

# The IBNET Water Supply and Sanitation **Blue Book 2014**

The International Benchmarking  
Network for Water and Sanitation  
Utilities Databook

Alexander Danilenko, Caroline van den Berg, Berta Macheve, and L. Joe Moffitt



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Water Supply  
and Sanitation  
Blue Book 2014



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BENCHMARKING NETWORK  
FOR WATER AND SANITATION  
UTILITIES DATABOOK

*Alexander Danilenko*

*Caroline van den Berg*

*Berta Macheve*

*L. Joe Moffitt*



**WORLD BANK GROUP**

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# Contents

|                                                                                |           |
|--------------------------------------------------------------------------------|-----------|
| Foreword . . . . .                                                             | xi        |
| Acknowledgments . . . . .                                                      | xiii      |
| About the Authors . . . . .                                                    | xv        |
| IBNET Partners . . . . .                                                       | xvii      |
| Abbreviations . . . . .                                                        | xix       |
| <b>OVERVIEW . . . . .</b>                                                      | <b>1</b>  |
| The Success of IBNET . . . . .                                                 | 1         |
| Water Sector Status . . . . .                                                  | 1         |
| Aggregated IBNET Indices of Utility Performance: Apgar and WUVI . . . . .      | 4         |
| Note . . . . .                                                                 | 5         |
| References . . . . .                                                           | 5         |
| <b>1. STATUS OF THE SECTOR . . . . .</b>                                       | <b>7</b>  |
| Introduction . . . . .                                                         | 7         |
| Data Quality . . . . .                                                         | 8         |
| IBNET Performance Reporting . . . . .                                          | 8         |
| <i>Water Coverage (indicator 1.1)</i> . . . . .                                | 8         |
| <i>Wastewater Coverage (indicator 1.2)</i> . . . . .                           | 9         |
| <i>Nonrevenue Water (indicators 6.1 and 6.2)</i> . . . . .                     | 9         |
| <i>Staff Productivity</i> . . . . .                                            | 12        |
| <i>Operating Cost Coverage Ratio (indicator 24.1)</i> . . . . .                | 13        |
| <i>Operation and Maintenance Costs (indicators 11.1 and 11.3)</i> . . . . .    | 14        |
| <i>Operating Revenues (indicator 18.1)</i> . . . . .                           | 17        |
| <i>Water Consumption (indicator 4.1)</i> . . . . .                             | 17        |
| <i>Collection Period (indicator 23.1)</i> . . . . .                            | 18        |
| <i>Affordability of Water and Sewerage Services (indicator 19.1)</i> . . . . . | 19        |
| <i>Cross-Subsidies (indicator 21.1)</i> . . . . .                              | 20        |
| Conclusions . . . . .                                                          | 21        |
| Notes . . . . .                                                                | 22        |
| Reference . . . . .                                                            | 22        |
| <b>2. DEFINITION OF THE GOOD UTILITY: IBNET APGAR AND WUVI . . . . .</b>       | <b>23</b> |
| Introduction . . . . .                                                         | 23        |
| The Search for a Good Scoring System . . . . .                                 | 24        |
| The Apgar Score Revisited . . . . .                                            | 25        |
| Application of the IBNET Apgar . . . . .                                       | 26        |
| Water Utility Vulnerability Index (WUVI) . . . . .                             | 29        |
| <i>Definition</i> . . . . .                                                    | 29        |
| <i>Properties of the WUVI Function</i> . . . . .                               | 30        |
| <i>WUVI Examples</i> . . . . .                                                 | 31        |

|                   |    |
|-------------------|----|
| Conclusions ..... | 33 |
| Notes .....       | 34 |
| References .....  | 34 |

|                                                              |           |
|--------------------------------------------------------------|-----------|
| <b>APPENDIX. COUNTRY DATA TABLES.....</b>                    | <b>37</b> |
| IBNET Indicator/Country: Albania.....                        | 37        |
| IBNET Indicator/Country: Algeria .....                       | 38        |
| IBNET Indicator/Country: Argentina.....                      | 39        |
| IBNET Indicator/Country: Armenia.....                        | 40        |
| IBNET Indicator/Country: Australia .....                     | 41        |
| IBNET Indicator/Country: Azerbaijan .....                    | 42        |
| IBNET Indicator/Country: Bangladesh .....                    | 43        |
| IBNET Indicator/Country: Bahrain .....                       | 44        |
| IBNET Indicator/Country: Belarus.....                        | 45        |
| IBNET Indicator/Country: Benin .....                         | 46        |
| IBNET Indicator/Country: Bhutan .....                        | 47        |
| IBNET Indicator/Country: Plurinational State of Bolivia..... | 48        |
| IBNET Indicator/Country: Bosnia and Herzegovina .....        | 49        |
| IBNET Indicator/Country: Brazil .....                        | 50        |
| IBNET Indicator/Country: Bulgaria .....                      | 51        |
| IBNET Indicator/Country: Burkina Faso.....                   | 52        |
| IBNET Indicator/Country: Burundi .....                       | 53        |
| IBNET Indicator/Country: Cabo Verde .....                    | 54        |
| IBNET Indicator/Country: Cambodia .....                      | 55        |
| IBNET Indicator/Country: Cameroon .....                      | 56        |
| IBNET Indicator/Country: Central African Republic.....       | 57        |
| IBNET Indicator/Country: Chile.....                          | 58        |
| IBNET Indicator/Country: China .....                         | 59        |
| IBNET Indicator/Country: Colombia.....                       | 60        |
| IBNET Indicator/Country: Democratic Republic of Congo.....   | 61        |
| IBNET Indicator/Country: Costa Rica .....                    | 62        |
| IBNET Indicator/Country: Côte d'Ivoire.....                  | 63        |
| IBNET Indicator/Country: Croatia .....                       | 64        |
| IBNET Indicator/Country: Czech Republic.....                 | 65        |
| IBNET Indicator/Country: Ecuador .....                       | 66        |
| IBNET Indicator/Country: El Salvador.....                    | 67        |
| IBNET Indicator/Country: Arab Republic of Egypt .....        | 68        |
| IBNET Indicator/Country: Ethiopia .....                      | 69        |
| IBNET Indicator/Country: Fiji .....                          | 70        |
| IBNET Indicator/Country: Gabon .....                         | 71        |
| IBNET Indicator/Country: The Gambia.....                     | 72        |
| IBNET Indicator/Country: Georgia .....                       | 73        |
| IBNET Indicator/Country: Ghana .....                         | 74        |
| IBNET Indicator/Country: Guinea .....                        | 75        |
| IBNET Indicator/Country: Hungary.....                        | 76        |
| IBNET Indicator/Country: India.....                          | 77        |
| IBNET Indicator/Country: Indonesia.....                      | 78        |
| IBNET Indicator/Country: Jordan .....                        | 79        |
| IBNET Indicator/Country: Kazakhstan .....                    | 80        |



|                                                                          |     |
|--------------------------------------------------------------------------|-----|
| IBNET Indicator/Country: Kenya . . . . .                                 | 81  |
| IBNET Indicator/Country: Kiribati. . . . .                               | 82  |
| IBNET Indicator/Country: Kuwait . . . . .                                | 83  |
| IBNET Indicator/Country: Kyrgyz Republic . . . . .                       | 84  |
| IBNET Indicator/Country: Lao People's Democratic Republic . . . . .      | 85  |
| IBNET Indicator/Country: Lesotho . . . . .                               | 86  |
| IBNET Indicator/Country: Liberia . . . . .                               | 87  |
| IBNET Indicator/Country: Lithuania . . . . .                             | 88  |
| IBNET Indicator/Country: Former Yugoslav Republic of Macedonia . . . . . | 89  |
| IBNET Indicator/Country: Macao SAR, China . . . . .                      | 90  |
| IBNET Indicator/Country: Madagascar . . . . .                            | 91  |
| IBNET Indicator/Country: Malawi. . . . .                                 | 92  |
| IBNET Indicator/Country: Malaysia. . . . .                               | 93  |
| IBNET Indicator/Country: Mali . . . . .                                  | 94  |
| IBNET Indicator/Country: Mauritania. . . . .                             | 95  |
| IBNET Indicator/Country: Mauritius. . . . .                              | 96  |
| IBNET Indicator/Country: Mexico. . . . .                                 | 97  |
| IBNET Indicator/Country: Micronesia. . . . .                             | 98  |
| IBNET Indicator/Country: Moldova . . . . .                               | 99  |
| IBNET Indicator/Country: Mozambique. . . . .                             | 100 |
| IBNET Indicator/Country: Namibia. . . . .                                | 101 |
| IBNET Indicator/Country: Netherlands Antilles. . . . .                   | 102 |
| IBNET Indicator/Country: New Zealand . . . . .                           | 103 |
| IBNET Indicator/Country: Nicaragua . . . . .                             | 104 |
| IBNET Indicator/Country: Niger . . . . .                                 | 105 |
| IBNET Indicator/Country: Pakistan . . . . .                              | 106 |
| IBNET Indicator/Country: Panama . . . . .                                | 107 |
| IBNET Indicator/Country: Papua New Guinea. . . . .                       | 108 |
| IBNET Indicator/Country: Paraguay . . . . .                              | 109 |
| IBNET Indicator/Country: Peru . . . . .                                  | 110 |
| IBNET Indicator/Country: Philippines. . . . .                            | 111 |
| IBNET Indicator/Country: Poland . . . . .                                | 112 |
| IBNET Indicator/Country: Romania . . . . .                               | 113 |
| IBNET Indicator/Country: Russian Federation. . . . .                     | 114 |
| IBNET Indicator/Country: Rwanda . . . . .                                | 115 |
| IBNET Indicator/Country: Senegal. . . . .                                | 116 |
| IBNET Indicator/Country: The Seychelles . . . . .                        | 117 |
| IBNET Indicator/Country: Singapore. . . . .                              | 118 |
| IBNET Indicator/Country: Slovak Republic . . . . .                       | 119 |
| IBNET Indicator/Country: South Africa . . . . .                          | 120 |
| IBNET Indicator/Country: Sri Lanka . . . . .                             | 121 |
| IBNET Indicator/Country: Sudan. . . . .                                  | 122 |
| IBNET Indicator/Country: Swaziland. . . . .                              | 123 |
| IBNET Indicator/Country: Tajikistan. . . . .                             | 124 |
| IBNET Indicator/Country: Tanzania . . . . .                              | 125 |
| IBNET Indicator/Country: Togo. . . . .                                   | 126 |
| IBNET Indicator/Country: Tunisia. . . . .                                | 127 |
| IBNET Indicator/Country: Turkey . . . . .                                | 128 |
| IBNET Indicator/Country: Uganda . . . . .                                | 129 |

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| IBNET Indicator/Country: Ukraine .....                            | 130 |
| IBNET Indicator/Country: United States .....                      | 131 |
| IBNET Indicator/Country: Uruguay .....                            | 132 |
| IBNET Indicator/Country: Uzbekistan .....                         | 133 |
| IBNET Indicator/Country: República Bolivariana de Venezuela ..... | 134 |
| IBNET Indicator/Country: Vietnam .....                            | 135 |
| IBNET Indicator/Country: West Bank and Gaza .....                 | 136 |
| IBNET Indicator/Country: Republic of Yemen .....                  | 137 |
| IBNET Indicator/Country: Zambia .....                             | 138 |
| Reference .....                                                   | 139 |

|                    |            |
|--------------------|------------|
| <b>INDEX .....</b> | <b>141</b> |
|--------------------|------------|

## BOXES

|                                                      |    |
|------------------------------------------------------|----|
| 1.1 Drivers of Operation and Maintenance Costs ..... | 16 |
| 2.1 The AquaRating System .....                      | 24 |

## FIGURES

|                                                                                          |    |
|------------------------------------------------------------------------------------------|----|
| O.1 Cost Recovery of Water and Wastewater Services by Country<br>Category, 2006–10 ..... | 2  |
| 1.1 Nonrevenue Water by Income Level: Median Values in 2010 .....                        | 11 |
| 1.2 Nonrevenue Water by Income Level: Median Values, 2006–11 .....                       | 12 |
| 1.3 Operating Cost Coverage Ratio by Income Category, 2006–10 .....                      | 15 |
| B2.1.1 AquaRating Program Evaluation Criteria .....                                      | 24 |
| 2.1 IBNET Apgar Score by Classification, 2000–11 .....                                   | 27 |
| 2.2 Distribution of Utilities by Apgar Score, 2009 .....                                 | 28 |
| 2.3 IBNET Apgar Score by Size of Utility, 2006–11 .....                                  | 29 |
| 2.4 WUVI Standard of the Two Largest Utilities in Moldova, 1996–2012 .....               | 31 |
| 2.5 IBNET Apgar Score of the Two Largest Utilities in Moldova,<br>1996–2012 .....        | 32 |
| 2.6 Cost Recovery for Benin, Gabon, and Togo, 2001–09 .....                              | 33 |
| 2.7 WUVI for Benin, Gabon, and Togo, 2001–09 .....                                       | 33 |

## TABLES

|                                                                                               |    |
|-----------------------------------------------------------------------------------------------|----|
| 1.1 Coverage of Water Supply Services, 2006–11 .....                                          | 9  |
| 1.2 Coverage of Wastewater Services, 2006–11 .....                                            | 9  |
| 1.3 Nonrevenue Water as a Share of Water Production, 2006–11 .....                            | 10 |
| 1.4 Nonrevenue Water, 2006–11 .....                                                           | 10 |
| 1.5 Nonrevenue Water and Managerial Performance, 2006–11 .....                                | 11 |
| 1.6 Median Staff Productivity Measured in Employees per 1,000<br>People Served, 2006–11 ..... | 13 |
| 1.7 Median Staff Costs per Employee per Year, 2006–11 .....                                   | 13 |
| 1.8 Operating Cost Coverage Ratio, 2006–11 .....                                              | 14 |
| 1.9 Operation and Maintenance Cost per Cubic Meter of Water Sold,<br>2006–11 .....            | 16 |

|      |                                                                                                    |    |
|------|----------------------------------------------------------------------------------------------------|----|
| 1.10 | Average Revenues per Cubic Meter of Water Sold, 2006–11 . . . . .                                  | 18 |
| 1.11 | Water Consumption, 2006–11 . . . . .                                                               | 18 |
| 1.12 | Total Revenue per Capita per Year, 2006–11 . . . . .                                               | 19 |
| 1.13 | Collection Period in Number of Days, 2006–11 . . . . .                                             | 19 |
| 1.14 | Affordability in Percentage of GNI, 2006–11 . . . . .                                              | 19 |
| 1.15 | Cross-Subsidy Levels, 2006–11 . . . . .                                                            | 20 |
| 2.1  | Classification of Apgar Scores . . . . .                                                           | 26 |
| 2.2  | Apgar Score Value and Percentage of Each Category of<br>Indicators in the IBNET Database . . . . . | 27 |
| 2.3  | Average Apgar Score, 2006–11 . . . . .                                                             | 28 |
| 2.4  | Unweighted Average Apgar Scores by Level of Economic<br>Development, 2006–11 . . . . .             | 28 |



# Foreword

Well-run water utilities play an important role in ending poverty and boosting shared prosperity. Consumers need reliable access to high quality and affordable water supply and sanitation services. To deliver these basic services efficiently and effectively requires high-performing utilities that are able to respond to urban growth, connect the poor, and improve wastewater disposal practices.

Since 1997, the World Bank, through its International Benchmarking Network for Water and Sanitation Utilities (IBNET), has been working to improve utility performance through enhanced sharing of critical knowledge and expertise. An integrated part of the Water and Sanitation Program and new Water Global Practice, IBNET seeks to expand access to comparative data among utilities globally, helping to promote best practice among water supply and sanitation providers and eventually providing consumers with access to high quality and affordable water supply and sanitation services.

By delivering access to technical and financial information on utility performance, key stakeholders can do their jobs better: utility managers and employees can identify areas for improvement; governments can monitor and adjust sector policies and programs; regulators can ensure that customers get value; investors can identify viable markets and opportunities for creating value; and customer groups and NGOs can exercise “voice” in an informed way.

IBNET tools, such as data collection instruments and protocols, IBNET database, and IBNET tariff database, enable enhanced sharing of information from more than 4,000 utilities from over 130 countries and territories.

Due to its broad coverage and ease of accessibility, IBNET is becoming a standard for data collection and analysis around the world. More than 20 World Bank projects rely on IBNET as a reporting tool. Recently, Nigeria and Honduras water projects declared IBNET as an official monitoring tool for their utilities. IBNET also continues to support national and regional water associations. The Arab Countries Water Utilities Association (ACWUA) and the Pacific Water and Wastes Association (PWWA) recently benefited from IBNET adding their utilities to the network of peers, as well as providing information from their utilities’ members. IBNET is also in use by the Swiss Development Agency and German Society for International Cooperation (GIZ). IBNET is growing its knowledge base of the sector. Its data collection module added an energy efficiency module that is becoming the standard for all new studies. The IBNET team is testing modules for assessment of the services for the poor and gender aspects in water and sanitation.

The IBNET *Blue Book* summarizes water sector development in 2006–11, describing trends and monitoring effects of recent crises. Despite difficulties, municipal water performance has improved and withstood accelerated

urbanization and the impacts of the triple crisis (fuel, food, and finance). IBNET data confirmed that coverage with water services increased and water became accessible to more people. However, the financial crises of 2008 and 2010 significantly hampered the same trend with sanitation. As a result, wastewater services development has been slower than expected in many urban areas. The *Blue Book* also provides improved approaches in building comprehensive indices for water utilities performance assessment, as well as a statistical annex providing a comprehensive look at recent water performance of more than 80 countries.

We hope that this edition of the *Blue Book* will add to the knowledge of the sector and provide the reader with an informed view on municipal water and sanitation. We also hope that new utilities and their authorities will join IBNET and share their data with us and with the world.

