |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Mali |  | |  | |  | | 56 | | | 82 | | 2015 | | 69 | | 76 | | 2011 | | 67 | | 83 | | 2015 |
| Mauritania | 40 (2004) | | 68 | | 2015 | |  | | |  | |  | | 56 | | 50 | | 2008 | | 50 | | 68 | | 2015 |
| Mexico |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 95 | | 95 | | 2012 |
| Mongolia |  | |  | |  | | 76 | | | 40 | | 2015 | | 63 | | 48 | | 2015 | |  | |  | |  |
| Mozambique | 40 (2005) | | 70 | | 2015 | |  | | |  | |  | | 49 | | 62 | | 2015 | | 49 | | 70 | | 2015 |
| Myanmar |  | |  | |  | |  | | |  | |  | | 79 | | 90 | | 2015 | |  | |  | |  |
| Nepal |  | |  | |  | | 88 | | | 100 | | 2017 | | 88 | | 100 | | 2017 | | 88 | | 100 | | 2017 |
| Nicaragua |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Niger | 59 (2004) | | 80 | | 2015 | | 48 | | | 80 | | 2015 | |  | |  | |  | | 52 | | 62 | | 2015 |
| Nigeria |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 64 | | 100 | | 2030 |
| Oman |  | |  | |  | |  | | |  | |  | | 92 | | 80 | | 2015 | |  | |  | |  |
| Pakistan |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 91 | | 93 | | 2015 |
| Panama |  | |  | |  | |  | | |  | |  | | 93 | | 94 | | 2015 | | 94 | | 95 | | 2014 |
| Paraguay |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 94 | | 76 | | 2018 |
| Peru |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 87 | | 83 | | 2015 |
| Philippines |  | |  | |  | | 91 | | | 94 | | 2010 | | 90 | | 87 | | 2015 | | 92 | | 100 | | 2025 |
| Rwanda | 57 (2005) | | 85 | | 2015 | | 65 | | | 85 | | 2015 | |  | |  | |  | | 71 | | 100 | | 2017 |
| Samoa |  | |  | |  | |  | | |  | |  | | 98 | | 88 | | 2010 | |  | |  | |  |
| Saudi Arabia |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Senegal | 75 (2004) | | 90 | | 2015 | | 69 | | | 90 | | 2015 | | 76 | | 90 | | 2015 | | 74 | | 85 | | 2015 |
| Sierra Leone |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 60 | | 74 | | 2015 |
| Solomon Islands |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| South Africa |  | |  | |  | |  | | |  | |  | | 92 | | 94 | | 2014 | | 95 | | 100 | | 2014 |
| Sri Lanka |  | |  | |  | |  | | |  | |  | | 92 | | 100 | | 2020 | | 94 | | 85 | | 2015 |
| Suriname |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Tajikistan |  | |  | |  | |  | | |  | |  | | 71 | | 80 | | 2020 | | 72 | | 85 | | 2020 |
| Thailand |  | |  | |  | |  | | |  | |  | |  | |  | |  | | 96 | | 100 | | 2016 |
| Togo |  | |  | |  | | 60 | | | 68 | | 2015 | | 60 | | 66 | | 2015 | | 61 | | 65 | | 2015 |
| Trinidad and Tobago |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Tunisia |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| Uganda | 66 (2006) | | 80 | | 2015 | |  | | |  | |  | | 74 | | 65 | | 2015 | | 75 | | 68 | | 2014 |
| United Republic of Tanzania | 52 (2002) | | 64 | | 2015 | |  | | |  | |  | |  | |  | |  | | 53 | | 74 | | 2015 |

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|  | **1980** | | | **1985** | | | **1990** | | | **1995** | | |
| **Country** | **Cvg** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | **Tgt Yr** |
| Vanuatu | 55 | 99 | 1990 | 61 | 100 | 1990 |  |  |  |  |  |  |
| Venezuela | 81 | 91 | 1990 |  |  |  |  |  |  | 79 | 80 | 1998 |
| Yemen | 27 | 100 | 1990 | 35 | 56 | 1990 |  |  |  |  |  |  |
| Zambia |  |  |  | 58 | 76 | 1990 |  |  |  |  |  |  |
| Zimbabwe |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2002 - 2006** | | | **2009** | | | **2011** | | | **2013** | | |
| **Country** | **Cvg (Year)** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | **Tgt Yr** | **Cvg** | **Tgt** | **Tgt Yr** |
| Vanuatu |  |  |  |  |  |  |  |  |  |  |  |  |
| Venezuela |  |  |  |  |  |  |  |  |  |  |  |  |
| Yemen |  |  |  |  |  |  |  |  |  |  |  |  |
| Zambia | 53 (2002) | 75 | 2015 |  |  |  |  |  |  |  |  |  |
| Zimbabwe |  |  |  |  |  |  | 78 | 100 | 2015 | 80 | 83 | 2015 |