Junaid Ahmad  
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# **IBNET Partners**

*ACWUA* Arabic Countries Water Utilities Association

*AMAC* Moldova Water and Wastewater Utilities Association

*ARA* Romanian Water Association

*CRA* Mozambique Water Regulator

*DWP* Danube Water Program

*EBC* European Benchmarking Cooperation, the Netherlands

*IUE* Moscow Institute of Urban Economics, Russia

*OECD* Organisation for Economic Co-operation and Development

*PWWA* Pacific Water and Waste Association

*SEAWUN* South East Asia Water Utilities Network

*SNIS* Brazil National Information System for the Water Sector

*WASREB* Kenya National Water and Wastewater Regulator



# Abbreviations

|       |                                                                       |
|-------|-----------------------------------------------------------------------|
| ACWUA | Arab Countries Water Utilities Association                            |
| AIC   | Akaike information criterion                                          |
| Apgar | Appearance, Pulse, Grimace, Activity, Respiration                     |
| GDP   | gross domestic product                                                |
| GIZ   | German Society for International Cooperation                          |
| GNI   | gross national income                                                 |
| IBNET | International Benchmarking Network for Water and Sanitation Utilities |
| IDB   | Inter-American Development Bank                                       |
| IWA   | International Water Association                                       |
| lcd   | liters per capita per day                                             |
| MDG   | Millennial Development Goals                                          |
| NRW   | Nonrevenue water                                                      |
| O&M   | Operation and maintenance                                             |
| OCCR  | Operating cost coverage ratio                                         |
| PWWA  | Pacific Water and Wastes Association                                  |
| SAR   | Special administrative region                                         |
| WS    | Water and sanitation                                                  |
| WSP   | Water and Sanitation Program                                          |
| WUVI  | Water Utility Vulnerability Index                                     |

“Access to safe water is a fundamental human need  
and therefore a basic human right.”

—*Kofi Annan, United Nations Secretary General (2007).*

“Nothing is more useful than water: but it will purchase scarce anything;  
scarce anything can be had in exchange for it.”

—*Adam Smith, Chapter 4, Book I, Wealth of Nations (1776).*

# OVERVIEW

## The Success of IBNET

The International Benchmarking Network for Water and Sanitation Utilities (IBNET) has been involved in water sector monitoring since 1997. It collects data on utilities' performance and has set a global standard for performance assessment. As of December 2013, the IBNET database contained information from more than 4,400 utilities from 135 countries. This edition of the *Blue Book* sector assessment is based on intensive analysis and data collection for the period 2006 to 2011.

## Water Sector Status

Safe and efficient water supply is a challenge for all countries and regions. For example, in newly established countries such as South Sudan, water service coverage from a protected source is virtually nonexistent (Nield 2011). In more advanced countries, such as the United States, "177 million US citizens currently get water from sources that lack adequate protection. Another 3.5 million are sick each year after exposure to bacteria found in raw sewage" (Cutright 2012). Virtually every report on water supply conditions speaks about the lack of proper maintenance or the negative effect of "reduced" maintenance efforts, the potential for reducing high electricity costs, and the large volumes of unaccounted-for water. Tariffs never satisfy utility needs and the public always considers them too high (regardless of the level); nonpayment or late payment is the norm for many consumers.

Nevertheless, governments, the private sector, and water authorities continue to devote substantial resources to develop the water sector. These ongoing efforts are an attempt to guarantee the right to water services that was declared as a human right by the UN in 2009. In this context, the performance assessment of water utilities serves the public interest of sharing prosperity by providing water and sanitation for all.

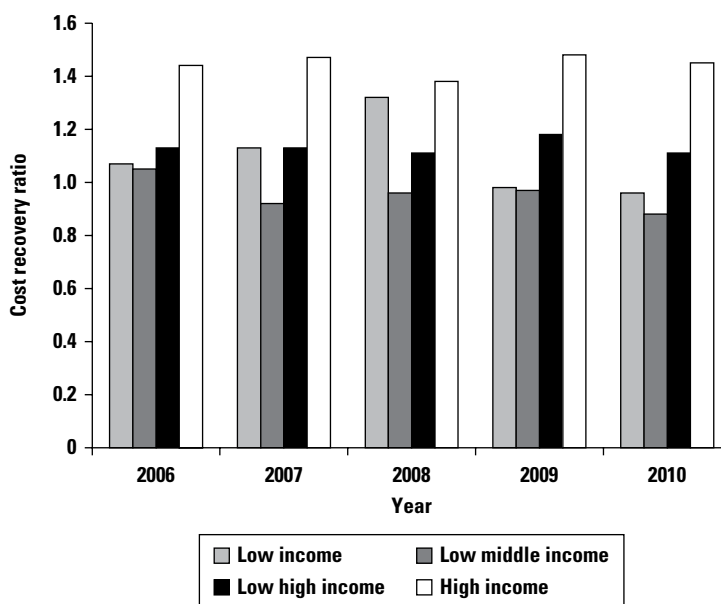
During the reviewed years of 2006 to 2011, municipal water performance has improved despite accelerated urbanization and the impacts of the triple crisis (fuel, food, and finance). Overall, water coverage increased and water became

accessible to more people. The financial crises of 2008 and 2010 significantly hampered the same trend with wastewater services, and now wastewater development cannot cope with urbanization in many places.

Achieving the Millennium Development Goals (MDGs) has been a major driver in the sector in the past decade. However, the financial crisis of 2008 had a major impact on the water and sanitation sector, as can be seen in water coverage rates. Water coverage declined in both low- and middle-income countries, but the decline was much more noticeable in low-income countries. The economic environment plays a significant role in water utility performance because all revenues come from the local constituencies and almost all costs are local.

At the same time, more and more utilities are actively handling water billing, collection, and water management through metering and other financial and technical operations. Metering is the norm for the vast majority of utilities. The proportion of utilities that could not cover their basic operation and maintenance (O&M) costs increased from 34 percent in 2000 to 37 percent in 2010. The effect is especially noticeable in low-income countries, where on average the percentage of utilities that could not cover even O&M costs increased from 28 percent in 2000 to 50 percent in 2010. Lower middle-income countries were the most affected, with 70 percent not able to cover their O&M costs. Upper middle-income countries seem less affected, partially because many continued to grow their economies rapidly; but even among these countries, 40 percent of water and sanitation utilities were not able to cover their basic O&M costs. Even in high-income countries, seven percent of utilities were still unable to cover their O&M costs in 2010.

**Figure 0.1 Cost Recovery of Water and Wastewater Services by Country Category, 2006–10**



Source: IBNET database.



Most utilities, however, have passed on at least part of the growing O&M costs to consumers. Other indicators, such as median staff productivity and median collection periods, also show improvements. At the same time, the governmental role still dominates utilities' financial performance.

When analyzing the utility performance data, it should be taken into account that the economic status of many countries has changed rapidly. Average per capita nominal GDP increased rapidly from US\$4,937 in 2006 to US\$9,567 in 2011. The income classification in the IBNET sample has changed significantly as well, following rapid changes in economic development. As a result, many countries have moved into a higher income category: in 2000, 39 percent of utilities in the IBNET database were classified as from low-income countries, but only 6 percent were from this category in 2010.

The overall percentage of income spent on water continues to decrease as governments are reluctant to approve higher tariffs, but costs continue to rise. Median revenues have just kept pace with O&M costs—even though utilities became slightly more efficient as measured by improvements in staff productivity and nonrevenue water (NRW). At the same time, water has become even less affordable since the 2008 global financial crisis in many areas. Customers in low-income countries have substantially less ability to pay than customers in middle-income countries. In 2010, median affordability for households in low-income countries was 1.47 percent, 0.60 percent in high-income countries, and 0.86 percent in middle-income countries. Utility customers in low-income countries paid significantly more than those in middle-income countries, who in turn paid less than customers in high-income countries. This suggests that tariff structures currently being used in the sector to ensure that the poor get service are rather blunt instruments. In view of the rapid decline in affordability, there is scope to address tariff issues in a more constructive manner in both groups of middle-income countries, especially in higher middle-income countries.

Price increases negatively affect water consumption, whereas income growth positively impacts water consumption. Subsequently, water consumption shows diverse patterns between income groups and between regions, depending on economic growth trends and differences in real tariff developments. Median water consumption in liters per capita per day (lcd) stood at 158 liters in 2010. In the highest-performing quartile of utilities (defined as utilities with cost recovery of 1.30 and above), consumption stood at 118 lcd, compared to 218 lcd in the lowest-performing utilities quartile (defined as utilities with cost-recovery below 0.85) in 2010. At the same time, water consumption saw a sharp decline in low-income countries.

Improvement in technical operations became substantially harder to implement than originally thought. The rate of pipe bursts and unaccounted-for water did not change much in any group of utilities. This may be because most utilities have insufficient incentives for technical improvements, due to the nature of the operations and the cost structure of water and sanitation services. Our analysis suggests that there is no strong correlation between levels of NRW (as measured in cubic meters per kilometer per day) and economic development. On average, utilities in middle-income countries have poorer management and higher rates of NRW than in low-income countries. The median NRW in low-income countries was about 18 cubic meters per kilometer per day, whereas it was about 24 cubic meters in middle-income countries.

## **Aggregated IBNET Indices of Utility Performance: Apgar and WUVI**

The definition of a successful water supply and sanitation service varies according to the observer. It ranges from “a human right and natural monopoly” to “a successful business that serves public welfare.” Thus, water utilities are constantly caught in a difficult position and are subject to conflicting priorities. The utility must provide services to all customers at affordable prices while controlling quality and maintaining financial incentives for its staff. At the same time, it must control demand and thus reduce revenues. IBNET has continued piloting the concept of aggregated performance scores for utilities based on a variety of indicators.

The IBNET Apgar<sup>1</sup> score assesses a utility’s health based on five indicators (six if the utility also provides sewerage services), which provide insight into the utility’s operational, financial, and social performance. It was presented in the first edition of the IBNET *Blue Book*. We have devised a simple set of criteria that attempt to measure how utilities are doing overall, and not focus only on the financial and operational performance. These criteria are (i) water supply coverage, (ii) sewerage coverage, (iii) NRW, (iv) collection period, (v) operating cost coverage ratio, and (vi) affordability of water and wastewater services. Each criterion is rated on a scale of 0 to 2, and then a total score is provided. For utilities that supply only water, the score is then normalized (as such utilities can only have a total score of 10 instead of 12). Using the overall Apgar score has also helped prevent overweighing the effects of general financial turmoil occurring around utilities.

The Water Utility Vulnerability Index (WUVI) is a dynamic version of Apgar. First, WUVI evaluates the utility’s status by combining a few performance indicators into one consolidated measure. Second, it determines the threshold of efficient operation based on this consolidated index. Third, WUVI establishes a rating system based on the operational threshold that determines the probability of slipping into lower performance categories. The rating system also establishes the low performance rating at which municipal intervention is imminent.

The WUVI estimates the probability that a water utility will experience a performance problem as measured by its Apgar score in the future. The WUVI was developed for its predictive properties; it was conceived as a relational tool rather than a causal one, and it features significant predictors. Using the WUVI as an early warning device provides managers and policy makers an indication that further diagnostics are needed to determine the issues faced by a particular utility so that remedies can be put in place.

The subsequent chapters of this second edition of the *Blue Book* depict sector progress from 2006 to 2011. Chapter one discusses various aspects of sector performance from the viewpoint of each key performance parameter. Chapter two discusses how to define and measure a good utility. We revisit the IBNET Apgar score that was presented in the first edition of the *Blue Book* and suggest the addition of WUVI. This consolidated dynamic score can predict a water utility’s future performance based on its current results. Annex 1 with IBNET countries’ performance statistics will close this *Blue Book* edition.

**Note**

1. Appearance, Pulse, Grimace, Activity, Respiration. See [http://en.wikipedia.org/wiki/Apgar\\_score](http://en.wikipedia.org/wiki/Apgar_score).

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# 1

## STATUS OF THE SECTOR

### Introduction

The International Benchmarking Network for Water and Sanitation Utilities (IBNET) has been involved in water and sanitation sector monitoring since 1997. It collects data on utilities' performance and has set a global standard for performance assessment. As of December 2013, the IBNET database contained information from more than 4,000 utilities in 135 countries. In 2010 alone, the IBNET database reported performance results from 1,861 water utilities serving nearly 513 million people with water and 313 million with sewerage services in 12,480 cities and towns. This is approximately 14 percent of the total population of all households with piped water access in the world or nearly 45 percent of the urban population of developing countries. The database represents the equivalent of more than US\$40 billion in annual revenue in 2010. The utilities represented in the database employ about 623,000 professional staff.

The *Blue Book* sector assessment is based on intensive analysis and data collection for the period from 2006 to 2011. Note that 2011 data are preliminary only as data collection is still ongoing. As the database has been growing rapidly, we will mainly focus on data from 2006 onward, which will ensure that the sample size per year is similar. The data from 2009 are the most complete in terms of all regions relatively well covered, with a total population of 664 million served with water and 331 million with sewerage services. Yet, the 2010 and 2011 data have sufficient depth to also be reported on. Information is collected from countries in all World Bank regions. However, data from countries in Africa and South Asia, which tend to be categorized as low income, are less well represented for the year 2010 as data collection has not yet been completed. Hence, when reporting by income classification, data from 2009 are used for the analysis and reporting.

When analyzing the utility performance data, it should be taken into account that the economic status of many countries has changed rapidly. The nominal per capita GDP in the IBNET database increased rapidly from US\$4,937 in 2006 to US\$9,567 in 2011. The income classification in the IBNET sample has changed significantly as well, following rapid changes in economic development. Many countries have moved into a higher-income category. As a result, the number

of low-income countries has decreased in favor of middle- and high-income countries. The number of utilities in low-income countries also decreased due to migration into higher-income groups. In 2000, 39 percent of the utilities in the IBNET database were classified as being located in low-income countries, while only 6 percent were from this category in 2010.

## **Data Quality**

The quality of the IBNET database depends on the quality of the data submitted by individual utilities and utilities' associations. IBNET therefore invests substantial effort in making sure the data are of the highest possible quality and accurately and adequately reflect a reporter's performance. IBNET data come from a variety of sources, some of which have excellent quality assurance procedures (as in the case of regulatory data) and others of which follow less-sound procedures. To correct for this, IBNET continually improves its data-checking procedures and makes users aware of the quality (or lack of quality) of particular data. The need for rigorous quality assurance procedures is always balanced against the need to avoid discouraging potentially valuable data sources from participating.

Here we report median and unweighted average values of the performance indicators. However, the reader will note that many variables and performance indicators on which IBNET reports do not fit a normal distribution but rather form a skewed distribution. In these cases, a specific mean of the performance results distribution differs from its median. We regard the median as a better representation of performance than the average because of its skewness. As an additional effort to improve data quality, we exclude one percent of the outliers at both ends of the distribution of performance results.

## **IBNET Performance Reporting**

### ***Water Coverage (indicator 1.1)***

Between 2000 and 2010, median water supply coverage expanded from 82 percent to 88 percent, despite the rapidly growing urban population. This can be attributed to the Millennium Development Goals (MDGs), which were a major driver of growth in the sector in the past decade. Water coverage varies with income level of the represented countries. As expected, utilities in low-income countries show lower water supply coverage rates than utilities in middle-income countries. In 2009, median water coverage for households in low-income countries was 62 percent, compared to 81 percent in lower middle-income countries, 93 percent in upper middle-income countries, and virtually 100 percent in high-income countries.

The 2008 financial crisis had a major impact on the sector, as can be seen in water coverage rates (table 1.1). By 2008, median water coverage had increased to 92 percent, but slipped to 88 percent by 2010. The decline in water coverage occurred in low- and middle-income countries.

In 2010, the best-performing quartile of utilities had water coverage rates of 98 percent or more, which practically amounted to universal coverage. The worst-performing quartile of utilities had water coverage rates of 69 percent or less.

### **Wastewater Coverage (indicator 1.2)**

Median wastewater coverage<sup>1</sup> increased from 61 percent in 2000 to 76 percent in 2010. As table 1.2 shows, the number of utilities that provide wastewater services significantly increased. Nevertheless, wastewater coverage significantly lags behind water coverage. In addition, levels of wastewater coverage vary with economic development: utilities in low-income countries show lower wastewater coverage rates than utilities in middle-income countries. In 2010, average wastewater services coverage for households in low-income countries was 14 percent,<sup>2</sup> compared to 48 percent in lower middle-income countries, 77 percent in upper middle-income countries, and 89 percent in high-income countries. Most of the increase in wastewater coverage occurred in middle-income countries. Yet, since 2008, expansion has declined rapidly, suggesting that wastewater infrastructure investments are not keeping up with urban population growth in many places. The financial crises may also have affected investment volume in the sector.

In 2010, the best-performing quartile of utilities had wastewater coverage rates of 91 percent or more. The worst-performing quartile of utilities comprised those where wastewater coverage was 45 percent or less.

### **Nonrevenue Water (indicators 6.1 and 6.2)**

There are a large number of indicators that measure nonrevenue water (NRW). The most common one is calculated as the difference between water produced and water sold, and measured as a percentage of water produced. Although very commonly used, it is not a very useful indicator as it is highly volatile. Other indicators measure NRW as the difference between water produced and water sold per kilometer of network, or per connection. Although one would assume that the different indicators are highly correlated, it can happen that a utility shows excellent performance in one NRW indicator but lesser performance in another. The International Water Association (IWA) has also mentioned that

**Table 1.1 Coverage of Water Supply Services, 2006–11 (percent)**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median water coverage         | 82   | 92    | 92    | 92    | 90    | 88    | 89          |
| Average water coverage        | 77   | 84    | 83    | 83    | 81    | 81    | 80          |
| Standard deviation            | 23   | 20    | 21    | 20    | 21    | 21    | 22          |
| Number of utilities reporting | 630  | 1,454 | 1,534 | 1,507 | 1,725 | 1,686 | 1,453       |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Table 1.2 Coverage of Wastewater Services, 2006–11 (percent)**

| Indicator                     | 2000 | 2006 | 2007  | 2008 | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|------|-------|------|-------|-------|-------------|
| Median wastewater coverage    | 61   | 72   | 75    | 77   | 75    | 76    | 75          |
| Average wastewater coverage   | 58   | 65   | 68    | 69   | 67    | 66    | 68          |
| Standard deviation            | 33   | 28   | 28    | 28   | 29    | 29    | 28          |
| Number of utilities reporting | 438  | 957  | 1,031 | 993  | 1,069 | 1,144 | 1,028       |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

data from one NRW indicator may give only partial information about the actual performance of a utility.

Median NRW (measured by the volume lost as a percentage of water production) declined from 31 percent in 2000 to 27 percent in 2011, while the standard deviation slightly increased. Hence, there are increasingly large differences in how utilities perform in this area (table 1.3).

Median NRW (measured as the volume lost in cubic meters per kilometer per day) has decreased from 26 cubic meters in 2000 to 17 in 2010. Yet, this indicator shows wide variations by year and between utilities (as can be seen in table 1.4).

In 2010, the best-performing quartile of utilities had a median NRW of 6 cubic meters per kilometer per day or less. The worst-performing quartile of utilities comprised utilities where this median indicator was 36 cubic meters or higher, as presented at the figure 1.1.

We found that interpretation of the NRW results is not necessarily straightforward. If one looks at NRW by income category, different NRW indicators can give a varied picture. For example, when measured by water volume lost as a percentage of water production, NRW is highest in low-income countries and lowest in high-income countries. Yet, when looking at other indicators as shown in table 1.5, different indicators do not always show the same trends.

Structurally reducing NRW has proven to be very difficult. Kingdom, Liemberger, and Marin (2006) mention that reducing NRW is not just a technical issue, but is also linked to weak management. When looking at a set of managerial indicators, the link between NRW performance and managerial performance is less than clear. We used a set of indicators to proxy for managerial performance, such as metering, collection period, staff productivity, average revenues per

**Table 1.3 Nonrevenue Water as a Share of Water Production, 2006–11 (percent)**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median nonrevenue water       | 31   | 26    | 31    | 29    | 29    | 28    | 27          |
| Average nonrevenue water      | 32   | 33    | 32    | 31    | 31    | 31    | 30          |
| Standard deviation            | 17   | 16    | 17    | 17    | 17    | 17    | 17          |
| Number of utilities reporting | 589  | 1,242 | 1,448 | 1,349 | 1,403 | 1,488 | 1,253       |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

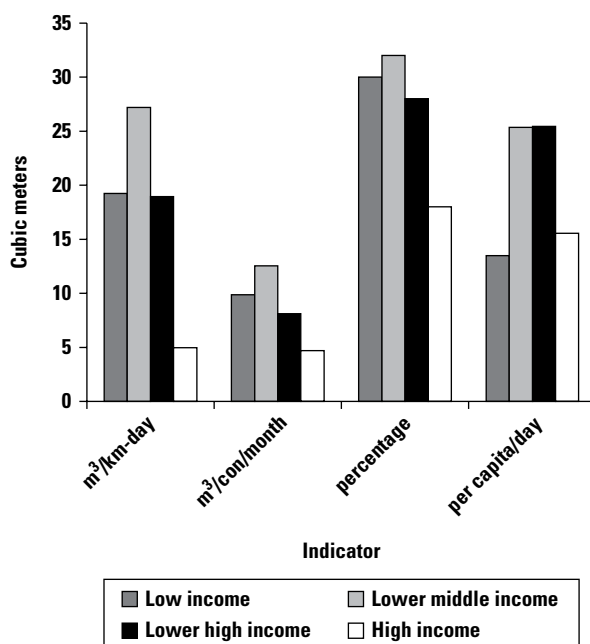
**Table 1.4 Nonrevenue Water, 2006–11 (cubic meters per kilometer per day)**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median nonrevenue water       | 26   | 20    | 21    | 18    | 19    | 15    | 17          |
| Average nonrevenue water      | 41   | 34    | 32    | 29    | 30    | 27    | 28          |
| Standard deviation            | 46   | 38    | 35    | 33    | 35    | 33    | 33          |
| Number of utilities reporting | 590  | 1,196 | 1,429 | 1,287 | 1,328 | 1,409 | 1,251       |
| Highest-performing quartile   | 18   | 9     | 8     | 7     | 7     | 6     | 7           |
| Lowest-performing quartile    | 68   | 45    | 44    | 40    | 41    | 36    | 37          |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.



**Figure 1.1 Nonrevenue Water by Income Level: Median Values in 2010**

Source: IBNET database.

Note: m³/km-day = cubic meters per kilometer per day; m³/con-day = cubic meters per connection per day;  
m³/staff-day = cubic meters per staff member per day.

**Table 1.5 Nonrevenue Water and Managerial Performance, 2006–11 (average values)**

| Level of NRW | Metering level (%) | Hours of supply per day | Collection period (days) | Staff productivity (staff per 1,000 connections) | Average revenues (US\$ per cubic meter) | Operating cost coverage ratio |
|--------------|--------------------|-------------------------|--------------------------|--------------------------------------------------|-----------------------------------------|-------------------------------|
| High         | 0.86               | 22                      | 107                      | 1.13                                             | 0.53                                    | 1.06                          |
| Average      | 0.99               | 22                      | 76                       | 1.00                                             | 0.68                                    | 1.14                          |
| Low          | 1.00               | 22                      | 70                       | 1.04                                             | 0.86                                    | 1.14                          |

Source: IBNET database.

Note: NRW is measured in cubic meters per kilometer per day. The 2011 data collection cycle is not yet complete.

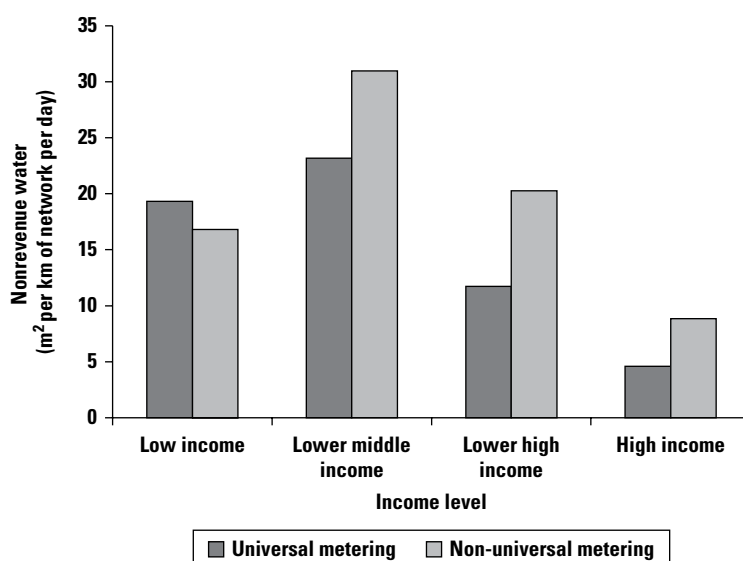
cubic meter of water sold, and operating cost coverage ratio. All of these indicators can be considered as proxies for the quality of utility management including collection efficiency, staff resource management, and financial management. As can be seen in table 1.5, it can be difficult to meaningfully compare utilities with low and high levels of NRW. The difference between most of these variables is statistically significant. Yet, it is not clear what the actual relationship is between the different variables, and what is the effect of the country environment on these variables. Higher average revenues per cubic meter of water sold provides utilities with more funds to reduce water losses, but average revenues per cubic meter of water sold also tends to be higher in high-income countries than in low-income countries. More research is needed to understand how far managerial performance and country environments affect NRW.

Table 1.5 also shows that the relationships between these different factors tend to be complex. Metering, which is often seen as a prerequisite for effective NRW management, tends to be an ineffective predictor for lower levels of NRW. However, a first analysis (see figure 1.2) suggests that widespread metering can be effective. Utilities with 100 percent metering show in general lower NRW than those with lower levels of metering. In this case, it might be surmised that high levels of metering produce benefits.

### **Staff Productivity**

Staff productivity is measured as the number of staff per 1,000 connections, where higher productivity is reflected fewer staff per 1,000 connections. Staff productivity improved from 9 employees per 1,000 connections in 2000 to 7 employees in 2010. Yet, staff productivity varies widely from about 11 employees per 1,000 connections in low-income countries to slightly more than 3 in upper middle-income countries. This variance in staff productivity is partially linked to differences in connection practices. In many places in the world, water connections are shared among multiple households. Such an environment is often correlated with very low staff productivity. In Latin America, where most households have individual water connections, staff productivity is 3 staff per 1,000 connections. By contrast, in Eastern Europe and Central Asia, many apartment buildings are still fitted with a single connection; productivity was around 9 staff per 1,000 connections in 2009. In Africa, productivity in 2009 was about 10 staff per 1,000 connections, but other factors were involved. As African household surveys<sup>3</sup> increasingly show, many households are not directly connected to the piped network, but instead access (and often pay for) their neighbors' piped water.

**Figure 1.2 Nonrevenue Water by Income Level: Median Values, 2006–11**



Source: IBNET database.

Note: Non-revenue water is measured in cubic meters per kilometer per day. The 2011 data collection cycle is not yet complete.

In 2010, the best-performing quartile of utilities had median staff productivity of 0.62 or less per 1,000 people served. The worst-performing quartile of utilities had median staff productivity of 1.57 or more. As table 1.6 shows, the gap between the best-and worst-performing quartile of utilities has decreased over time.

Part of the improvement in staff productivity could be the result of outsourcing staff functions. In such a case, the increase in staff productivity does not necessarily translate to lower staff costs. The staff cost trends differ significantly between regions.

Few high-income countries in the sample provide disaggregated details on their operating costs. Yet, data show that median labor costs as a percentage of total operating costs were about 36 percent in low-income countries in 2010, compared to about 40 percent in middle-income countries (table 1.7). The fast increase in median staff employee costs is directly linked to economic development, and to the fact that an increasing number of utilities participating in IBNET are now located in middle-income countries.

### **Operating Cost Coverage Ratio (indicator 24.1)**

The median operating cost coverage ratio (OCCR) remained more or less constant between 2006 and 2010 at a level of 1.09 (table 1.8). The OCCR indicates that even in the best of times, the median utility barely covers its operating and maintenance (O&M) costs. Hence, it has no capacity to replace its assets once they wear out, let alone expand services to larger groups of consumers.

Unlike many other indicators, the difference between high- and low-performing utilities is relatively small for this indicator. In 2010, the high-performing utilities

**Table 1.6 Median Staff Productivity Measured in Employees per 1,000 People Served, 2006–11**

| Indicator                     | 2000 | 2006  | 2007 | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|------|-------|-------|-------|-------------|
| Median staff productivity     | 1.36 | 1.06  | 1.21 | 1.00  | 1.00  | 0.99  | 1.00        |
| Average staff productivity    | 2.02 | 1.37  | 1.51 | 1.28  | 1.26  | 1.29  | 1.29        |
| Standard deviation            | 1.77 | 1.09  | 1.22 | 1.04  | 0.98  | 1.03  | 1.01        |
| Number of utilities reporting | 598  | 1,421 | 888  | 1,440 | 1,679 | 1,803 | 1,574       |
| Highest performing quartile   | 0.78 | 0.67  | 0.69 | 0.63  | 0.65  | 0.62  | 0.64        |
| Lowest performing quartile    | 2.68 | 1.66  | 1.87 | 1.54  | 1.50  | 1.57  | 1.60        |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete. The 2007 reporting rate was substantially lower than average.

**Table 1.7 Median Staff Costs per Employee per Year, 2006–11 (US\$)**

| Indicator                     | 2000  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------------|
| Median staff employee cost    | 2,792 | 5,555 | 4,776 | 7,712 | 7,143 | 7,733 | 8,442       |
| Average staff employee cost   | 4,568 | 7,170 | 7,346 | 9,438 | 8,959 | 9,751 | 10,538      |
| Standard deviation            | 5,259 | 6,237 | 7,475 | 7,517 | 6,988 | 7,318 | 7,533       |
| Number of utilities reporting | 566   | 1,290 | 783   | 1,295 | 1,548 | 1,759 | 1,587       |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Table 1.8 Operating Cost Coverage Ratio, 2006–11**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median OCCR                   | 1.10 | 1.09  | 1.11  | 1.10  | 1.15  | 1.09  | 1.09        |
| Average OCCR                  | 1.23 | 1.17  | 1.22  | 1.21  | 1.22  | 1.15  | 1.15        |
| Standard deviation            | 0.50 | 0.52  | 0.58  | 0.56  | 0.59  | 0.54  | 0.58        |
| Number of utilities reporting | 565  | 1,447 | 1,420 | 1,494 | 1,449 | 1,664 | 1,429       |
| Highest performing quartile   | 1.43 | 1.38  | 1.39  | 1.40  | 1.45  | 1.40  | 1.38        |
| Lowest performing quartile    | 0.93 | 0.88  | 0.91  | 0.90  | 0.89  | 0.86  | 0.83        |

Source: IBNET database.

Note: OCCR = operating cost coverage ratio; Prelim = preliminary. The 2011 data collection cycle is not yet complete.

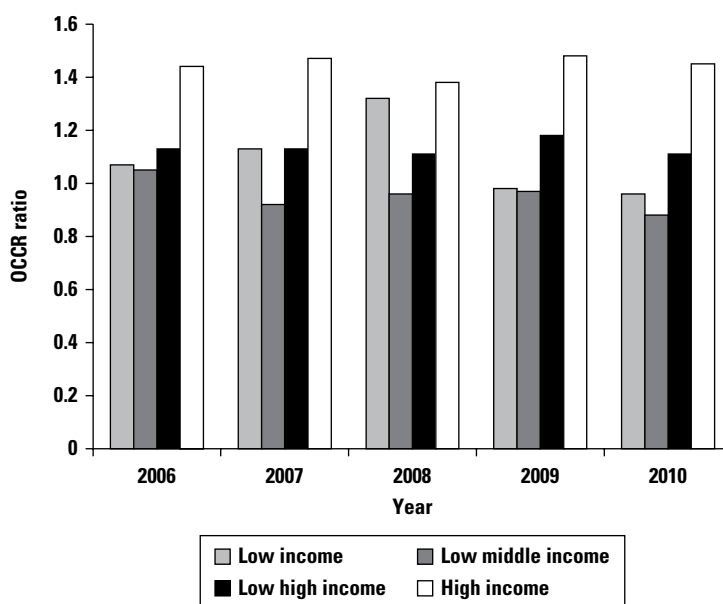
had a median value of 1.40 or more compared to the low performers with a median OCCR of 0.86 or less. Between 2006 and 2011, utilities in low-income countries registered a median OCCR of 1.09, compared to 0.99 in lower middle-income countries, 1.12 in upper middle-income countries, and 1.42 in high-income countries (table 1.8). However, while an OCCR of 1.4 means that the utility covers its O&M and depreciation costs, this is still far below the full cost recovery levels that utilities often aspire to. Hence, subsidies—whether in the form of investment and/or operating subsidies—remain a crucial resource for many utilities around the world.

The proportion of utilities that could not cover their basic O&M costs increased from 34 percent in 2000 to 37 percent in 2010. The effect is especially noticeable in low-income countries, where the share of utilities that could not cover even O&M costs increased from an average of 28 percent in 2000 to 50 percent in 2010. Lower middle-income countries were the most affected, with 70 percent not able to cover O&M costs. Upper middle-income countries seem less affected, partially because many of them continued to grow their economies rapidly. Nevertheless, 40 percent of the utilities in this quartile were unable to cover basic O&M costs. Even in high-income countries, 7 percent of utilities were unable to cover O&M costs in 2010.

As figure 1.3 shows, utilities in high-income countries generally have higher median OCCRs than low- and middle-income countries, but the difference is relatively small. Figure 1.3 shows that even a typical utility in a high-income country is not covering the full financial cost of the water and/or wastewater services. Utilities in lower middle-income countries tend to have the lowest median OCCRs. As countries get richer, the services provided also increase. In low-income countries, most utilities focus on delivering water supply services. In lower middle-income countries, wastewater collection is added, and in upper middle-income countries, a larger share of wastewater is treated. High-income countries have the most extensive wastewater services, and hence the cost of service increases, especially as wastewater collection and treatment tends to be relatively expensive.

### **Operation and Maintenance Costs (indicators 11.1 and 11.3)**

Median O&M costs per cubic meter sold have increased rapidly since 2000, from US\$0.28 to US\$0.75 per cubic meter in 2010. The large standard deviations

**Figure 1.3 Operating Cost Coverage Ratio by Income Category, 2006–10**

Source: IBNET database.

Note: OCCR = operating cost coverage ratio. The 2011 data collection cycle is not yet complete.

suggest a wide divergence between utilities in the cost of water and wastewater services.

There is also a wide variance between the O&M cost per cubic meter of water sold by income categories. In low-income countries, O&M costs per cubic meter of water sold increased to US\$0.68 in 2010—compared to US\$0.73 in lower middle-income countries, US\$0.70 in upper middle-income countries, and US\$1.69 in high-income countries. These cost differences are largely due to variations in service levels provided, but other factors also play a role, such as general price levels in the countries and exchange rate fluctuations.

What constitutes a high- or low-performing utility is harder to assess with the O&M indicators. It is generally assumed that the lower the cost, the more efficient the utility. However, it is not uncommon that utility costs are kept artificially low because certain expenditures are postponed (such as maintenance expenditures). Other expenditures may be only partially registered because a government agency pays for them. In addition, O&M costs vary with other factors, such as service level provided. The more wastewater that is collected and treated to increasingly high standards, the higher the O&M costs will be.

The difference between the highest and lowest quartile of utilities is shown in table 1.9. In 2010, the lowest-performing quartile of utilities had a median O&M cost per cubic meter of water sold of US\$1.16; the highest-performing quartile had costs of US\$0.44 or less.