**Assumptions used to classify national standards of safe water**

**Table S2. Assumptions used in classifying different water technology types.**

|  |  |
| --- | --- |
| **Term used in country responses** | **Assumed interpretation used in our analysis** |
| ‘treatment’ or ‘treated water’ but no mention of a technology type | No technology type (as this could be household treatment) |
| ‘centralized system’, ‘network’, ‘distribution network’, ‘water treatment plant’, or ‘reticulation’ but no mention of a technology type | Piped systems which includes piped into dwelling, piped to plot/yard, and public standpipes |
| ‘reticulation piped water supply systems’, ‘piped schemes’, ‘piped water supply’, ‘tap water’ | Piped systems which includes piped into dwelling, piped to plot/yard, and public standpipes |
| ‘pump’, ‘public pump’, ‘motorized pump’, or ‘hand pump’ | Borehole/tubewell with pump |
| ‘water column’ | Borehole/tubewell |
| ‘drilled well’, ‘drilling’, ‘deep wells’, ‘deep drilled groundwater’ | Borehole/tubewell |
| ‘covered concrete lined wells’ | Protected well |
| ‘well water’, ‘shallow well’, ‘wells’, ‘well covered’, ‘dug well’ | Unprotected well |
| ‘wellspring’ | Protected spring |

For water quality standards or guidelines, if countries referenced the WHO or national water guidelines, this was considered to be a specific guideline or standard. Non-specific guidelines included the use of terms such as ‘treatment’, ‘treated water’, ‘chlorinated’, ‘disinfected’, ‘filtered’, ‘desalinated’, or ‘safe’ with no clear definition on what these terms mean and what level of quality is to be achieved. Similarly, a specific value for time, distance, and quantity needed to be provided for a country to be counted as including these factors in their national standard of safe water. Language such as ‘reasonable time’ or ‘adequate supply’ was considered too vague and where this was used, the national standard was not considered to take this factor into account.

**Figure S1**

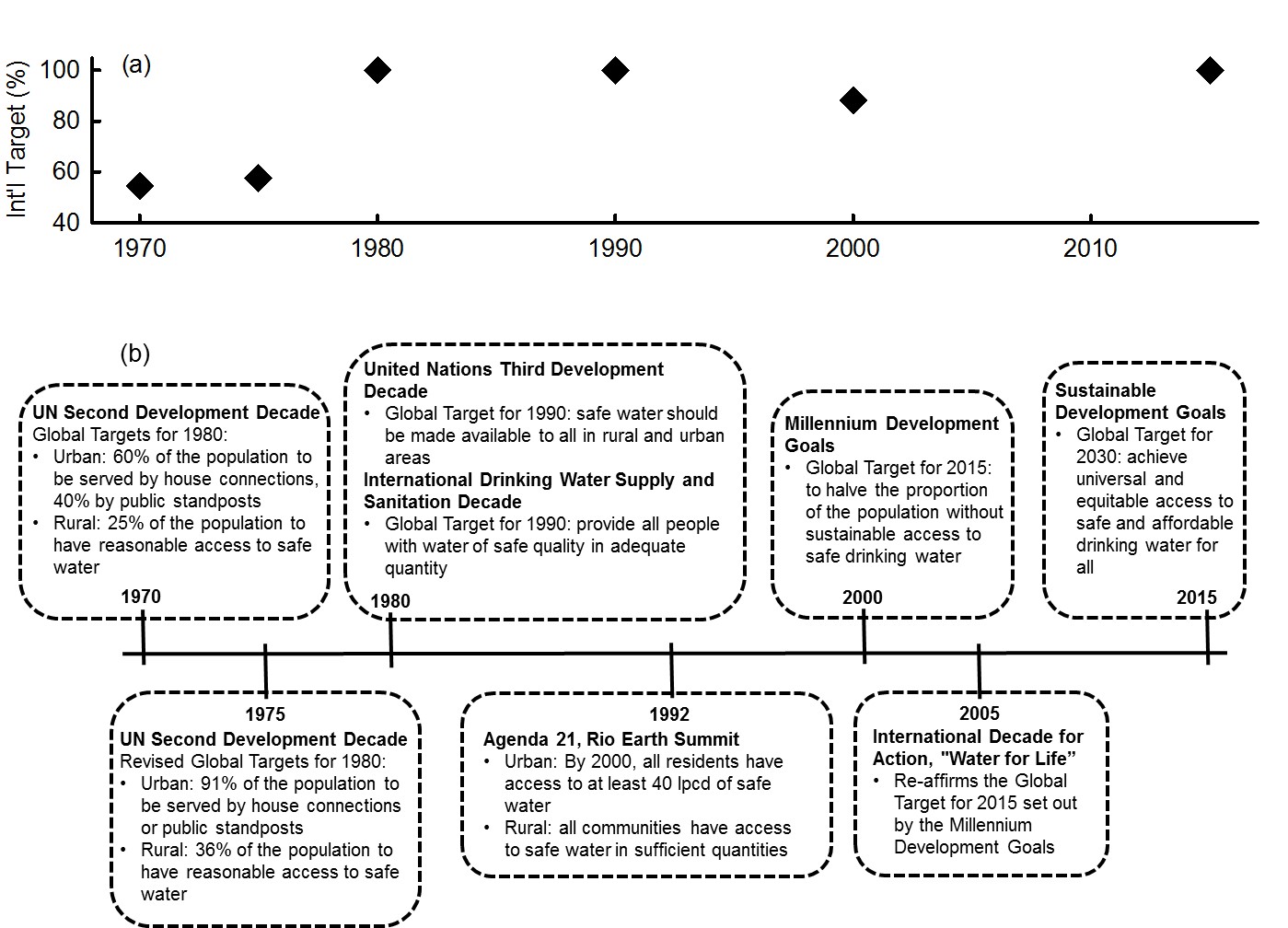


Figure S1. (a) International targets as a function of the date of declaration and (b) corresponding development agendas for drinking water (WHO, 1975, 1976; United Nations, 1992; United Nations General Assembly, 1980, 2004, 2010a, b, 2015; World Summit for Children, 1990; O’Rourke, 1992; World Health Organization and United Nations Children’s Fund, 2000; United Nations Development Group, 2003).