Differences between better- and-worse performing utilities show that variation shows a typical pattern. In low-income countries, the bottom 25 percent of utilities shows costs of US\$0.72 per cubic meter of water sold, compared to only

**Table 1.9 Operation and Maintenance Cost per Cubic Meter of Water Sold, 2006–11 (US\$)**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median O&M cost               | 0.28 | 0.50  | 0.58  | 0.60  | 0.62  | 0.75  | 0.70        |
| Average O&M Cost              | 0.36 | 0.65  | 0.75  | 0.80  | 0.79  | 0.88  | 0.82        |
| Standard deviation            | 0.29 | 0.53  | 0.58  | 0.65  | 0.62  | 0.61  | 0.57        |
| Number of utilities reporting | 544  | 1,264 | 1,468 | 1,381 | 1,415 | 1,565 | 1,304       |
| Highest performing quartile   | 0.14 | 0.28  | 0.32  | 0.33  | 0.34  | 0.44  | 0.40        |
| Lowest performing quartile    | 0.87 | 0.87  | 0.99  | 1.03  | 1.05  | 1.16  | 1.12        |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

### Box 1.1 Drivers of Operation and Maintenance Costs

Many factors drive operation and maintenance (O&M) costs. The main factor, however, is labor costs. The higher the staff costs per employee and the lower staff productivity, the higher the O&M costs.

A 10 percent increase in staff cost per employee results in a 4 percent cost increase.

A 10 percent decrease in staff productivity (that is, an increase in the number of staff per 1,000 people) results in an O&M cost increase of about 6 percent.

The other main driver of O&M costs is per capita water production. A 10 percent increase in per capita water production results in an average reduction of O&M costs of about 6 percent—suggesting important economies of scale. Reducing nonrevenue water (NRW) does not have much effect on the bottom line

of a utility. A 10 percent reduction in NRW reduces O&M by only 0.4 percent. The provision of both water and sewerage services is also an important cost driver; it corresponds with increased O&M costs.

Metering increases the O&M costs, but the effect is very small. A 10 percent increase in metering results in a minimal increase in O&M costs. Age of the system (as measured by number of pipe breaks) has a minimal effect. An increase in pipe breaks by 10 percent increases O&M costs by 0.3 percent.

Economic growth has a significant effect. If gross national income (GNI) per capita increases, utility costs increase too. A 10 percent increase in GNI percent results in about a 3 percent O&M cost increase.

US\$0.12 for the top 25 percent of utilities. In lower middle-income countries, the variance between the bottom and top 25 percent of utilities varies between US\$1.20 and US\$0.16. In upper middle-income countries, the range narrows to US\$1.02 for the bottom and US\$0.43 for the top, and in high-income countries the range further contracts to US\$2.22 and US\$1.18. Operation and maintenance costs converge, which is partly the result of water and wastewater services showing much less variation. In low-income countries, most utilities provide only water services. Once countries become richer, wastewater collection and varying degrees of wastewater treatment are added to the services that the utility provides.

The data show that the proportion of energy costs in the total O&M cost increased from 19 percent in 2000 to 21 percent in 2010.<sup>4</sup> There are large differences between utilities. In the lowest-performing quartile of utilities, electricity makes up less than 13 percent of O&M costs, compared to 34 percent in the highest-performing quartile of utilities. Utilities also show differences depending on their income status. In 2010, electricity made up 36 percent of O&M costs in

low-income countries, compared to 22 percent in middle-income countries and 11 percent in high-income countries.

During the same period, the proportion of labor costs in the total O&M cost increased from 36 percent in 2006 to 41 percent in 2010. The combined share of energy and labor costs increased from 55 percent in 2006 to 62 percent in 2010, which likely crowded out other expenditures. This is a commonly observed pattern: when a crisis hits, the first budget casualty is spending on maintenance, which is often accompanied by a decline in the quality of services provided.

### ***Operating Revenues (indicator 18.1)***

Median revenues per cubic meter of water sold (as a proxy for tariffs) increased from US\$0.34 in 2000 to US\$0.81 in 2010. The increase in O&M costs as discussed previously was accompanied by a simultaneous increase in revenues, suggesting that utilities tried to raise their prices to keep covering growing O&M costs. The increase in average revenues has been especially pronounced in low-income countries, where median revenues per cubic meter of water sold grew from US\$0.25 in 2000 to US\$0.56 in 2010. In middle-income countries, median revenues per cubic meter of water sold increased from US\$0.51 in 2000 to US\$0.77 in 2010. In high-income countries, the same indicator stood at US\$2.42 in 2010.

Table 1.10 shows the difference between the highest- and lowest-performing quartile of utilities. In 2010, the highest-performing quartile of utilities had median revenues per cubic meter of water sold of US\$1.34 or more, compared US\$0.41 or less for the lowest-performing quartile. In high-income countries, the lowest quartile of utilities registered median revenues per cubic meter of water sold of US\$1.80 or less in 2010 compared to US\$3.03 or more for the highest quartile. Yet, in upper middle-income countries, median revenues per cubic meter of water sold for the lowest-performing quartile of utilities were US\$0.45 or less and US\$1.22 or more for the highest quartile. In low- and lower middle-income countries, median revenues per cubic meter of water sold show much more diversity. In lower middle-income countries, median revenues per cubic meter of water sold for the lowest-performing quartile of utilities were US\$0.23 or less and US\$0.87 or more for the highest quartile in 2010. Utilities in the lowest-performing quartile in low-income countries registered median revenues of US\$0.13 or less per cubic meter, compared to US\$0.80 or more for those in highest quartile.

### ***Water Consumption (indicator 4.1)***

Price increases negatively affect water consumption, whereas income growth positively affects water consumption. Subsequently, water consumption shows diverse patterns between income groups and between regions, depending on economic growth trends and differences in real tariff developments. Median water consumption stood at 158 liters per capita per day (lcd) (table 1.11). In the highest-performing quartile consumption stood at 114 lcd, compared to 218 lcd in the lowest-performing quartile in 2010.

Overall, median water consumption increased marginally from 150 liters per capita per day in 2000 to 162 in 2010. Yet, different regions show different trends. In East Asia, Latin America, and the Middle East, water consumption increased

**Table 1.10 Average Revenues per Cubic Meter of Water Sold, 2006–11 (US\$)**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median average revenues       | 0.34 | 0.54  | 0.66  | 0.69  | 0.70  | 0.81  | 0.72        |
| Mean average revenues         | 0.40 | 0.74  | 0.87  | 0.95  | 0.94  | 1.00  | 0.91        |
| Standard deviation            | 0.30 | 0.64  | 0.74  | 0.88  | 0.82  | 0.81  | 0.75        |
| Number of utilities reporting | 572  | 1,290 | 1,498 | 1,400 | 1,480 | 1,567 | 1,299       |
| Highest-performing quartile   | 0.56 | 0.97  | 1.15  | 1.19  | 1.23  | 1.34  | 1.23        |
| Lowest-performing quartile    | 0.17 | 0.29  | 0.33  | 0.34  | 0.36  | 0.41  | 0.35        |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Table 1.11 Water Consumption, 2006–11 (liters per capita per day)**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median water consumption      | 151  | 150   | 150   | 150   | 146   | 158   | 162         |
| Average water consumption     | 181  | 171   | 172   | 172   | 168   | 180   | 182         |
| Standard deviation            | 109  | 95    | 97    | 97    | 99    | 103   | 95          |
| Number of utilities reporting | 586  | 1,206 | 1,449 | 1,379 | 1,416 | 1,482 | 1,268       |
| Highest-performing quartile   | 112  | 110   | 110   | 110   | 107   | 114   | 119         |
| Lowest-performing quartile    | 216  | 206   | 205   | 204   | 203   | 218   | 221         |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

during the same period. In Eastern Europe and Central Asia, water consumption showed neither an increase nor a decrease. African and South Asian utilities showed a decline in consumption levels.

The combined effect of tariffs and consumption levels is measured in an indicator as total revenues per capita (in U.S. dollars). This indicator has increased rapidly over the years, from a median value of US\$18 per capita in 2000 to US\$45 in 2010. Yet, the standard deviation is large and also increasing rapidly, showing that the trends between utilities are divergent. In low-income countries in 2010, this indicator had a median value of around US\$7 per year. In middle-income countries, the indicator almost doubled from 2006 to 2010 to US\$43 per year. In high-income countries, median total annual per capita revenues were US\$147 in 2010 (table 1.12). Interestingly, the largest change in consumer outlays for water has taken place in high-income countries.

### **Collection Period (indicator 23.1)**

The median collection period decreased from 154 days in 2000 to 70 days in 2010. This is a rapid improvement, and means that the median utility is achieving the commonly used benchmark of a 90-day collection period. This improvement confirms that many more utilities have started active collection of their unpaid bills. Yet, table 1.13 shows the large difference between mean and average collection period and reflects the wide variation in performance between utilities in the efficiency with which they collect their billed revenues.



**Table 1.12 Total Revenue per Capita per Year, 2006–11 (US\$)**

| Indicator                               | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-----------------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median total per capita annual revenue  | 18   | 25    | 36    | 35    | 34    | 45    | 44          |
| Average total per capita annual revenue | 24   | 41    | 58    | 67    | 59    | 68    | 77          |
| Standard deviation                      | 20   | 57    | 84    | 109   | 93    | 101   | 143         |
| Number of utilities reporting           | 616  | 1,432 | 1,515 | 1,474 | 1,599 | 1,634 | 1,383       |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Table 1.13 Collection Period in Number of Days, 2006–11**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median collection period      | 154  | 96    | 87    | 82    | 76    | 70    | 66          |
| Average collection period     | 233  | 157   | 142   | 139   | 125   | 116   | 121         |
| Standard deviation            | 239  | 181   | 158   | 175   | 154   | 153   | 160         |
| Number of utilities reporting | 474  | 1,179 | 1,244 | 1,174 | 1,237 | 1,155 | 975         |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Table 1.14 Affordability in Percentage of GNI, 2006–11**

| Indicator                     | 2000 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 prelim |
|-------------------------------|------|-------|-------|-------|-------|-------|-------------|
| Median affordability          | 1.05 | 0.86  | 1.00  | 0.92  | 0.76  | 0.59  | 0.55        |
| Average affordability         | 1.37 | 1.14  | 1.27  | 1.11  | 0.84  | 0.73  | 0.71        |
| Standard deviation            | 1.03 | 1.01  | 1.00  | 0.89  | 0.73  | 0.59  | 0.59        |
| Number of utilities reporting | 594  | 1,437 | 1,521 | 1,476 | 1,600 | 1,633 | 1,383       |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

### **Affordability of Water and Sewerage Services (indicator 19.1)**

Affordability is considered a major challenge in many countries. Yet, in the IBNET sample, the median affordability (measured as average revenue per capita as a percentage of GNI per capita) turned out to have improved significantly from 1.05 percent in 2000 to 0.69 percent in 2010 (see table 1.14). The actual numbers are likely to be even smaller as most utilities serve urban populations, which tend to have higher average incomes than rural populations, whereas the GNI per capita is a national average. In general, as can be expected, water and wastewater services are more costly than provision of water supply services only. Average affordability in 2010 was 0.70 percent for households using both water and wastewater services, and 0.40 percent for those only using water supply services.

Consumers served by utilities in low-income countries spent more of their income on water and/or wastewater services than consumers from utilities in middle-income countries. In 2010, median affordability for households in low-income countries was 0.82 percent, compared to 0.55 percent in middle-income countries, and 0.79 percent in high-income countries. In general, affordability by income group seems to show a U-shape form, with utility

consumers in low-income countries paying significantly more than consumers in middle-income countries. Yet, utility consumers in middle-income countries pay less than utility customers in high-income countries. The rapid increase in affordability values indicates a need to address tariff issues more constructively in middle-income countries, especially in higher middle-income countries.

### **Cross-Subsidies (indicator 21.1)**

The operating cost coverage ratio discussed earlier shows that subsidies to utility services tend to be large and are provided in the form of investments and/or operating subsidies. Most of these subsidies are provided through direct government grants to utilities. But in some cases, the subsidies are (partially) provided through cross-subsidies, where certain consumer categories (mostly commercial and industrial water users) subsidize residential consumers. The IBNET database provides some details on the level of cross-subsidies within utilities, but the data is rather incomplete, as only a small number of utilities provide this type of data. Yet, as can be seen in table 1.15, in 2010 the median utility charged industrial users up to 1.98 times more per cubic meter of water than they charged residential users. Even more interesting is the large standard deviation, which shows that utilities display very different behaviors and that those cross-subsidies vary widely between utilities. Five percent of low-performing utilities registered cross-subsidies, with industrial users paying at least 15 times more than residential users. The increased use of cross-subsidies in utilities reporting the data suggest that when faced with the need for higher revenues, utilities have tried to reduce the impact on residential consumers by putting more of the burden on industrial water users.

The data also show a direct relationship between the level of cross-subsidies and the proportion of industrial water consumption in total water consumption. The median cross-subsidy rate is 1.98, meaning that industrial water and/or wastewater rates are twice that of residential rates. Yet, the average cross-subsidy rates are much higher and show the wide variation between utilities in using cross-subsidies as a tool.

If the level of cross-subsidies is limited to less than 1, then industrial water consumption makes up 30 percent of total water consumption. If the level of cross-subsidies is between 1 and 2, then industrial water consumption drops to 26 percent, whereas at a cross-subsidy level of more than 2, it drops to less than 14 percent. High levels of industrial water tariffs do not automatically translate into more revenues per cubic meter sold as industrial consumers react to tariffs

**Table 1.15 Cross-Subsidy Levels, 2006–11 (Ratio of Industrial to Residential Tariff)**

| Indicator                     | 2000 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 prelim |
|-------------------------------|------|------|------|------|------|------|-------------|
| Median cross-subsidy rate     | 2.40 | 1.89 | 1.69 | 1.99 | 1.99 | 1.98 | 1.96        |
| Average cross subsidy         |      | 4.22 | 3.24 | 3.98 | 4.02 | 4.21 | 3.80        |
| Standard deviation            | 9.73 | 6.04 | 4.37 | 5.39 | 5.63 | 5.54 | 5.24        |
| Number of utilities reporting | 303  | 553  | 691  | 574  | 589  | 464  | 371         |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

(just like other type of consumers). Hence, there seems to be an optimal level of relatively modest cross-subsidies (between 1 and 2) that optimizes the average revenues per cubic meter of water sold.

## Conclusions

IBNET tools can monitor water sector development. More and more countries and their utilities are joining IBNET, making information about the sector open and available to all audiences. In 2010, IBNET covered about 43 percent of the urban population of developing countries. IBNET and its country-specific modifications are being used in about 30 countries, and more than 15 World Bank projects use IBNET for project development, monitoring, and supervision.

Since 2000, municipal water performance has improved despite accelerated urbanization and the impacts of the triple crises (fuel, food, and financial). Overall coverage increased, and piped water supply and wastewater services became accessible to more people. Yet, the financial crisis has hampered further progress since 2008, as coverage declined for both water supply and wastewater. Coverage has been unable keep up with population growth due to declining investment in the sector. At the same time, labor and energy's share in total costs have increased, suggesting that the decline in investment has been accompanied by delays in maintenance. Despite these setbacks, many operational and financial indicators have shown improvements. An increasing number of utilities are operating in a corporate manner, which involves actively handling water billing, collection, and metered water management. Metering has become the norm for a vast majority of the utilities, making water supply more businesslike and professional. Although sector performance has improved over the last decade, it is clear that these improvements can be easily derailed by economic developments such as the fuel crisis of 2007 and the financial crisis of 2008. Similarly, rapid economic growth can have a positive effect on utilities' performance.

Governments continue to be the dominant factor in utilities' performance. Although tariffs (measured as a proxy of average revenues per cubic meter) have increased over time, the increases were barely enough to cover the O&M costs of services. As a result, the operating cost coverage ratio has not shown any significant changes over the past decade. Although economic growth has been impressive over the last decade (resulting in a larger number of middle-income and high-income countries), the overall income spent on water continues to decline as governments are reluctant to approve tariff increases. As a result, water and/or wastewater services have become more affordable since the global financial crisis in 2008 as water continues to be a heavily controlled industry.

The IBNET data show that it is important to determine the drivers of performance of utilities. A first analysis shows that operation and maintenance costs are mainly driven by developments in labor costs (measured by the number of staff working in utilities and the staff cost per employee), the levels of water production, the delivery of wastewater services, and the income level in the country. Thus, drivers of O&M costs are mostly fixed for many utilities, and influencing these costs may be far less easy than perhaps is thought.

Finally, a quick analysis of the different indicators shows that one single indicator is not necessarily predictive of the performance of a utility.

Different indicators, for instance, can suggest very different performance levels for NRW. Hence, when analyzing the performance of a utility, it is important to look at a set of indicators and the context in which the utility is operating.

## Notes

1. In this report, wastewater coverage refers to household connections to the wastewater network, not to the actual treatment or disposal of this wastewater.
2. This number should be interpreted carefully as the number of utilities in this category in 2011 was somewhat smaller.
3. Data from Demographic Health Surveys and Multiple Indicator Cluster Surveys underlie most of the data collected by the UNICEF-WHO Joint Monitoring Program, which measures progress toward the achievement of the MDGs for water supply and sanitation.
4. The data are still being collected, and as a result the number of observations is relatively small. Only data with a sufficient number of observations will be reported upon.

## Reference

Kingdom, B., R. Liemberger, and P. Marin. 2006. "The Challenge of Reducing Non-Revenue Water (NRW) in Developing Countries—How The Private Sector Can Help: A Look at Performance-Based Service Contracting." Water Supply and Sanitation Sector Board discussion paper series, no. 8. Washington, DC: World Bank. Available at: <http://documents.worldbank.org/curated/en/2006/12/7531078/challenge-reducing-non-revenue-water-nrw-developing-countries-private-sector-can-help-look-performance-based-service-contracting>.

# 2

## DEFINITION OF THE GOOD UTILITY: IBNET APGAR AND WUVI

### Introduction

The definition of a successful water supply and sanitation service varies according to the observer. The range of meanings includes defining it as a human right and natural monopoly to a successful business that serves the public welfare. Water utilities are constantly caught in a difficult position and subject to conflicting priorities. The utility must provide services to all customers at affordable prices while controlling quality and maintaining financial incentives for its staff. At the same time, it must control demand and thus reduce revenues.

Financial performance of a utility is estimated using a variety of indicators. These include, among many others, (i) affordability (reflected in the proportion of income spent on water services, the collection rate, and accounts receivable); (ii) exposure to external cost factors (such as financial markets and the price of electricity and chemicals, which usually depends on international prices); (iii) proper tariff-setting principles and timely tariff corrections; (iv) municipal development objectives that drive water utility development; and (v) cross-subsidies among different categories of users and social programs (including free or discounted water for the poor without proper compensation to the provider). Measuring financial performance gets even more complex if water quality is added to the assessment.