**Linear interpolation of international or national targets to allow for their comparison**

Despite arguments that the MDGs were meant to be global targets and not applied to individual countries (Vandemoortele, 2011), in our analysis for the 2005, 2009, 2011, and 2013 datasets, the international target for each country was calculated by adopting the convention of halving the proportion of the population without access to safe water to the national level, as this is commonly used for MDG monitoring.

When the target year between the international and national targets differed, we adjusted the targets through linear interpolation so that both targets had the same target year corresponding to the earlier target year (in the example above, the international target would be re-estimated for year 2010). We chose the common year to be the lower target year because using the higher target year can result in targets greater than 100% (e.g., if a national target is 100% to be reached in 2011, then extrapolating this target to 2015 would result in a value greater than 100%) and would require assumptions about future targets of countries that may not hold (e.g., the rate of change in coverage per year required to meet these future targets may differ from the rate of change in coverage per year required to meet the current target). The adjustment was performed using the 1990 coverage value of a country as a point of reference because, in general, all adjustments were for the year 2000 or later (when the MDG international target was set for 2015 based on the global 1990 coverage). Figure S2 shows example calculations for two scenarios: (a) when the national target year comes after the international target year and (b) when the national target year precedes the international target year.



Figure S2. Example calculations on the adjustment of international and national targets in order for the two to have the same target year when (a) the national target year comes after the international target year and (b) the national target year precedes the international target year.

**Table S3. Criteria and list of countries for each national target trend type.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trend type** | **Criteria** | **Description** | **No. countries** | **Countries** |
| Constant at 100% | All national targets are between 98 and 100% | National targets are consistently at universal access | 13 | Bahamas, Bahrain, Barbados, Cook Islands, Cuba, Cyprus, Hong Kong, Iran, Jordan, Macao, Saudi Arabia, Singapore, Vanuatu |
| Constant at non-100% | Standard deviation <5  Slope of linear fit between −0.5 and +0.5 | National targets are consistently at a non-universal access value | 19 | Brazil, Central African Republic\*, Colombia\*, Cote d’Ivoire, Democratic Republic of the Congo, Ecuador\*, Guyana, Honduras, Indonesia\*, Malawi\*, Malaysia, Maldives, Mongolia, Mozambique, Panama\*, Suriname, Tonga, Trinidad and Tobago, Zambia |
| Increasing | Positive slope of linear fit  R-squared of linear fit >0.6 | National targets are moving towards universal access | 37 | Afghanistan, Bangladesh\*, Bhutan\*, Bolivia\*, Cambodia, Cape Verde, Chad, Chile, Costa Rica, Dominican Republic, Egypt, El Salvador\*, Ethiopia, Fiji, Gambia, Guatemala\*, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar\*, Mali\*, Mexico, Myanmar\*, Nepal, Oman, Pakistan, Paraguay, Peru, Senegal\*, South Africa, Sri Lanka\*, Tajikistan, Thailand, Tunisia, United Republic of Tanzania, Viet Nam |
| Decreasing | Negative slope of linear fit  R-squared of linear fit >0.6 | National targets are moving away from universal access | 15 | Argentina, Burundi, Cameroon, Congo, India, Iraq, Morocco, Nicaragua, Niger, Sierra Leone, Solomon Islands, Togo, Venezuela, Yemen, Zimbabwe |
| No definitive trend | Depending on the point which is dropped, the trend can change |  | 13 | Angola, Benin, Burkina Faso, Ghana, Haiti, Lao PDR, Lesotho, Mauritania, Nigeria, Philippines, Rwanda, Samoa, Uganda |

\* For countries with one outlier, the criteria apply when the outlier is removed.

**Patterns in the distribution of countries by national target trend type**

To determine whether countries in different national target trend types (see Table S3) have common characteristics, we assessed whether there was a pattern between the trend type and three factors: geographic region (Africa, Asia, Oceania, and Latin America and the Caribbean), gross national income (GNI) per capita calculated using the Atlas method in current US dollars (World Bank, 2017), and net disbursements from total official development assistance (ODA) per capita for water supply and sanitation in constant prices (2014 USD) (Organisation for Economic Co-operation and Development (OECD), 2017). As the years for which countries had national target data varied from 1980 to 2013, we used average per capita GNI and ODA values from 1980–2013 and 2002–2013, respectively (ODA data were only available beginning from the year 2002). Figures S3, S4, and S5 show that the trend type of ‘constant national target of 100%’ was the only type that had countries with GNI per capita values greater than 10,000, did not have any countries from Africa, and in general all countries had no to low ODA per capita. In essence, countries with constant national targets of 100% were often countries that had higher economic resources (i.e., higher GNI per capita and did not receive donor aid). For the trend type ‘constant national targets at non-100%’, based on the percentage of respondent countries in a region (Figure S3b), the majority of countries were from Latin America and the Caribbean. There were no clear trends for the other three trend types, with no dominant geographic region and similar distributions of ODA per capita values and GNI per capita values for all three trend types.