However, there is always demand for one uniform score to reflect a utility's success. All water utility stakeholders desire this one score—owners, regulators, financial institutions, customers, and even water utilities associations. The latter commonly give awards to their members for “best performance” without specifying what that actually means.

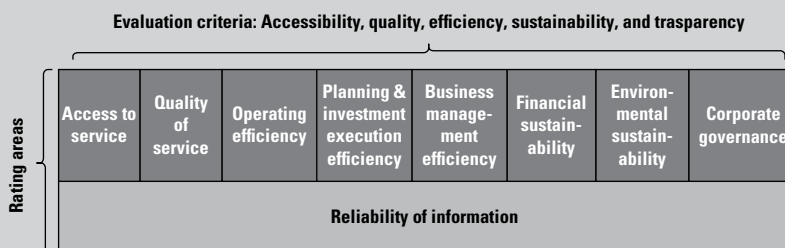
In this chapter we review experiences of determining a good performing company. Then we introduce the IBNET Apgar score<sup>1</sup> and its dynamic derivative, Water Utility Vulnerability Index (WUVI). WUVI first evaluates the utility's status by combining a few performance indicators into one consolidated measure. Second, it determines the threshold of efficient operation based on this consolidated index. Third, WUVI establishes a rating system based on the

### Box 2.1 The AquaRating System

The Inter-American Development Bank (IDB), in cooperation with the International Water Association (IWA), is developing the AquaRating system, which assesses the performance of water and sanitation (WS) service providers in a comprehensive way. The system combines about 20 performance parameters with a data quality rating to produce one score. Besides an overall rating

of the utility, AquaRating offers detailed assessments of its various rating areas (see figure B2.1.1), an assessment of the reliability of the information provided by the utility, and guidance to improve management practices. The pilot version of the system in Spanish is already completed and in test phase.

**Figure B2.1.1 AquaRating Program Evaluation Criteria**



Source: [www.aquarating.org](http://www.aquarating.org).

operational threshold that determines the probability of slipping into lower performance categories. The rating system also establishes the low performance rating at which municipal intervention is imminent.

## The Search for a Good Scoring System

The definition of a good utility is always subjective and commonly based on the political context. Utilities at different development stages also defy a uniform performance definition. For example, in many countries, 24/7 service for 100 percent of customers is a norm for utilities; but this level of service is a distant dream for utilities in other countries. Most analyses of utilities' performance focus exclusively on financial and operational aspects. Besides these criteria, many countries assess the performance of utilities by how well they supply their service area population, including the poor.

Assessment gets even more complex when water quality is judged, because water is not a uniform product that can be easily compared.<sup>2</sup> Water quality standards and guidelines in Australia (HMRC, NRMCM 2011) are significantly different from those in Nigeria (SON 2007) or even in the EU (Council of the European Union 1998).

Many of these, and other attempts reported by the Pacific Water Association, Kenyan and Zambian regulators, the European Benchmarking Co-operation, and others to form a consolidated index, use 10–15 performance indicators. Unless properly weighted, use of such indicators in developing the

aggregated score may lead to fluctuations in score components, making the final performance index less useful. In addition, weighting and normalization of indicators is often politically driven and biased to justify specific sector decisions or investment plans. As a result, the indicators can have little connection to actual performance.

## The Apgar Score Revisited

IBNET has a unique opportunity to create a scoring system that uses our very large dataset to assess actual performance. The IBNET Apgar score assesses a utility's health based on five indicators (six if the utility also provides sewerage services), which provide insight into the utility's operational, financial, and social performance. It was presented in the first edition of the IBNET *Blue Book* (van den Berg and Danilenko 2011). We have devised a simple set of criteria that attempt to measure how utilities are doing overall, and not focus only on the financial and operational performance. These criteria are (i) water supply coverage, (ii) sewerage coverage, (iii) NRW, (iv) collection period, (v) operating cost coverage ratio, and (vi) affordability of water and wastewater services. Each criterion is rated on a scale of 0 to 2, and then a total score is provided. For utilities that supply only water, the score is then normalized (as such utilities can only have a total score of 10 instead of 12).<sup>3</sup>

It should be noted that the Apgar score, particularly its set of indicators and the benchmark set, are based on characteristics of the IBNET database. It is quite likely that over time the Apgar score will be made up of different benchmarks and different indicators. As utilities develop, some indicators become less relevant, others more relevant. For example, in many developed countries, service coverage is almost universal and as such this indicator will likely be less important as a measure of performance. At the same time, benchmarks may change in value. When a sector shows improvement over time, the benchmarks need to be correspondingly adjusted for the Apgar score to remain relevant. Table 2.1 gives an overview of the Apgar score and its median values.

Each of these criteria is rated on a scale from 0 to 2, and then a total score is provided as the sum of the individual criteria scores. With six components, the score will be in the 0 to 12 range. Following the original Apgar scores, utilities are then classified as utilities that are *critically low* (with a score of 3.6 or less), *fairly low* (a score between 3.6 and 7), or *normal* (a score above 7). For utilities not providing wastewater services, the appropriate IBNET Apgar element is excluded and Apgar is calculated from 0 to 10. Table 2.2 shows the distribution of the reported indicators from the utilities based on information from the IBNET database.

Analysis revealed that about 90 percent of utilities that reached an Apgar score of 3.6 either experienced a transformation (went bankrupt and were subsequently renamed) or obtained a significant boost by compensating for accounts receivable, uncollected revenue, and delayed investments. An Apgar score of 5 pertains to utilities that barely cover O&M costs and are struggling with increased urbanization. Utilities with scores above Apgar 7 can be considered normal.

**Table 2.1 Classification of Apgar Scores**

|      | Indicator               | Value                                                               | Average value of Apgar score for 2010 |
|------|-------------------------|---------------------------------------------------------------------|---------------------------------------|
| 1.1  | Water coverage          | 0 if < = 75%<br>1 if between 75% and 90%<br>2 if > 90%              | 1.14                                  |
| 2.1  | Sewerage coverage       | 0 if < = 50%<br>1 if between 50% and 80%<br>2 if > 80%              | 1.20                                  |
| 6.2  | Nonrevenue water        | 0 if > = 40<br>1 if > = 10 and < 40<br>2 if < 10                    | 1.09                                  |
| 19.1 | Affordability           | 0 if > 2.5%<br>1 if between 1.0% and 2.5%<br>2 if < = 1.0%          | 1.78                                  |
| 23.1 | Collection period       | 0 if > = 180 days<br>1 if between 90 and 180 days<br>2 if < 90 days | 1.61                                  |
| 24.1 | Operating cost coverage | 0 if < 1<br>1 if between 1 and 1.40<br>2 if > = 1.40                | 0.82                                  |
|      | Overall Apgar score     | Critically low < = 3.6<br>3.6 < Fairly low < = 7.2<br>Normal > 7.2  | 7.92                                  |

*Source:* IBNET Database.

*Note:* The benchmarks as set reflect current database characteristics. The participation of ever more utilities and changes in their performance over time will likely necessitate adjustment of the benchmarks.

## Application of the IBNET Apgar

The average IBNET Apgar score was 7.03 in 2011 (compared to 7.06 in 2008 when the Apgar score was first introduced). A trend of improvement was abruptly stopped in 2011, which reversed gains from 2000 to 2009. At the same time, a significant proportion of utilities had moved to a “normal” score by 2010. However, the 2010 financial crisis reversed these gains, as reflected in the 2011 IBNET Apgar breakdown. Still, the number of utilities with a performance classified as critically low has decreased compared with 2000, and even 2006 (see figure 2.1). This confirms the conclusions of chapter 1 of this report: the sector is growing and performance of water utilities is improving. However, improving trends are very vulnerable to the external economic environment.

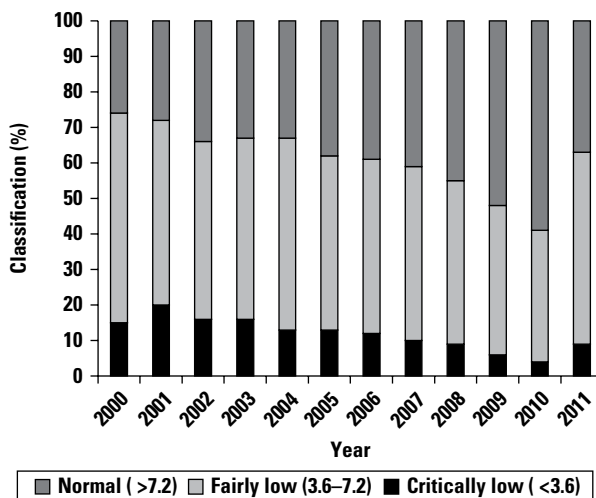
Figure 2.2 shows the distribution of the utilities according to their IBNET Apgar in 2009. The form and shape of this figure is very similar for all years observed by IBNET.



**Table 2.2 Apgar Score Value and Percentage of Each Category of Indicators in the IBNET Database**

| IBNET indicator                                                             | Apgar score value       | Percent of observations |
|-----------------------------------------------------------------------------|-------------------------|-------------------------|
| Water coverage (%)                                                          | 0 if < 75%              | 34                      |
|                                                                             | 1 if >= 75% and < 90%   | 18                      |
|                                                                             | 2 if >= 90%             | 48                      |
| Sewerage coverage (%)                                                       | 0 if < 50%              | 36                      |
|                                                                             | 1 if >= 50% and < 80%   | 27                      |
|                                                                             | 2 if >= 80%             | 36                      |
| Nonrevenue water (cubic meter per kilometer per day)                        | 0 if >= 100             | 8                       |
|                                                                             | 1 if >= 40 and < 100    | 23                      |
|                                                                             | 2 if < 40               | 69                      |
| Collection period (days)                                                    | 0 if >= 180             | 10                      |
|                                                                             | 1 if >= 90 and < 180    | 39                      |
|                                                                             | 2 if < 90               | 51                      |
| Affordability (water and wastewater bill as a percentage of GNI per capita) | 0 if >= 2.5%            | 31                      |
|                                                                             | 1 if >= 1.0% and < 2.5% | 26                      |
|                                                                             | 2 if < 1.0%             | 42                      |
| Operating cost coverage ratio                                               | 0 if < 1.0              | 37                      |
|                                                                             | 1 if >= 1.0 and < 1.40  | 40                      |
|                                                                             | 2 if >= 1.40            | 24                      |
| Overall Apgar score                                                         | Critically low < 3.6    | 20                      |
|                                                                             | Low 3.6–5               | 29                      |
|                                                                             | Fair 5–7                | 31                      |
|                                                                             | Normal > 7              | 20                      |

Source: IBNET database.

**Figure 2.1 IBNET Apgar Score by Classification, 2000–11**

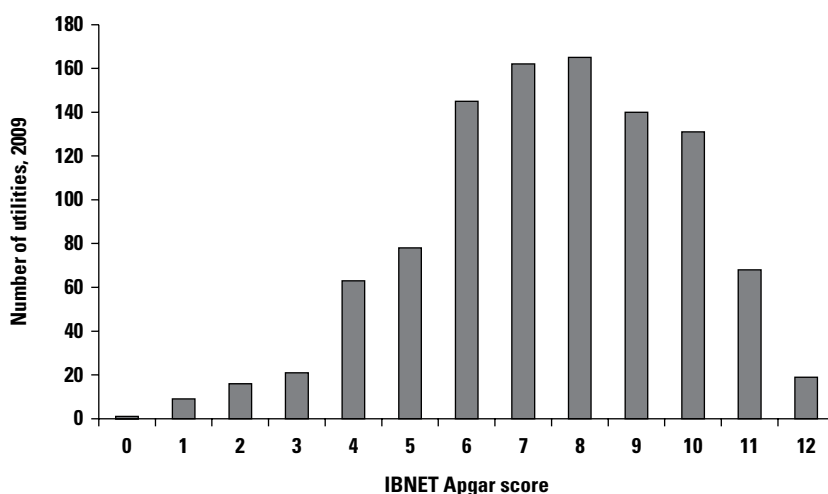
Source: IBNET database.

Note: The 2011 data collection cycle is not yet complete.

Apgar scores improved between 2000 and 2010, and the variance in performance between utilities slightly decreased, as measured by a decline in the standard deviation as shown in table 2.3. Thus, the performance pattern among them is getting closer.

Despite the positive trend in the performance of utilities, there are large differences in Apgar scores among utilities, individual countries, and groups of countries. Utilities in low-income and lower middle-income countries tend to have lower Apgar scores than utilities in higher middle-income countries. Moreover, table 2.4 shows that utilities in low-income and lower

**Figure 2.2 Distribution of Utilities by Apgar Score, 2009**



Source: IBNET database.

**Table 2.3 Average Apgar Score, 2006–11**

| Year                          | 2000 | 2006 | 2007  | 2008 | 2009 | 2010  | 2011 prelim |
|-------------------------------|------|------|-------|------|------|-------|-------------|
| Apgar score                   | 6.12 | 6.90 | 6.81  | 7.09 | 7.53 | 7.69  | 7.55        |
| Standard deviation (US\$)     | 2.30 | 2.31 | 2.17  | 2.16 | 2.23 | 2.03  | 2.00        |
| Number of reporting utilities | 526  | 935  | 1,119 | 983  | 997  | 1,006 | 891         |

Source: IBNET database.

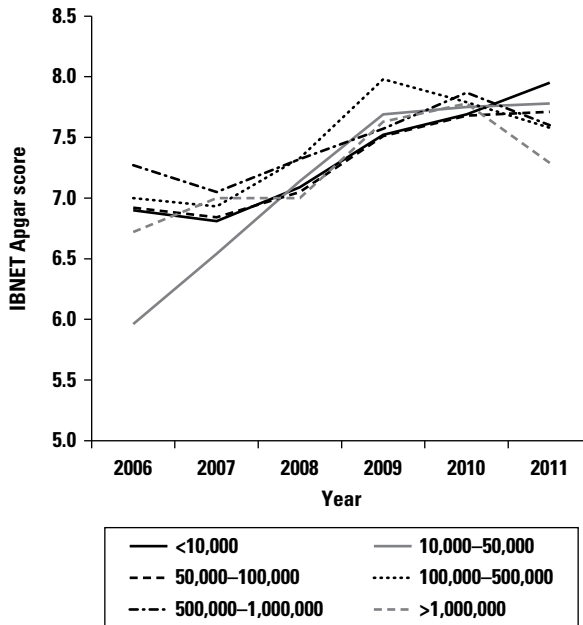
Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Table 2.4 Unweighted Average Apgar Scores by Level of Economic Development, 2006–11**

|                               | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 prelim |
|-------------------------------|------|------|------|------|------|-------------|
| Low-income countries          | 4.53 | 4.99 | 5.87 | 5.49 | 6.74 | 5.01        |
| Lower middle-income countries | 6.81 | 5.84 | 5.53 | 6.15 | 5.50 | 6.48        |
| Upper middle-income countries | 8.21 | 7.39 | 7.60 | 8.02 | 7.82 | 7.82        |
| High-income countries         | 8.95 | 8.96 | 8.10 | 8.85 | 9.93 | n/a         |

Source: IBNET database.

Note: Prelim = preliminary. The 2011 data collection cycle is not yet complete.

**Figure 2.3 IBNET Apgar Score by Size of Utility, 2006–11**

Source: IBNET database.

Note: The 2011 data collection cycle is not yet complete.

middle-income countries tend to be more vulnerable to external shocks than utilities in middle-income countries. The 2010 financial crisis had an effect on the Apgar score for utilities in low-income countries, but not for utilities in middle-income countries.

As can be seen in figure 2.3, size matters. Smaller utilities tend to have lower IBNET Apgar scores than larger utilities—up to a point. Very large utilities are not necessarily the most efficient.

Interestingly, smaller utilities have improved their performance more than larger utilities. Between 2006 and 2010, the new urbanized centers where utilities serve from 10,000 to 50,000 people improved the most, while utilities serving more than one million people saw the least improvement. Utilities that provide both water and sewerage services have a lower Apgar average unweighted management score (6.99) than those that do not provide sewerage services (7.21). It is likely that more complex systems—that is, those that provide more than one service or provide services to large populations—require more management skills.

## Water Utility Vulnerability Index (WUVI)

### Definition

We designed WUVI as a dynamic version of the IBNET Apgar. WUVI in fact is an estimated probability that a water utility will experience a performance problem as measured by future Apgar score. First, we consider three different thresholds of

Apgar scores below which a utility is considered to be in a vulnerable position: an Apgar score of 3.6, a score of 5, and a score of 7. Hence, a WUVI depicts risk and the higher the threshold considered, the more “strict” the index becomes in the sense that the utility must have a high Apgar score to move out of the vulnerability zone. Second, we conceptualize a WUVI as an early warning device rather than an “actionable” index. By this, we mean that a high-value WUVI is a symptom of a possible future problem but does not indicate the specifics of that problem. Hence, we envision that managers and policy makers would treat a high-value WUVI as an indication that further diagnostics are desirable to determine the issues faced by a particular utility and to formulate potential remedies. From this perspective, the estimated WUVI is similar in character to many indicators already in use in other fields—most notably, the life sciences (Cabalu 2010; Cutter et al. 2010; Gnansounou 2008; Liang and Park 2010).

Third, and in a similar vein, our determination of a WUVI is relational rather than causal. We determine an association between current values of indicators and future water utility performance in order to best predict the likelihood of future performance in the critical range. Of course, this does not mean that the most closely associated indicator can be taken as the cause of a future problem. Such a determination would require diagnostic analysis focused on the underlying characteristics of the individual utility. Our methods detect statistical relationships that have, in the past, foreshadowed future water utility vulnerability regardless of whether or not the underlying complexity can be subjected to a detailed logical analysis. Such detection of associations for forecasting purposes is evident in fields ranging from security analysis to meteorology.