Figure S3. (a) Number of countries and (b) percentage of countries (out of total countries that responded in that region) by geographic region for each national target trend type. LAC = Latin America and the Caribbean.



Figure S4. GNI per capita of countries in each of the five national target trend types.



Figure S5. ODA per capita of countries in each of the five national target trend types.

**Table S4. Criteria and list of countries for each trend type for the required future rate of change.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trend type** | **Sub-group** | **Description** | **Criteria** | **No. countries** | **Countries** |
| Constant at a positive value |  | Country has a consistent rate at which they aim to increase coverage | Range of values ≤2, slope of linear fit between −0.5 and +0.5 | 22 | Argentina, Bahamas, Brazil, Colombia, Cote d’Ivoire, Cuba, Egypt, Fiji, Guatemala, Guinea, Guyana, Haiti, Iran, Iraq, Jordan, Malaysia, Niger, Saudi Arabia, Suriname, Tajikistan, Tunisia, Venezuela |
| Constant at a value less than or equal to 0 | Constant at 0 | National target is consistently equal to coverage | All values between −0.5 and +0.5 | 7 | Barbados, Costa Rica, Cyprus, Hong Kong, Macao, Singapore, Trinidad and Tobago |
| Constant at a negative value | National coverage is consistently higher than target | Range of values ≤2, slope of linear fit between −0.5 and +0.5 | 0 |  |
| Increasing | All positive points | Country is increasing their level of ambition in terms of increasing access | Positive slope of linear fit, R-squared of linear fit >0.6 | 13 | Cape Verde, Chad, Chile, Ecuador\*, Ethiopia, Kenya, Maldives, Nicaragua, Samoa, South Africa, United Republic of Tanzania, Vanuatu, Zambia |
| All negative points | Country needs to update their national target since their coverage already exceeds the target | 0 |  |
| Crossover points (moving from negative to positive points) | Country re-adjusted their coverage or national target so that targets are now higher than coverage | 2 | Gambia, Nigeria |
| Decreasing | All positive points | Country is decreasing their level of ambition in terms of increasing access | Negative slope of linear fit, R-squared of linear fit >0.6 | 15 | Bahrain, Benin\*, Bhutan, Bolivia, Burundi\*, Cook Islands, India, Lao PDR, Mexico, Nepal, Philippines, Solomon Islands, Togo, Yemen, Zimbabwe |
| All negative points | Country needs to update their national target since their coverage already exceeds the target | 0 |  |
| Crossover points (moving from positive to negative points) | Country has achieved and then exceeded their national target | 10 | Afghanistan\*, Burkina Faso, Cameroon, Central African Republic, Indonesia, Lesotho\*, Oman, Peru, Sri Lanka, Uganda\* |
| No definitive trend |  |  | Depending on the point which is dropped, the trend can change | 21 | Angola, Bangladesh, Democratic Republic of the Congo, Dominican Republic, El Salvador, Ghana, Honduras, Madagascar, Malawi, Mali, Mauritania, Mongolia, Mozambique, Myanmar, Pakistan, Panama, Paraguay, Rwanda, Senegal, Sierra Leone, Thailand |

\* For countries with one outlier, the criteria apply when the outlier is removed.

**Sensitivity analysis for degree of realism of national targets**

In the main manuscript, we defined a national target to be realistic if the required future rate is within 20% of the current rate of increase. This 20% value was selected to account for the fact that as countries approach 100% coverage, it becomes increasingly difficult to reach the unserved, and therefore the required future rate may be less than the current rate even if countries are still using the maximum available resources to increase drinking water coverage. We performed a sensitivity analysis to determine whether the results from Figure 3 are similar if a national target is defined as realistic when the required future rate is within 50% of the current rate of increase (i.e., ratio is between 0.5 and 1.5). Figure S6 shows that the trends are similar, with most countries setting ambitious national targets (Figure S6a) and that countries that set ambitious targets show greater progress in increasing access up to a certain peak ratio.



Figure S6. Realism of national targets and their association with progress. (a) Percentage of countries that have realistic, ambitious, and unambitious national targets. (b) Actual future rate of change compared to the ratio of required future rate divided by current rate. (c) Coverage compared to the ratio of required future rate divided by current rate. The vertical lines at required future rate / current rate = 0.5 and 1.5 define unambitious (<0.5), realistic (0.5–1.5), and ambitious (>1.5) national targets. Data points in panel (b) are for the years 1985, 1990, 1995, and 2009 as coverage values prior and after the year in question are needed to calculate current and actual future rates.

**Inclusion of distance to source and minimum water quantity in national standards of safe water**

Of the countries that included distance to source in their national standards of safe water, only five countries reported standards for both years (see Table S4). The distance for all five countries remained the same, although South Africa introduced an Interim level (less than Basic) that had a distance of 500 m compared to that of 200 m for the Basic level. In general, all countries used a distance that was less than or equal to 1000 m (the international standard recognized in General Comment 15 on the human right to water), with the exceptions being rural Ethiopia, rural Kenya, and rural Sudan. The distance ranged from 25 to 1000 m in both years for countries that did not differentiate between rural and urban areas. For rural areas alone, the distance ranged from 500 to 1500 m and 150 to 3000 m for the years 2011 and 2013, respectively, which were higher than the distance of 200–500 m in both years for urban areas alone. The differential standards between rural and urban areas do not align with the human right for water and will need to be addressed in the SDG era as the SDGs now require drinking water sources to be on premises. When improved sources that are off premises were included, the proportion of the rural population using an improved drinking water source is already lower than that for the urban population (85% compared to 96%, respectively, in 2015 from WHO/UNICEF JMP (2016a)); if the requirement for on premises is included, the disparity between urban and rural coverage would be even greater.

In 2011, nine countries reported a minimum water quantity in their national standards, with 19 countries doing so in 2013. All countries, except rural Ethiopia with a value of 15 litres per capita per day (lpcd), reported a water quantity of at least 20 lpcd, which is the guideline from the World Health Organization (Howard & Bartram, 2003) for the minimum quantity of water needed for a ‘basic’ level of service to promote health (note this does not include water needed for hygiene, laundry, and other household needs). Values for water quantity ranged from 20 to 40 lpcd and 20 to 500 lpcd for 2011 and 2013, respectively, for countries that did not differentiate between rural and urban areas. For rural areas alone, the water quantity ranged from 15 to 20 lpcd and 20 to 112.5 lpcd for the years 2011 and 2013, respectively, compared to the water quantity of 20–140 lpcd and 20–200 lpcd in both years for urban areas alone. For countries that reported a national standard, from 2011 to 2013, four (Ghana, India, Lesotho, and Nigeria) no longer included water quantity in their national standard, even though they still included off-premises sources such as boreholes. Only four countries included water quantity in their national standards of access for both years (Table S8) and these values remained unchanged, although South Africa, in addition to the Basic level of 25 lpcd, also introduced an Interim level (with a lower water quantity than the Basic level at 10 lpcd) and a High level (with a greater volume of 50–60 lpcd).

**Table S5. Countries which included distance to source in their national standard of safe water.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2011** | | **2013** | |
|  | **Technology** | **Distance to Source (m)** | **Technology** | **Distance to Source (m)** |
| **Rural and Urban** | | | | |
| Afghanistan |  |  | Multiple | 250 |
| Botswana |  |  | Standpipe | 400 |
| Chad |  |  | Multiple | 700 |
| Cuba |  |  | Standpipe | 200-300 |
| Dominican Republic | Standpipe | 500 |  |  |
| Eritrea |  |  | Multiple | 500 |
| India |  |  | Piped | 50 |
| Kyrgyzstan |  |  | Domestic and yard connections, standpipes | 100 |
| Malawi | Multiple | 500 |  |  |
| Myanmar |  |  | Multiple | WHO distance (=1000) |
| Nepal |  |  | Multiple | 100 |
| Nigeria | Multiple | 250 |  |  |
| Panama |  |  | Multiple | 1000 |
| Philippines | Point source (Level 1) | 250 | Point source (Level 1) | 250 |
| Communal source (Level 2) | 25 | Communal source (Level 2) | 25 |
| Republic of Moldova |  |  | Multiple | 1000 |
| Senegal | Multiple | 1000 |  |  |
| South Africa | Standpipe | 200 | Basic level | 200 |
|  |  | Interim level | 500 |
| Sri Lanka | Multiple | 200 |  |  |
| Togo |  |  | Multiple | 500 |
| United Republic of Tanzania |  |  | Multiple | 400 |
| **Rural alone** | | | | |
| Burkina Faso |  |  | Wells, boreholes | 1000 |
|  |  | Standpipe | 500 |
| Cambodia |  |  | Multiple | 150 |
| Central African Republic |  |  | Not specified | 500 |
| Ethiopia | Not specified | 1500 | Multiple | 1500 |
| Kenya |  |  | Multiple | 2000 |
| Morocco | Standpipe | 500 | Not specified | 500 |
| Rwanda | Multiple | 500 | Multiple | 500 |
| Sudan |  |  | Not specified | 3000 officially, now reduced to 500 |
| Tunisia |  |  | Multiple | 1000 |
| Uganda |  |  | Multiple | 500 |
| Zimbabwe |  |  | Multiple | 250 |
| **Urban alone** | | | | |
| Ethiopia | Not specified | 500 | Multiple | 500 |
| Morocco | Standpipe | 200 | Not specified | 200 |
| Rwanda | Multiple | 200 | Multiple | 200 |
| Uganda |  |  | Multiple | 200 |
| Zimbabwe |  |  | Multiple | 250 |

**Table S6. Countries which included time to source in their national standard of safe water.**

|  |  |  |
| --- | --- | --- |
|  | **2011** | **2013** |
|  | **Time to Source (min)** | **Time to Source (min)** |
| **Rural and Urban** | | |
| Afghanistan |  | 60 |
| Lesotho | 15 |  |
| Liberia | 10 |  |
| Zimbabwe |  | 30 |
| **Rural alone** | | |
| Tunisia |  | 60 |
| **Urban alone** | | |
| Kenya |  | 30 |