Following Estrella and Mishkin (1998), we use the probit analysis statistical technique with model selection to develop the WUVI. From a set of possible indicators, we found the weights and indicators that have been historically the most accurate in predicting a critically low future Apgar score. Again, following Estrella and Mishkin, our model uses a 0–1 indicator of a critically low Apgar score as a dependent variable. This is done because the risk of a critically low Apgar score is what the WUVI is meant to detect (rather than a point estimate of a specific utility’s actual Apgar score). The details of the WUVI development were published in 2012 (Moffitt, Ziogiannis, and Danilenko 2012; Ziogiannis et al. 2012).

### ***Properties of the WUVI Function***

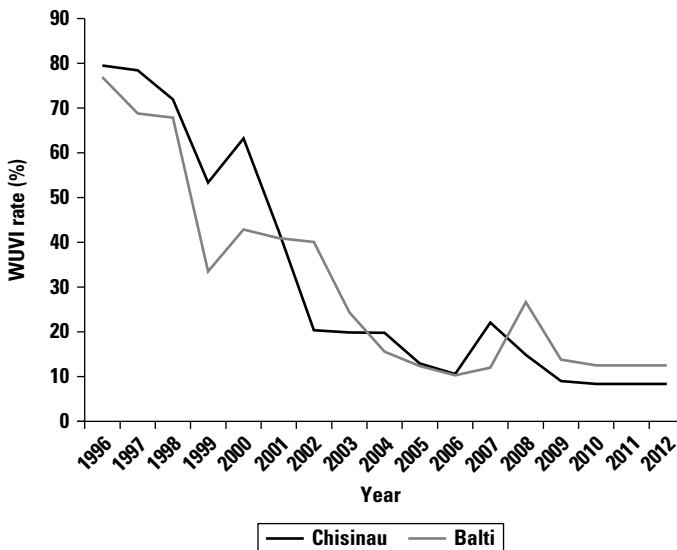
The most accurate prediction of water utility vulnerability two years in the future is achieved by constructing the WUVI with five variables evaluated at the current time. This specification of the WUVI minimized the Akaike information criterion (AIC) and was selected. The five variables included in the WUVI are (1) “Water Coverage,” defined as the percentage of households in the utility’s service area receiving water service from the utility; (2) “Sewer Coverage,” defined as the percentage of households in the utility’s service area receiving sewer service from the utility; (3) “Nonrevenue Water,” defined as cubic meters per kilometer per day of water in the utility’s service area for which the utility does not receive compensation; (4) “Affordability,” defined as the utility’s revenue as a percentage of per capita gross national income, and (5) “Collection Period,” defined as the number of days required for the utility to collect payment for water and/or sewer services provided.

While it may be tempting to contemplate a causal explanation based on the predictive variables contained in or omitted from the WUVI, it must be kept in mind that the WUVI is relational in nature. Conceivably, any predictor or combination of predictors could and would have been used to construct the WUVI relationship, had such predictors most accurately foreshadowed future water utility vulnerability. Interpretation of the estimated WUVI in a causal, regression-type framework is incorrect, since such a model would almost certainly need to reflect substantial complexity in portraying the future vulnerability of a water utility. The focus in development of the WUVI was significance in prediction.

### **WUVI Examples**

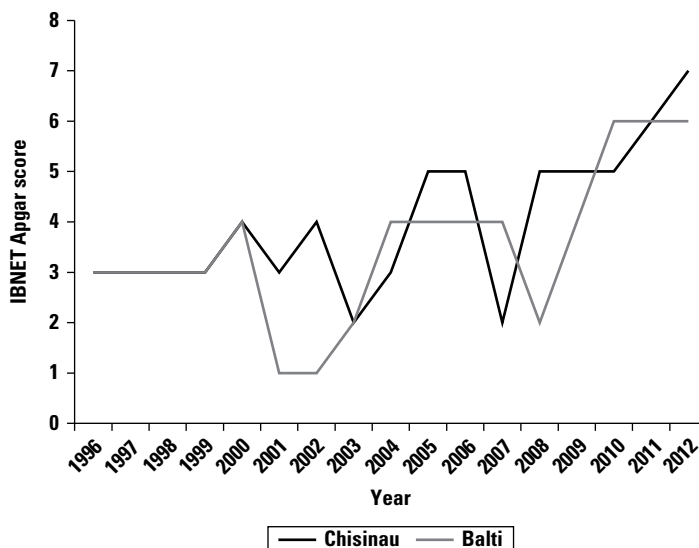
**Moldova: Reforms and External Factors of Water Sector Development.** The water sector in Moldova went through decentralization, painful tariff reforms, and demand management. Sector reforms resulted in significant reduction of the WUVI. This can be verified from the downward slope of the index in figure 2.4. The WUVI starts at around value of 75 percent in 1996 for utilities in both Chisinau and Balti. This suggests that there is more than 75 percent probability that in two years (that is, 1998) these utilities will have an Apgar score lower than 3.6. In other words, they are likely to be faced with major operational challenges and experience increased vulnerability. From 1996 onward, the WUVI value decreases, suggesting that the status of the utilities is improving. Figure 2.5 shows the corresponding Apgar values, which are stable and increasing during the last few years. The economic crises in 2000 and 2008 increased the vulnerability of the two utilities. The WUVI increases for both utilities during those two years, while the Apgar demonstrates a sharp decline.

**Figure 2.4 WUVI Standard of the Two Largest Utilities in Moldova, 1996–2012**



Source: IBNET database.

**Figure 2.5 IBNET Apgar Score of the Two Largest Utilities in Moldova, 1996–2012**



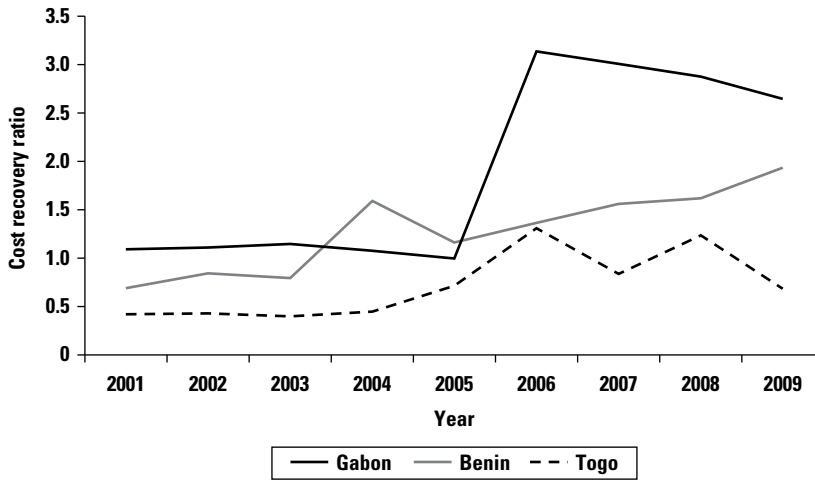
Source: IBNET database.

The main difference between the WUVI and the Apgar score is that the former provides information about the status of the utility two years into the future. The Apgar score, on the other hand, gives insight pertaining to current performance based on the six indicators.

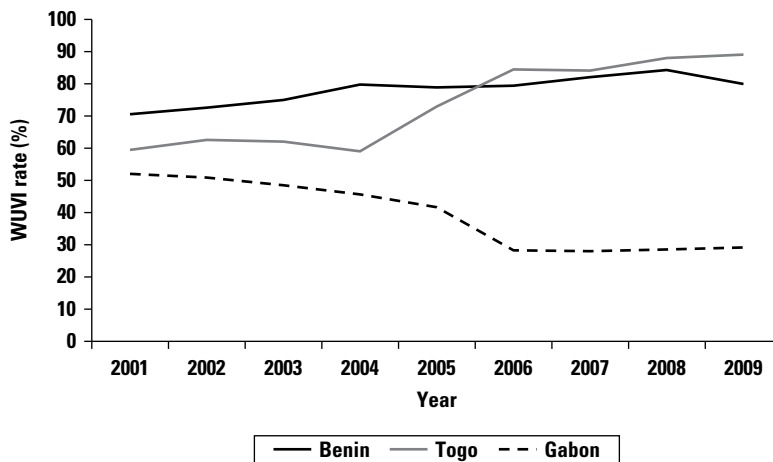
**Western Africa: Cost Recovery versus Vulnerability.** Since the 1990s, national utilities in western African countries have been pursuing the goal of higher cost recovery of water and sanitation operations. Most utilities have achieved this goal, with some mixed results. In Gabon, despite significant tariff increases, water consumption stayed at the same level due to overall country development, thus keeping affordability relatively high. Figure 2.6 shows the value of the WUVI for Gabon, starting in 2001. That year the utility had a WUVI of 54 percent, suggesting that in two years there was a 54 percent chance of experiencing significant challenges. The value of the WUVI decreases consistently throughout 2009. This suggests continuous improvement of the utility's operations.

In Benin, the focus on improved cost recovery resulted in reduced consumption. This resulted in inefficient plant operations, increased losses and costs of operations, and, in some cases, the inability to cope with ongoing urbanization. Benin's poor performance is reflected in the trend of the WUVI in figure 2.7. A value of the WUVI of 80 percent in 2009 suggests increased vulnerability.

In Togo, neglect of cost recovery (illustrated by the downward trend in figure 2.6) increased vulnerability significantly. Togo is hardly balancing its operations, with vulnerability higher than 60 percent throughout the nine-year period depicted in figure 2.7.

**Figure 2.6 Cost Recovery for Benin, Gabon, and Togo, 2001–09**

Source: IBNET database.

**Figure 2.7 WUVI for Benin, Gabon, and Togo, 2001–09**

Source: IBNET database.

**Czech Republic: Privatization Did Not Affect WUVI.** No difference in WUVI values was recorded between private and public utilities in the Czech Republic. All utilities perform very similarly.

## Conclusions

1. The IBNET Apgar adequately represents utilities' health, stage of development, and performance status. Its definitions reflect actual statistical distributions that exist in the water sector and are reported to IBNET. Apgar is applicable to utilities at all stages of development and can be used widely for quick assessment of sector performance.

2. WUVI is determined as a dynamic version of the IBNET Apgar. WUVI is an estimated probability that a water utility will experience a performance problem as measured by future Apgar score. WUVI depicts risk, and the higher the threshold that is considered, the more “strict” the index becomes in the sense that the utility must have a high Apgar score to move out of the vulnerability zone. Our conceptualization of a WUVI is as an early warning device rather than an “actionable” index. By this, we mean that a high-value WUVI is a symptom of a possible future problem but does not indicate the specifics of that problem. Hence, we envision that managers and policy makers would treat a high-value WUVI as an indication that further diagnostics are desirable to determine the issues faced by a particular utility and to formulate potential remedies.
3. The combined information provided by the two indices can be used for regulation and rating of the water utilities. Considering the complexity of the sector and the competing demands of its authorities and the different customers, Apgar and WUVI are seen as valuable tools that can assist utility managers and water authorities.

## Notes

1. Appearance, Pulse, Grimace, Activity, Respiration. See [http://en.wikipedia.org/wiki/Apgar\\_score](http://en.wikipedia.org/wiki/Apgar_score).
2. For an example of tracking a uniform product, see the *Economist's* Big Mac Index, which tracks worldwide prices of a Big Mac hamburger: <http://bigmacindex.org/2013-big-mac-index.html>.
3. The original Apgar score was developed to quickly and summarily assess the health of an infant immediately after childbirth. The Apgar score is determined by evaluating the infant on five simple criteria on a scale of 0 to 2, then summing up the five values thus obtained. Following the original Apgar scores, utilities are then classified as utilities that are “critically low” (with a score of 3.6 or less), “fairly low” (a score between 3.6 and 7.2), or “normal” (a score above 7.2).

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## Appendix. Country Data Tables

### IBNET Indicator/Country: Albania

| Latest year available                                                                                    | 2010   | 2011   | 2012   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 28,748 | 28,748 | 28,748 |
| GNI per capita, Atlas method (current US\$)                                                              | 4,040  | 4,050  | 4,030  |
| Total population (thousands)                                                                             | 3,204  | 3,216  | 3,228  |
| Urban population (%)                                                                                     | 52     | 53     | 54     |
| Total urban population (thousands)                                                                       | 1,677  | 1,717  | 1,743  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 95     | 95     | 95     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 94     | 94     | 94     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 58     | 58     | 54     |
| Population served (water), (thousands)                                                                   | 2,653  | 2,678  | 2,546  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,308  | 3,316  | 3,141  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 80     | 81     | 81     |
| 2.1 Sewerage coverage (%)                                                                                | 65     | 65     | 66     |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 27     | 26     | 25     |
| 6.1 Nonrevenue water (%)                                                                                 | 63.00  | 64.00  | 68.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 76     | 70     | 74     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —      | —      | —      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 11.20  | 10.80  | 10.90  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 47     | 58     | 54     |
| 23.1 Collection period (days)                                                                            | 57     | 28     | 76     |
| 23.2 Collection ratio (%)                                                                                | 152    | 104    | 121    |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.39   | 0.54   |        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.59   | 0.72   | 0.78   |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.67   | 0.74   | 0.73   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 304.00 | 293.00 |        |
| 4.1 Total water consumption (l/person/day)                                                               | 111.00 | 106.00 | 97.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 72     | 70     | 75     |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.44   | 0.55   | 0.48   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 10.02  | 11.00  | 10.80  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.86   | 6.19   | 6.28   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Algeria**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 2,382,000   | 2,382,000   | 2,382,000   |
| GNI per capita, Atlas method (current US\$)                                                              | 4,260       | 4,170       | 4,350       |
| Total population (thousands)                                                                             | 34,428      | 34,950      | 35,468      |
| Urban population (%)                                                                                     | 70          | 71          | 72          |
| Total urban population (thousands)                                                                       | 24,062      | 24,800      | 25,546      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 83          | 83          | 83          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 95          | 95          | 95          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 17,445      | 17,550      | 19,966      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 24,585      | 25,199      | 25,829      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 71          | 70          | 77          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 18          | 18          | 18          |
| 6.1 Nonrevenue water (%)                                                                                 | 55.00       | 55.00       | 54.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 58          | 55          | 54          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.20        | 1.20        | 1.10        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | —           | —           | —           |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | —           |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | —           | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.39        | 0.34        | 0.32        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.59        | 0.51        | 0.49        |
| 24.1 Operating cost coverage (ratio)                                                                     | —           | —           | —           |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 169.00      | 167.00      | 152.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 76.00       | 75.00       | 69.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 59          | 58          | 54          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.45        | 0.43        | 0.47        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.24        | 1.20        | 1.21        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Argentina**

| Latest year available                                                                                    | 2008      | 2009      | 2010      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 2,780,400 | 2,780,400 | 2,780,400 |
| GNI per capita, Atlas method (current US\$)                                                              | 7,190     | 7,580     | 8,620     |
| Total population (thousands)                                                                             | 39,714    | 40,062    | 40,412    |
| Urban population (%)                                                                                     | 92        | 92        | 92        |
| Total urban population (thousands)                                                                       | 36,522    | 36,920    | 37,320    |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98        | 98        | 98        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 92        | 92        | 92        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 6         | 4         | 5         |
| Population served (water), (thousands)                                                                   | 12,633    | 11,948    | 11,522    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 14,849    | 13,375    | 13,294    |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 85        | 89        | 87        |
| 2.1 Sewerage coverage (%)                                                                                | 64        | 64        | 65        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) |           |           |           |
| 6.1 Nonrevenue water (%)                                                                                 | 44.00     | 40.00     | 38.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 99        | 96        | 88        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     |           |           |           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00     | 24.00     | 24.00     |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 32        | 20        | 20        |
| 23.1 Collection period (days)                                                                            | 3         | 10        | 2,200     |
| 23.2 Collection ratio (%)                                                                                | 100       | 102       | 100       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.00      | 0.00      | 0.00      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | —         | —         | —         |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.20      | 1.53      | 0.56      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 558.00    | 529.00    | 570.00    |
| 4.1 Total water consumption (l/person/day)                                                               | 324.00    | 329.00    | 374.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 129       | 277       | 297       |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.40      | 0.45      | 0.37      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —         | —         | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00      | 1.00      | 1.00      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Armenia**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 29,743      | 29,743      | 29,743      |
| GNI per capita, Atlas method (current US\$)                                                              | 3,340       | 3,440       | 3,330       |
| Total population (thousands)                                                                             | 3,079       | 3,085       | 3,092       |
| Urban population (%)                                                                                     | 64          | 64          | 64          |
| Total urban population (thousands)                                                                       | 1,974       | 1,977       | 1,981       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98          | 98          | 98          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 90          | 90          | 90          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 5           | 5           | 5           |
| Population served (water), (thousands)                                                                   | 1,752       | 1,976       | 2,000       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,177       | 2,187       | 2,188       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 80          | 90          | 91          |
| 2.1 Sewerage coverage (%)                                                                                | 35          | 37          | 37          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 21          | 20          | 16          |
| 6.1 Nonrevenue water (%)                                                                                 | 84.00       | 84.00       | 83.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 95          | 109         | 102         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.60        | 1.60        | 1.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 13.20       | 14.00       | 15.20       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 78          | 83          | 91          |
| 23.1 Collection period (days)                                                                            | 266         | 296         | 281         |
| 23.2 Collection ratio (%)                                                                                | 87          | 79          | 80          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.47        | 0.44        | 0.47        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.44        | 0.45        | 0.47        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.05        | 0.98        | 0.98        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 936.00      | 812.00      | 759.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 151.00      | 128.00      | 126.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 94          | 85          | 83          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.78        | 0.60        | 0.65        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 32.10       | 29.74       | 35.86       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.46        | 1.45        | 1.39        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Australia**