**Table S7. Countries which included maximum number of users per water point in their national standard of safe water.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2011** | | **2013** | |
|  | **Technology** | **Number of Users (people)** | **Technology** | **Number of Users (people)** |
| **Rural and Urban** | | | | |
| Afghanistan |  |  | Multiple | 20 households |
| Bangladesh | Private points | 5 | Private points | 5 |
| Public points | 100 | Public points | 100 |
| Benin |  |  | Borehole | 250 |
|  |  | Connection | 12 |
| Guinea |  |  | Multiple | 300 |
|  |  |  |  |  |
| Mozambique | Borehole, well | 500 |  |  |
| Household connection | 5 |  |  |
| Rwanda | Borehole | 300 |  |  |
| Piped water | 350 |  |  |
| Togo |  |  | Borehole, dug well | 250 |
|  |  | Standpipe | 500 |
|  |  | PEA | 1000 |
| **Rural alone** | | | | |
| Benin | Multiple | 250 |  |  |
| Burkina Faso |  |  | Wells, boreholes | 300 |
| Democratic Republic of the Congo |  |  | Borehole | 1000 |
|  |  | Borehole with mini-network | 2500 |
| Guinea-Bissau | Multiple | 150 |  |  |
| Mali |  |  | Borehole, dug well, standpipe | 400 |
|  |  | Private connection | 10 |
| Niger |  |  | Multiple | 250 |
| **Urban alone** | | | | |
| Benin | Connection | 12 |  |  |
| Burkina Faso |  |  | Wells, boreholes | 300 |
|  |  | Standpipe | 500 |
| Central African Republic |  |  | Standpipe | 500 |
|  |  | Private connection | 8 |
| Democratic Republic of the Congo |  |  | Borehole | 1000 |
| Mali |  |  | Borehole, dug well, standpipe | 200 |
|  |  | Private connection | 5 |
| Niger |  |  | Private connection, standpipe | 500 |

**Table S8. Countries which included water quality in their national standard of safe water.**

|  |  |  |
| --- | --- | --- |
| **Country** | **2011** | **2013** |
| Burkina Faso |  | Nitrate ≤50 mg/L, Conductivity ≤1000 µS |
| Ethiopia | WHO water quality guidelines |  |
| Fiji | Fiji National drinking water quality standards (WHO standards) |  |
| India | BIS 10500 drinking water standards |  |
| Jordan | Jordanian standards | Jordanian water quality standards |
| Lesotho | Lesotho water quality guidelines |  |
| Nepal |  | National Drinking Water Quality Standards 2006 |
| Rwanda | National and WHO standards | National and WHO standards |
| Samoa | Samoa Drinking Water Standards (complying with EU targets) |  |
| South Africa | South African National Standard 241 | Potable standard (SANS 241) |
| Tunisia |  | National quality |
| Uzbekistan | National drinking water standard |  |
| Viet Nam |  | National standards QCVN 01:2009/BYT & QCVN02:2009/BYT depending on capacity of system |
| Zimbabwe |  | Environmental Management Act, SAZ national water quality standards and technical guidelines |

**Table S9. Countries which included water quantity in their national standard of safe water.**

|  |  |  |
| --- | --- | --- |
|  | **2011** | **2013** |
|  | **Quantity (lpcd)** | **Quantity (lpcd)** |
| **Rural and Urban** | | |
| Afghanistan |  | 25 |
| Chad |  | 500 |
| India | 40 |  |
| Kenya |  | 20 |
| Lesotho | 30 |  |
| Malawi | 36 |  |
| Nepal |  | 45 |
| Nigeria | 20 |  |
| Panama |  | 20 |
| Philippines | 20 (Level 1) | 20 (Level 1) |
| 60 (Level 2) | 60 (Level 2) |
| 100 (Level 3) | 100 (Level 3) |
| Republic of Moldova |  | 20 |
| Rwanda | 20 | 20 |
| South Africa | 25 | 25 (basic) |
| 50-60 (high) |
| 10 (interim) |
| Uganda |  | 6000 litres/tank for rain water harvesting\* |
| Zimbabwe |  | 20 |
| **Rural alone** | | |
| Bhutan |  | 45 (dug wells) |
| Central African Republic |  | 25 |
| Eritrea |  | 20 |
| Ethiopia | 15 | 15 |
| Ghana | 20 |  |
| Guinea |  | 20 |
| Myanmar |  | 112.5 |
| Togo |  | 20 |
| United Republic of Tanzania |  | 25 |
| **Semi-urban alone** | | |
| Togo |  | 30 |
| **Urban alone** | | |
| Bhutan |  | 200 (dug wells) |
| Eritrea |  | 40 |
| Ethiopia | 20 | 20 |
| Ghana | 140 |  |
| Guinea |  | 50 |
| Myanmar |  | 180 |
| Togo |  | 50 |
| United Republic of Tanzania |  | 75 |

\* Original country response was ‘6000 litres/cubic metres/tank for rainwater harvesting’. Since 1 litre = 0.001 cubic metres, it is clear that ‘6000 litres/cubic metres’ cannot be correct so we chose to show only litres/tank.

**Table S10. Trend type and list of countries for each trend type for the difference between international and national targets.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trend type** | **Sub-group** | **Description** | **Criteria** | **No. countries** | **Countries** |
| Constant at a positive value |  | National targets always lower than international targets by a consistent amount | Standard deviation <5, slope of linear fit between −0.5 and +0.5 | 10 | Benin\*, Brazil, Burundi, Cote d’Ivoire, Guyana, Malaysia, Maldives, Togo, Trinidad and Tobago, Venezuela |
| Constant at a value less than or equal to 0 | Constant at 0 | National targets always higher than or equal to international targets | All values between −2 and +2 | 12 | Bahamas, Bahrain, Barbados, Cook Islands, Cyprus, Hong Kong, Jordan, Macao, Philippines\*, Saudi Arabia, Singapore, Vanuatu |
| Constant at a negative value | Standard deviation <5, slope of linear fit between −0.5 and +0.5 | 2 | Iran, Mauritania |
| Increasing | All positive points | National targets are diverging from international targets, where international targets are always higher | Positive slope of linear fit, R-squared of linear fit >0.6 | 9 | Argentina, Haiti, India, Iraq, Morocco, Nicaragua, Solomon Islands, Suriname, Yemen |
| All negative points | National targets are converging with international targets, where national targets are always higher | 0 |  |
| Crossover points (moving from negative to positive points) | National targets converge, become equal to, and then diverge from international targets | 1 | Zimbabwe |
| Decreasing | All positive points | National targets are converging with international targets, where international targets are always higher | Negative slope of linear fit, R-squared of linear fit >0.6 | 19 | Cape Verde, Central African Republic\*, Chad, Chile, Costa Rica, Democratic Republic of the Congo, El Salvador\*, Fiji, Guatemala\*, Guinea, Indonesia, Mongolia, Oman, Pakistan, Paraguay, Peru, Tunisia, United Republic of Tanzania, Viet Nam |
| All negative points | National targets are diverging from international targets, where national targets are always higher | 2 | Ethiopia, South Africa |
| Crossover points (moving from positive to negative points) | National targets converge, become equal to, and then diverge from international targets | 26 | Angola\*, Bangladesh\*, Bhutan\*, Bolivia\*, Burkina Faso\*, Dominican Republic, Egypt, Gambia, Honduras, Kenya, Lesotho\*, Madagascar\*, Mali\*, Mexico, Mozambique\*, Myanmar, Nepal, Nigeria, Panama\*, Rwanda\*, Senegal\*, Sierra Leone, Sri Lanka\*, Thailand, Uganda\*, Zambia |
| No definitive trend |  |  | Depending on the point which is dropped, the trend can change | 7 | Cameroon, Colombia, Ecuador, Ghana, Malawi, Niger, Samoa |

\* For countries with one outlier, the criteria apply when the outlier is removed.

**Association between individual national target trends and the trend in international targets**

We assessed whether changes in national targets were associated with changes in international targets by comparing the individual country trends in national targets to the trend in international targets. From Figure S7, we see that for the international drinking water target (Figure S7a), after an increase from 1970 to 1980, the international target remained constant at 100% coverage until the year 2000 when it dropped to 88% in accordance with the Millennium Development Goals, and then increased to 100% in 2015 as a result of the Sustainable Development Goals. We examined the national target trend for each country to determine the number of countries that matched this trend profile. For the decrease in international targets in the year 2000, we used a simplistic approach by assuming that if countries were setting their national targets based on the international target to halve the population without access to safe water, this would result in a decrease in national targets. Since national target data was only available starting in 1980, we looked for (a) a constant national target from 1980 to 2000, followed by a decrease in the year 2000, which would parallel the trend for international targets; (b) an increase in national target from 1980 to 1990, followed by a decrease in the year 2010, which would reflect a 10-year time lag between the adoption of international targets and subsequent setting of national targets (i.e., international targets drive national targets); or (c) a decrease in national target between the years 1980 to 1990, followed by an increase in the year 2005, which reflects a 10-year time lag in which international targets follow national targets (i.e., national targets drive international targets). The 10-year time lag was selected because most international and national target values were available in intervals of 10 years.

Using our simplistic approach, almost no countries had a trend in their national target that paralleled the trend for international targets. Two countries – Burundi and Sierra Leone – shown in Figure S7b, show the potential of having a constant national target from 1980 to 2000 followed by a decrease in 2000. However, there is insufficient data to conclude whether the decrease observed in 2010 for both countries occurred in, or prior to, 2000. Similarly, while four countries – Indonesia, Myanmar, Sri Lanka, and Togo – shown in Figure S7c, were found to potentially follow the trend in international targets following a 10-year time lag, more conclusive deductions would require additional data to be available. For example, it is not clear whether the national target for Togo was constant during 1990–2009 or whether the target had been decreasing during this period. Four countries – Benin, Ghana, Senegal, and Uganda – (Figure S7d) had a trend in national targets that preceded that of international targets (i.e., national targets drive international targets), although for Senegal and Uganda, there are not enough data points prior to 1990 to determine whether the national targets were constant during 1980–1990 or already on a decreasing pattern.