| Latest year available                                                                                    | 2009      | 2010      | 2011      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 7,692,024 | 7,692,024 | 7,692,024 |
| GNI per capita, Atlas method (current US\$)                                                              | 43,670    | 46,310    | 50,150    |
| Total population (thousands)                                                                             | 21,952    | 22,300    | 22,621    |
| Urban population (%)                                                                                     | 89        | 89        | 89        |
| Total urban population (thousands)                                                                       | 19,509    | 19,857    | 20,176    |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100       | 100       | 100       |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100       | 100       | 100       |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 60        | 62        | 64        |
| Population served (water), (thousands)                                                                   | 15,237    | 15,820    | 18,436    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 15,224    | 15,806    | 18,436    |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 100       | 100       | 100       |
| 2.1 Sewerage coverage (%)                                                                                | 95        | 94        | 95        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —         | —         | —         |
| 6.1 Nonrevenue water (%)                                                                                 | 9.00      | 10.00     | 15.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 4         | 5         | 6         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —         | —         | —         |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   |           |           |           |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 100       | 100       | 100       |
| 23.1 Collection period (days)                                                                            | —         | —         | —         |
| 23.2 Collection ratio (%)                                                                                | —         | —         | —         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 3.26      | 3.73      | 5.37      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.59      | 1.78      | 4.07      |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.05      | 2.09      | 1.32      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 366.00    | 366.00    | 315.00    |
| 4.1 Total water consumption (l/person/day)                                                               | 333.00    | 330.00    | 285.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 205       | 207       | 190       |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.91      | 0.97      | 1.11      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —         | —         | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —         | —         | —         |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Azerbaijan**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 86,600      | 86,600      | 86,600      |
| GNI per capita, Atlas method (current US\$)                                                              | 2,710       | 3,870       | 4,800       |
| Total population (thousands)                                                                             | 8,581       | 8,763       | 8,947       |
| Urban population (%)                                                                                     | 53          | 53          | 53          |
| Total urban population (thousands)                                                                       | 4,530       | 4,644       | 4,760       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 80          | 80          | 80          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 82          | 82          | 82          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 8,875       | 8,920       | 8,973       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 8,875       | 8,920       | 8,973       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 100         | 100         |
| 2.1 Sewerage coverage (%)                                                                                | 56          | 56          | 56          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 47.00       | 47.00       | 47.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 377         | 360         | 355         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90        | 0.90        | 0.90        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 14.00       | 14.00       | 16.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 9           | 10          | 13          |
| 23.1 Collection period (days)                                                                            | 107         | 101         | 94          |
| 23.2 Collection ratio (%)                                                                                | 71          | 72          | 74          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.36        | 0.40        | 0.41        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.21        | 0.24        | 0.24        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.70        | 1.69        | 1.68        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 525.00      | 525.00      | 525.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 281.00      | 281.00      | 281.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 197         | 197         | 197         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.36        | 1.06        | 0.88        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 7.12        | 7.12        | 7.12        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Bangladesh**

| Latest year available                                                                                    | 2011    | 2012    | 2013    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 143,998 | 143,998 | 143,998 |
| GNI per capita, Atlas method (current US\$)                                                              | 770     | 840     | 880     |
| Total population (thousands)                                                                             | 150,494 | 152,166 | 153,837 |
| Urban population (%)                                                                                     | 28      | 29      | 29      |
| Total urban population (thousands)                                                                       | 42,725  | 43,885  | 45,059  |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 81      | 81      | 81      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 56      | 56      | 56      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 33      | 68      | 36      |
| Population served (water), (thousands)                                                                   | 15,698  | 15,866  | 15,741  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 23,528  | 24,073  | 25,472  |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 63      | 66      | 41      |
| 2.1 Sewerage coverage (%)                                                                                | 23      | 16      | 26      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 32      | 39      | 45      |
| 6.1 Nonrevenue water (%)                                                                                 | 32.00   | 29.00   | 26.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 116     | 101     | 94      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.30    | 0.30    | 0.30    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 12.00   | 12.00   | 8.50    |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 70      | 74      | 83      |
| 23.1 Collection period (days)                                                                            | 205     | 189     | 183     |
| 23.2 Collection ratio (%)                                                                                | 84      | 81      | 85      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.14    | 0.15    | 0.16    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.11    | 0.10    | 0.11    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.24    | 0.54    | 1.44    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 94.00   | 87.00   | 161.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 108.00  | 113.00  | 119.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 96      | 101     | 106     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.72    | 0.74    | 0.79    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 0.33    | 0.15    | 11.78   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.10    | 1.20    | 3.02    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Bahrain**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 665         | 665         | 665         |
| GNI per capita, Atlas method (current US\$)                                                              | 18,730      | 15,590      | 14,820      |
| Total population (thousands)                                                                             | 1,052       | 1,170       | 1,262       |
| Urban population (%)                                                                                     | 89          | 89          | 89          |
| Total urban population (thousands)                                                                       | 932         | 1,036       | 1,118       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 89          | 89          | 89          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 1,122       | 1,159       | 1,235       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,122       | 1,159       | 1,235       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 100         | 100         |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 44.00       | 46.00       | 40.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 61          | 67          | 59          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90        | 0.90        | 0.80        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | —           | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.26        | 0.24        | 0.29        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.72        | 1.94        | 1.62        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.15        | 0.13        | 0.18        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 491.00      | 552.00      | 526.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 275.00      | 280.00      | 315.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 231         | 238         | 257         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.14        | 0.16        | 0.22        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 4.86        | 4.78        | 4.80        |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 4.16        | 4.69        | 6.57        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Belarus**

| <b>Latest year available</b>                                                                             | <b>2010</b> | <b>2011</b> | <b>2012</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 207,600     | 207,600     | 207,600     |
| GNI per capita, Atlas method (current US\$)                                                              | 5,990       | 6,270       | 6,530       |
| Total population (thousands)                                                                             | 9,490       | 9,473       | 9,455       |
| Urban population (%)                                                                                     | 75          | 75          | 75          |
| Total urban population (thousands)                                                                       | 7,081       | 7,107       | 7,134       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 93          | 93          | 93          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 20          | 17          | 21          |
| Population served (water), (thousands)                                                                   | 1,562       | 1,904       | 2,014       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,630       | 2,006       | 2,152       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 91          | 95          | 94          |
| 2.1 Sewerage coverage (%)                                                                                | 78          | 75          | 78          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 27          | 31          | 28          |
| 6.1 Nonrevenue water (%)                                                                                 | 15.00       | 26          | 27          |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 16          | 21.40       | 20.10       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.50        | 1.30        |             |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 21.60       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 81          | 94          | 94          |
| 23.1 Collection period (days)                                                                            | 52          | 54          | 55          |
| 23.2 Collection ratio (%)                                                                                | 84          | 100         | 81          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.76        | 1.01        | 1.05        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.62        | 0.85        | 0.86        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.23        | 1.19        | 1.22        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 235.00      | 234.00      | 230.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 241.00      | 174.00      | 168.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 183         | 121         | 117         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.12        | 1.02        | 0.99        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 13.51       | 13.61       | 10.45       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 13.08       | 8.27        | 7.58        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Benin**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 112,622     | 112,622     | 112,622     |
| GNI per capita, Atlas method (current US\$)                                                              | 630         | 730         | 710         |
| Total population (thousands)                                                                             | 8,113       | 8,356       | 8,602       |
| Urban population (%)                                                                                     | 42          | 43          | 44          |
| Total urban population (thousands)                                                                       | 3,432       | 3,589       | 3,751       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 75          | 75          | 75          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 13          | 13          | 13          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 1,598       | 1,703       | 1,860       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,070       | 3,170       | 3,270       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 52          | 54          | 57          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 23          | 15          | 20          |
| 6.1 Nonrevenue water (%)                                                                                 | 28.00       | 24.00       | 28.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 6           | 5           | 6           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.50        | 0.40        | 0.40        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | —           | —           | —           |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 190         | 219         | 199         |
| 23.2 Collection ratio (%)                                                                                | 102         | 93          | 91          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.17        | 1.28        | 1.37        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.74        | 0.78        | 0.70        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.58        | 1.64        | 1.96        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 58.00       | 59.00       | 57.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 42.00       | 45.00       | 41.00       |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 2.85        | 2.88        | 2.89        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Bhutan**

| Latest year available                                                                                    | 2002   | 2003   | 2004   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 38,394 | 38,394 | 38,394 |
| GNI per capita, Atlas method (current US\$)                                                              | 850    | 940    | 1,060  |
| Total population (thousands)                                                                             | 606    | 624    | 642    |
| Urban population (%)                                                                                     | 28     | 29     | 30     |
| Total urban population (thousands)                                                                       | 168    | 180    | 192    |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 96     | 96     | 96     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 44     | 44     | 44     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 1      | 1      | 1      |
| Population served (water), (thousands)                                                                   | 40.00  | 42.00  | 43.00  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 60     | 60     | 60     |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 67     | 70     | 72     |
| 2.1 Sewerage coverage (%)                                                                                | 0      | 0      | 0      |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —      | —      | —      |
| 6.1 Nonrevenue water (%)                                                                                 | 38.00  | 47.00  | 46.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 48     | 69     | 68     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.40   | 1.30   | 1.30   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 13.00  | 13.00  | 13.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | —      | —      | —      |
| 23.1 Collection period (days)                                                                            | —      | —      | —      |
| 23.2 Collection ratio (%)                                                                                | 81     | 73     | 88     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.04   | 0.06   | 0.06   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.03   | 0.04   | 0.04   |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.28   | 1.55   | 1.55   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 251.61 | 283.02 | 279.63 |
| 4.1 Total water consumption (l/person/day)                                                               | 156.00 | 150.00 | 151.00 |
| 4.7 Residential consumption (l/person/day)                                                               | 105    | 101    | 102    |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.27   | 0.35   | 0.31   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —      | —      | —      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 0.95   | 0.83   | 0.82   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Plurinational State of Bolivia**

| <b>Latest year available</b>                                                                             | <b>2004</b> | <b>2005</b> | <b>2006</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,098,581   | 1,098,581   | 1,098,581   |
| GNI per capita, Atlas method (current US\$)                                                              | 960         | 1,030       | 1,120       |
| Total population (thousands)                                                                             | 8,983       | 9,147       | 9,307       |
| Urban population (%)                                                                                     | 64          | 64          | 65          |
| Total urban population (thousands)                                                                       | 5,724       | 5,872       | 6,018       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 88          | 88          | 88          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 27          | 27          | 27          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 2           | 2           | 5           |
| Population served (water), (thousands)                                                                   | 2,321.00    | 2,388.00    | 2,155.00    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,355       | 2,510       | 2,453       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 99          | 95          | 88          |
| 2.1 Sewerage coverage (%)                                                                                | 69          | 64          | 66          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | 6           | 23          |
| 6.1 Nonrevenue water (%)                                                                                 | 28.00       | 28.00       | 35.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 13          | 17          | 24          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | 0.20        | 0.80        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 20.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | 100         | 92          |
| 23.1 Collection period (days)                                                                            | —           | 117         | 72          |
| 23.2 Collection ratio (%)                                                                                | —           | 91          | 723         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.67        | 0.45        | 0.40        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.58        | 0.44        | 0.26        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.31        | 1.02        | 1.56        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 100.00      | 129.17      | 127.69      |
| 4.1 Total water consumption (l/person/day)                                                               | 72.00       | 93.00       | 83.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 94          | 78          | 61          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.83        | 1.48        | 1.08        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | 25.88       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | 3.26        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Bosnia and Herzegovina**

| Latest year available                                                                                    | 2005   | 2006   | 2007   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 51,209 | 51,209 | 51,209 |
| GNI per capita, Atlas method (current US\$)                                                              | 3,020  | 3,350  | 3,820  |
| Total population (thousands)                                                                             | 3,781  | 3,782  | 3,779  |
| Urban population (%)                                                                                     | 45     | 46     | 46     |
| Total urban population (thousands)                                                                       | 1,711  | 1,730  | 1,748  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99     | 99     | 99     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 95     | 95     | 95     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 20     | 20     | 20     |
| Population served (water), (thousands)                                                                   | 1,179  | 1,185  | 1,230  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,301  | 1,279  | 1,328  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 91     | 93     | 93     |
| 2.1 Sewerage coverage (%)                                                                                | 56     | 56     | 55     |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 13     | 13     | 119    |
| 6.1 Nonrevenue water (%)                                                                                 | 61.00  | 62.00  | 60.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 77     | 63     | 60     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.40   | 1.30   | 1.30   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 23.20  | 23.30  | 24.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 99     | 98     | 99     |
| 23.1 Collection period (days)                                                                            | 227    | 246    | 334    |
| 23.2 Collection ratio (%)                                                                                | 79     | 83     | 159    |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.71   | 0.77   | 0.82   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.60   | 0.80   | 0.84   |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.05   | 0.94   | 0.97   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 464.00 | 423.00 | 411.00 |
| 4.1 Total water consumption (l/person/day)                                                               | 183.00 | 162.00 | 164.00 |
| 4.7 Residential consumption (l/person/day)                                                               | 137    | 121    | 122    |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.57   | 1.36   | 1.28   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 44.59  | 46.39  | 53.72  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.79   | 2.94   | 2.73   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Brazil**

| <b>Latest year available</b>                                                                             | <b>2009</b> | <b>2010</b> | <b>2011</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 8,514,877   | 8,514,877   | 8,514,877   |
| GNI per capita, Atlas method (current US\$)                                                              | 8,140       | 9,520       | 10,700      |
| Total population (thousands)                                                                             | 193,247     | 194,946     | 196,655     |
| Urban population (%)                                                                                     | 84          | 84          | 85          |
| Total urban population (thousands)                                                                       | 162,394     | 164,408     | 166,370     |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98          | 98          | 98          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 79          | 79          | 79          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 920         | 985         | 1,063       |
| Population served (water), (thousands)                                                                   | 111,875     | 150,983     | 190,091     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 144,785     | 147,709     | 150,633     |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 80          | 81          | 81          |
| 2.1 Sewerage coverage (%)                                                                                | 42          | 43          | 47          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 40.00       | 39.00       | 39.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 35          | 33          | 33          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 94          | —           | —           |
| 23.1 Collection period (days)                                                                            | 115         | 111         | 138         |
| 23.2 Collection ratio (%)                                                                                | 92          | 93          | 99          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.49        | 1.67        | 2.03        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.38        | 1.10        | 1.41        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.08        | 1.52        | 1.44        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 274.00      | 284.00      | —           |
| 4.1 Total water consumption (l/person/day)                                                               | 169.00      | 168.00      | 174.00      |
| 4.7 Residential consumption (l/person/day)                                                               | —           | 110         | 116         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.13        | 1.08        | 1.20        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00        | 1.00        | 1.00        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Bulgaria**

| Latest year available                                                                                    | 2006    | 2007    | 2008    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 110,879 | 110,879 | 110,879 |
| GNI per capita, Atlas method (current US\$)                                                              | 4,080   | 4,530   | 5,700   |
| Total population (thousands)                                                                             | 7,699   | 7,660   | 7,623   |
| Urban population (%)                                                                                     | 71      | 71      | 71      |
| Total urban population (thousands)                                                                       | 5,428   | 5,423   | 5,420   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100     | 100     | 100     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100     | 100     | 100     |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 20      | 20      | 20      |
| Population served (water), (thousands)                                                                   | 5,246   | 5,398   | 5,389   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 5,288   | 5,436   | 5,422   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 99      | 99      | 99      |
| 2.1 Sewerage coverage (%)                                                                                | 60      | 61      | 61      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 12      | 11      | 11      |
| 6.1 Nonrevenue water (%)                                                                                 | 58.00   | 56.00   | 54.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 31      | 27      | 26      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.60    | 1.60    | 1.60    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 97      | 98      | 99      |
| 23.1 Collection period (days)                                                                            | 141     | 130     | 98      |
| 23.2 Collection ratio (%)                                                                                | 136     | 128     | 124     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.68    | 0.78    | 1.01    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.50    | 0.58    | 0.77    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.39    | 1.35    | 1.32    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 416.00  | 385.00  | 372.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 174.00  | 171.00  | 171.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 159     | 152     | 151     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.06    | 1.07    | 1.11    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 44.65   | 55.92   | 72.33   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.19    | 1.24    | 1.10    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Burkina Faso**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 274,222     | 274,222     | 274,222     |
| GNI per capita, Atlas method (current US\$)                                                              | 430         | 480         | 550         |
| Total population (thousands)                                                                             | 15,061      | 15,515      | 15,984      |
| Urban population (%)                                                                                     | 23          | 24          | 25          |
| Total urban population (thousands)                                                                       | 3,493       | 3,726       | 3,971       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 79          | 79          | 79          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 17          | 17          | 17          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 2,330       | 2,508       | 2,518       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,178       | 3,351       | 3,509       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 73          | 75          | 72          |
| 2.1 Sewerage coverage (%)                                                                                | 0           | 0           | 0           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 21          | 20          | 20          |
| 6.1 Nonrevenue water (%)                                                                                 | 18.00       | 18.00       | 18.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 5           | 5           | 5           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.30        | 0.20        | 0.20        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 23.00       | 23.00       | 23.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | —           | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.57        | 1.89        | 1.67        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.73        | 0.86        | 0.81        |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.15        | 2.19        | 2.07        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 58.00       | 58.00       | 61.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 47.00       | 47.00       | 50.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 40          | 40          | 42          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.26        | 6.75        | 5.54        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 3.49        | 3.38        | 3.36        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Burundi**

| Latest year available                                                                                    | 2004   | 2005   | 2006   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 27,834 | 27,834 | 27,834 |
| GNI per capita, Atlas method (current US\$)                                                              | 130    | 140    | 160    |
| Total population (thousands)                                                                             | 7,040  | 7,251  | 7,474  |
| Urban population (%)                                                                                     | 9      | 9      | 10     |
| Total urban population (thousands)                                                                       | 652    | 653    | 732    |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 72     | 72     | 72     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 46     | 46     | 46     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 1      | 1      | 1      |
| Population served (water), (thousands)                                                                   | 650    | 700    | 750    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 6,000  | 6,500  | 7,000  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 11     | 11     | 11     |
| 2.1 Sewerage coverage (%)                                                                                | —      | —      | —      |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —      | —      | —      |
| 6.1 Nonrevenue water (%)                                                                                 | 45.00  | 40.00  | 40.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 20     | 17     | 17     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60   | 0.60   | 0.70   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 15.00  | 15.00  | 15.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | —      | —      | —      |
| 23.1 Collection period (days)                                                                            | 430    | 330    | 250    |
| 23.2 Collection ratio (%)                                                                                | 97     | 100    | 97     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.21   | 0.21   | 0.24   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.09   | 0.08   | 0.09   |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.49   | 2.60   | 2.76   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 141.82 | 128.33 | 121.67 |
| 4.1 Total water consumption (l/person/day)                                                               | 78.00  | 77.00  | 73.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 38     | 36     | 35     |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 4.60   | 4.22   | 4.00   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —      | —      | —      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.72   | 1.59   | 1.66   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Cabo Verde**