In general, few countries have trends in national targets that parallel, follow, or precede the trend in international targets. However, the lack of association between trends in national and international targets could also be due to the limited data available, as only 38 of the 97 countries had four or more data points. In addition, trends in national targets are also dependent on the target year corresponding to a national target. For example, in 2009, 2011, and 2013, Mali reported national targets of 83%, 76%, and 83%, respectively, which would suggest a down-up pattern. However, upon closer inspection we see that the corresponding target years were 2015, 2011, and 2015. It is possible that if all national targets were for a target year of 2015, the trend in national target may show a constant trend instead of a down-up pattern. We note that the lack of association between trends in international and national trends does not necessarily indicate that international targets have no influence on country actions. International targets and policies can affect how countries prioritize issues even if targets are not actually changed. Similarly, the lack of association does not indicate that national targets did not drive international targets.



Figure S7. Countries whose national target trend potentially parallels, follows, or precedes the trend in international targets. (a) Change in the international drinking water target with time; (b) Countries with a constant national target from 1980 to 2000, followed by a decrease in the year 2000, which would parallel the trend for international targets; (c) Countries with an increase in national target from 1980 to 1990, followed by a decrease in the year 2010, which would reflect a 10-year time lag between the declaration/adoption of international targets and the setting of national targets (i.e., international targets drive national targets); (d) Countries with a decrease in national target between the years 1980 to 1990, followed by an increase in the year 2005, which reflects a 10-year time lag in which international targets follow national targets (i.e., national targets drive international targets).

**Table S11. Results of unpaired t-tests for the comparison of rates of change between countries with national targets equal to or greater than the MDG target and countries with national targets lower than the MDG target. National targets for the year 2011 and 2013 were used.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group** | **Years** | **No. countries** | **Avg rate of change** | **Std dev** | **p-value** |
| 2011 national target ≥ MDG target | 2000–2015 | 20 | 0.72 | 0.58 | 0.45 |
| 2011 national target < MDG target | 2000–2015 | 16 | 0.60 | 0.33 |
|  | | | | | |
| 2013 national target ≥ MDG target | 2000–2015 | 28 | 0.71 | 0.55 | 1.0 |
| 2013 national target < MDG target | 2000–2015 | 15 | 0.71 | 0.65 |

**Table S12. Results of paired t-tests for the comparison of rates of change before and after the adoption of the MDGs using the same group of countries. National targets for the year 2011 and 2013 were used.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group** | **Years** | **No. countries** | **Avg rate of change** | **Std dev** | **p-value** |
| 2011 national target ≥ MDG target | 1995–1999 | 20 | 0.80 | 0.61 | 0.13 |
| 2011 national target ≥ MDG target | 2000–2004 | 20 | 0.77 | 0.60 |
|  |  |  |  |  |  |
| 2011 national target ≥ MDG target | 1995–1999 | 20 | 0.80 | 0.61 | 0.12 |
| 2011 national target ≥ MDG target | 2005–2009 | 20 | 0.75 | 0.60 |
|  |  |  |  |  |  |
| 2011 national target ≥ MDG target | 1995–1999 | 20 | 0.80 | 0.61 | 0.01 |
| 2011 national target ≥ MDG target | 2010–2015 | 20 | 0.64 | 0.57 |
|  |  |  |  |  |  |
| 2011 national target < MDG target | 1995–1999 | 16 | 0.70 | 0.38 | 0.36 |
| 2011 national target < MDG target | 2000–2004 | 16 | 0.68 | 0.36 |
|  |  |  |  |  |  |
| 2011 national target < MDG target | 1995–1999 | 16 | 0.70 | 0.38 | 0.15 |
| 2011 national target < MDG target | 2005–2009 | 16 | 0.66 | 0.36 |
|  |  |  |  |  |  |
| 2011 national target < MDG target | 1995–1999 | 16 | 0.70 | 0.38 | 0.00 |
| 2011 national target < MDG target | 2010–2015 | 16 | 0.48 | 0.28 |
|  |  |  |  |  |  |
| 2013 national target ≥ MDG target | 1995–1999 | 28 | 0.82 | 0.56 | 0.01 |
| 2013 national target ≥ MDG target | 2000–2004 | 28 | 0.79 | 0.57 |
|  |  |  |  |  |  |
| 2013 national target ≥ MDG target | 1995–1999 | 28 | 0.82 | 0.56 | 0.00 |
| 2013 national target ≥ MDG target | 2005–2009 | 28 | 0.75 | 0.56 |
|  |  |  |  |  |  |
| 2013 national target ≥ MDG target | 1995–1999 | 28 | 0.82 | 0.56 | 0.00 |
| 2013 national target ≥ MDG target | 2010–2015 | 28 | 0.62 | 0.51 |
|  |  |  |  |  |  |
| 2013 national target < MDG target | 1995–1999 | 15 | 0.63 | 0.59 | 0.50 |
| 2013 national target < MDG target | 2000–2004 | 15 | 0.62 | 0.55 |
|  |  |  |  |  |  |
| 2013 national target < MDG target | 1995–1999 | 15 | 0.63 | 0.59 | 0.86 |
| 2013 national target < MDG target | 2005–2009 | 15 | 0.62 | 0.54 |
|  |  |  |  |  |  |
| 2013 national target < MDG target | 1995–1999 | 15 | 0.63 | 0.59 | 0.15 |
| 2013 national target < MDG target | 2010–2015 | 15 | 0.54 | 0.47 |

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