| <b>Latest year available</b>                                                                             | <b>2003</b> | <b>2004</b> | <b>2005</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 4,033       | 4,033       | 4,033       |
| GNI per capita, Atlas method (current US\$)                                                              | 1,490       | 1,800       | 2,080       |
| Total population (thousands)                                                                             | 460         | 467         | 473         |
| Urban population (%)                                                                                     | 56          | 57          | 58          |
| Total urban population (thousands)                                                                       | 258         | 265         | 273         |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 88          | 88          | 88          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 61          | 61          | 61          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 91          | 101         | 107         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 215         | 223         | 232         |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 42          | 45          | 46          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 30.00       | 30.00       | 31.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 10          | 11          | 11          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 7.20        | 6.20        | 5.90        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | —           | —           | —           |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | —           |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | —           | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 3.07        | 3.52        | 3.49        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | —           | —           | —           |
| 24.1 Operating cost coverage (ratio)                                                                     | —           | —           | —           |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 122.86      | 110.00      | 108.70      |
| 4.1 Total water consumption (l/person/day)                                                               | 86.00       | 77.00       | 75.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 50          | 49          | 49          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.47        | 5.50        | 4.59        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00        | 1.00        | 1.00        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Cambodia**

| Latest year available                                                                                    | 2005    | 2006    | 2007    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 181,035 | 181,035 | 181,035 |
| GNI per capita, Atlas method (current US\$)                                                              | 460     | 520     | 590     |
| Total population (thousands)                                                                             | 13,358  | 13,516  | 13,670  |
| Urban population (%)                                                                                     | 19      | 19      | 19      |
| Total urban population (thousands)                                                                       | 2,538   | 2,568   | 2,597   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 64      | 64      | 64      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 31      | 31      | 31      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 830     | 910     | 1,068   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,106   | 1,214   | 1,335   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 75      | 75      | 80      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 35      | 45      | 47      |
| 6.1 Nonrevenue water (%)                                                                                 | 9.00    | 7.00    | 6.00    |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 12      | 10      | 8       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60    | 0.60    | 0.50    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 89      | 94      | 67      |
| 23.2 Collection ratio (%)                                                                                | —       | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.24    | 0.20    | 0.28    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.11    | 0.10    | 0.12    |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.24    | 2.08    | 2.36    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 204.40  | 211.83  | 182.98  |
| 4.1 Total water consumption (l/person/day)                                                               | 186.00  | 197.00  | 172.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 113     | 118     | 101     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 3.54    | 2.77    | 2.98    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 9.68    | 9.41    | 9.69    |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.34    | 1.36    | 1.32    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Cameroon**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 475,442     | 475,442     |
| GNI per capita, Atlas method (current US\$)                                                              | 1,150       | 1,150       |
| Total population (thousands)                                                                             | 18,759      | 19,175      |
| Urban population (%)                                                                                     | 50          | 51          |
| Total urban population (thousands)                                                                       | 9,440       | 9,764       |
| <b>MDGs</b>                                                                                              |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 77          | 77          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 49          | 49          |
| <b>IBNET sourced data</b>                                                                                |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           |
| Population served (water), (thousands)                                                                   | 3,261       | 3,500       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 8,000       | 8,300       |
| <b>Services coverage</b>                                                                                 |             |             |
| 1.1 Water coverage (%)                                                                                   | 41          | 42          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 23          | 23          |
| 6.1 Nonrevenue water (%)                                                                                 | 45.00       | 40.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 327         | 426         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.70        | 0.60        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         |
| 23.1 Collection period (days)                                                                            | —           | —           |
| 23.2 Collection ratio (%)                                                                                | 113         | 117         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.76        | 0.88        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.57        | 0.73        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.34        | 1.20        |
| <b>Production and consumption</b>                                                                        |             |             |
| 3.1 Water production (l/person/day)                                                                      | 70.00       | 97.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 39.00       | 59.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 24          | 37          |
| <b>Poverty and affordability</b>                                                                         |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.94        | 1.65        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00        | 1.00        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Central African Republic**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 622,984 | 622,984 | 622,984 |
| GNI per capita, Atlas method (current US\$)                                                              | 380     | 420     | 480     |
| Total population (thousands)                                                                             | 4,161   | 4,238   | 4,318   |
| Urban population (%)                                                                                     | 38      | 39      | 39      |
| Total urban population (thousands)                                                                       | 1,597   | 1,633   | 1,671   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 67      | 67      | 67      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 34      | 34      | 34      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 876     | 897     | 920     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 310     | 315     | 324     |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 35      | 35      | 35      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) |         |         |         |
| 6.1 Nonrevenue water (%)                                                                                 | 53.00   | 51.00   | 51.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 46      | 44      | —       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.70    | 0.70    | 0.70    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   |         |         |         |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 89      | 77      | 78      |
| 23.1 Collection period (days)                                                                            | —       | —       | —       |
| 23.2 Collection ratio (%)                                                                                | 67      | 83      | 86      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.76    | 0.82    | 0.71    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.45    | 0.58    | —       |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.67    | 1.42    | —       |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      |         |         |         |
| 4.1 Total water consumption (l/person/day)                                                               | 42.00   | 42.00   | 38.00   |
| 4.7 Residential consumption (l/person/day)                                                               | 19      | 16      | 16      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 3.07    | 2.99    | 2.05    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | 1.00    | 1.00    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Chile**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2007</b> | <b>2008</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 756,102     | 756,102     | 756,102     |
| GNI per capita, Atlas method (current US\$)                                                              | 7,280       | 8,620       | 2,480       |
| Total population (thousands)                                                                             | 16,469      | 16,633      | 16,796      |
| Urban population (%)                                                                                     | 88          | 88          | 88          |
| Total urban population (thousands)                                                                       | 14,492      | 14,571      | 14,760      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 96          | 96          | 96          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 96          | 96          | 96          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 18          | 18          | 18          |
| Population served (water), (thousands)                                                                   | 13,310      | 13,733      | 14,118      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 13,340      | 13,756      | 14,165      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 100         | 100         |
| 2.1 Sewerage coverage (%)                                                                                | 95          | 95          | 95          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 34.00       | 35.00       | 33.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 37          | 39          | 37          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 98          | 98          | 98          |
| 23.1 Collection period (days)                                                                            | 73          | 76          | 78          |
| 23.2 Collection ratio (%)                                                                                | 107         | 100         | 100         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.01        | 1.14        | 1.25        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.61        | 0.56        | 0.56        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.66        | 2.03        | 2.24        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 297.00      | 292.00      | 285.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 198.00      | 190.00      | 190.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 150         | 144         | 140         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.00        | 0.92        | 3.50        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.22        | 1.30        | 1.20        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: China**

| Latest year available                                                                                    | 2010      | 2011      | 2012      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 9,640,821 | 9,640,821 | 9,640,821 |
| GNI per capita, Atlas method (current US\$)                                                              | 4,240     | 4,900     | 5,720     |
| Total population (thousands)                                                                             | 1,337,705 | 1,344,120 | 1,350,622 |
| Urban population (%)                                                                                     | 49        | 51        | 52        |
| Total urban population (thousands)                                                                       | 658,552   | 678,781   | 699,892   |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 91        | 91        | 91        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 64        | 64        | 64        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 40        | 3         | 3         |
| Population served (water), (thousands)                                                                   | 37,576    | 5,300     | 5,590     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 35,697    | 5,035     | 5,366     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 95        | 95        | 96        |
| 2.1 Sewerage coverage (%)                                                                                | 38        | 41        | 56        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 13        | 13        | 13        |
| 6.1 Nonrevenue water (%)                                                                                 | 20.00     | 22.00     | 21.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 41        | 41        | 37        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.00      | 1.00      | 1.00      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00     | 24.00     | 24.00     |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 100       | 100       | 100       |
| 23.1 Collection period (days)                                                                            | 87        | 89        | 96        |
| 23.2 Collection ratio (%)                                                                                | 74        | 73        | 77        |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.29      | 0.32      | 0.32      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.37      | 0.40      | 0.43      |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.78      | 0.80      | 0.76      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 197.00    | 200.00    | 200.00    |
| 4.1 Total water consumption (l/person/day)                                                               | 157.00    | 156.00    | 159.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 69        | 71        | 73        |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.39      | 0.37      | 0.32      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 19.86     | 20.95     | 21.50     |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.29      | 1.37      | 1.28      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Colombia**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,141,748   | 1,141,748   | 1,141,748   |
| GNI per capita, Atlas method (current US\$)                                                              | 4,640       | 5,030       | 5,460       |
| Total population (thousands)                                                                             | 45,006      | 45,654      | 46,295      |
| Urban population (%)                                                                                     | 74          | 75          | 75          |
| Total urban population (thousands)                                                                       | 33,504      | 34,118      | 34,730      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 92          | 92          | 92          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 77          | 77          | 77          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 38          | 38          | 38          |
| Population served (water), (thousands)                                                                   | 24,090      | 24,098      | 25,805      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 24,085      | 25,449      | 27,479      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 95          | 94          |
| 2.1 Sewerage coverage (%)                                                                                | 95          | 92          | 90          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | —           | 46.00       | 79.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | —           | 63          | 75          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | 0.40        | 0.30        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 23.70       | 23.80       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 115         | 94          | 100         |
| 23.1 Collection period (days)                                                                            | 51          | 36          | 106         |
| 23.2 Collection ratio (%)                                                                                | 81          | 94          | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 2.11        | 1.59        | 1.78        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.38        | 0.60        | 1.62        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.53        | 2.64        | 1.11        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | —           | 220.00      | 216.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 96.00       | 120.00      | 109.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 90          | 96          | 79          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.59        | 1.38        | 1.30        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 5.82        | 1.51        | 1.43        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Democratic Republic of Congo**

| Latest year available                                                                                    | 2003      | 2004      | 2005      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 2,344,858 | 2,344,858 | 2,344,858 |
| GNI per capita, Atlas method (current US\$)                                                              | 100       | 110       | 120       |
| Total population (thousands)                                                                             | 54,098    | 55,755    | 57,421    |
| Urban population (%)                                                                                     | 30        | 31        | 31        |
| Total urban population (thousands)                                                                       | 16,455    | 17,166    | 17,892    |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 45        | 45        | 45        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 24        | 24        | 24        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 1         | 1         | 1         |
| Population served (water), (thousands)                                                                   | 5,166     | 5,325     | 5,490     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 8,468     | 8,730     | 9,000     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 61        | 61        | 61        |
| 2.1 Sewerage coverage (%)                                                                                | 24        | 24        | 24        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —         | —         | —         |
| 6.1 Nonrevenue water (%)                                                                                 | 44.00     | 38.00     | 35.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 20        | 17        | 16        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —         | —         | —         |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 11.00     | 11.00     | 11.00     |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | —         | —         | —         |
| 23.1 Collection period (days)                                                                            | 1,327     | 2,134     | 1,834     |
| 23.2 Collection ratio (%)                                                                                | —         | —         | —         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.28      | 0.34      | 0.49      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.77      | 1.04      | 0.76      |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.36      | 0.33      | 0.64      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 112.50    | 111.29    | 104.62    |
| 4.1 Total water consumption (l/person/day)                                                               | 63.00     | 69.00     | 68.00     |
| 4.7 Residential consumption (l/person/day)                                                               | —         | —         | —         |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.44      | 7.78      | 10.13     |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —         | —         | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —         | —         | —         |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Costa Rica**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 51,100      | 51,100      | 51,100      |
| GNI per capita, Atlas method (current US\$)                                                              | 6,070       | 6,140       | 6,910       |
| Total population (thousands)                                                                             | 4,522       | 4,591       | 4,659       |
| Urban population (%)                                                                                     | 63          | 64          | 64          |
| Total urban population (thousands)                                                                       | 2,858       | 2,924       | 2,990       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 97          | 97          | 97          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 95          | 95          | 95          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 2           | 2           | 2           |
| Population served (water), (thousands)                                                                   | 2,094       | 2,147       | 2,112       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,117       | 2,162       | 2,112       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 99          | 99          | 100         |
| 2.1 Sewerage coverage (%)                                                                                | 34          | 33          | 33          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 50.00       | 48.00       | 48.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 53          | 48          | 47          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 23.50       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 97          | 98          | 97          |
| 23.1 Collection period (days)                                                                            | 12          | 24          | 25          |
| 23.2 Collection ratio (%)                                                                                | 108         | 99          | 50          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.71        | 0.77        | 1.05        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.50        | 0.62        | 0.77        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.43        | 1.24        | 1.36        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 450.00      | 424.00      | 429.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 226.00      | 221.00      | 225.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 179         | 173         | 175         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.96        | 1.01        | 1.25        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 3.42        | 3.01        | 2.99        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Côte d'Ivoire**

| Latest year available                                                                                    | 2002    | 2003    | 2004    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 322,463 | 322,463 | 322,463 |
| GNI per capita, Atlas method (current US\$)                                                              | 580     | 640     | 770     |
| Total population (thousands)                                                                             | 17,181  | 17,456  | 17,732  |
| Urban population (%)                                                                                     | 45      | 46      | 46      |
| Total urban population (thousands)                                                                       | 7,707   | 7,945   | 8,188   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 80      | 80      | 80      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 24      | 24      | 24      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 6,234   | 6,383   | 6,590   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 8,180   | 8,426   | 8,678   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 76      | 76      | 76      |
| 2.1 Sewerage coverage (%)                                                                                | 26      | 29      | 26      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 5       | 4       | 5       |
| 6.1 Nonrevenue water (%)                                                                                 | 19.00   | 20.00   | 21.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 7       | 7       | 8       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.20    | 0.20    | 0.20    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 6       | 2       | 7       |
| 23.2 Collection ratio (%)                                                                                | 95      | 95      | 94      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.50    | 0.51    | 0.65    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.51    | 0.51    | 0.63    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.99    | 1.00    | 1.04    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 65.43   | 66.25   | 67.09   |
| 4.1 Total water consumption (l/person/day)                                                               | 53.00   | 53.00   | 53.00   |
| 4.7 Residential consumption (l/person/day)                                                               | 40      | 40      | 39      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.67    | 1.54    | 1.63    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 24.28   | 29.11   | 32.03   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.03    | 1.03    | 1.04    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Croatia**

| <b>Latest year available</b>                                                                             | <b>2002</b> | <b>2003</b> | <b>2004</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 56,594      | 56,594      | 56,594      |
| GNI per capita, Atlas method (current US\$)                                                              | 5,390       | 6,390       | 8,150       |
| Total population (thousands)                                                                             | 11,175      | 11,208      | 11,235      |
| Urban population (%)                                                                                     | 56          | 56          | 56          |
| Total urban population (thousands)                                                                       | 6,254       | 6,292       | 6,292       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99          | 99          | 99          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 99          | 99          | 99          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 21          | 21          | 21          |
| Population served (water), (thousands)                                                                   | 1,747       | 1,758       | 1,758       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,894       | 1,899       | 1,903       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 92          | 93          | 93          |
| 2.1 Sewerage coverage (%)                                                                                | 75          | 76          | 76          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 10          | 10          | 10          |
| 6.1 Nonrevenue water (%)                                                                                 | 20.00       | 19.00       | 19.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 13          | 14          | 14          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 82          | 82          | 82          |
| 23.1 Collection period (days)                                                                            | 114         | 93          | 93          |
| 23.2 Collection ratio (%)                                                                                | 71          | 67          | 67          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.52        | 0.68        | 0.68        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.41        | 0.51        | 0.51        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.27        | 1.33        | 1.33        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 435.00      | 432.10      | 432.10      |
| 4.1 Total water consumption (l/person/day)                                                               | 348.00      | 350.00      | 350.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 263         | 266         | 266         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.23        | 1.36        | 1.07        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 4.00        | 9.92        | 10.92       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Czech Republic**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 78,867      | 78,867      | 78,867      |
| GNI per capita, Atlas method (current US\$)                                                              | 17,840      | 17,920      | 18,370      |
| Total population (thousands)                                                                             | 10,424      | 10,487      | 10,520      |
| Urban population (%)                                                                                     | 74          | 74          | 73          |
| Total urban population (thousands)                                                                       | 7,683       | 7,719       | 7,679       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 98          | 98          | 98          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 23          | 23          | 21          |
| Population served (water), (thousands)                                                                   | 6,632       | 6,676       | 6,127       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 6,932       | 6,959       | 6,377       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 96          | 96          | 96          |
| 2.1 Sewerage coverage (%)                                                                                | 82          | 82          | 82          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 7           | 7           | 7           |
| 6.1 Nonrevenue water (%)                                                                                 | 20.00       | 20.00       | 20.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 7           | 7           | 7           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60        | 0.60        | 0.60        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 99          | 99          | 100         |
| 23.1 Collection period (days)                                                                            | 177         | 183         | 185         |
| 23.2 Collection ratio (%)                                                                                | 98          | 97          | 97          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 2.88        | 2.41        | 2.31        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 2.44        | 2.14        | 1.80        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.17        | 1.06        | 1.25        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 220.00      | 215.00      | 209.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 177.00      | 172.00      | 167.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 96          | 94          | 91          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.04        | 0.84        | 0.77        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 134.81      | 118.09      | 106.61      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.02        | 1.02        | 1.02        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Ecuador**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 256,369     | 256,369     | 256,369     |
| GNI per capita, Atlas method (current US\$)                                                              | 3,540       | 4,070       | 4,330       |
| Total population (thousands)                                                                             | 14,057      | 14,262      | 14,465      |
| Urban population (%)                                                                                     | 66          | 66          | 67          |
| Total urban population (thousands)                                                                       | 9,216       | 9,443       | 9,672       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 94          | 94          | 94          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 92          | 92          | 92          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 2           | 1           |
| Population served (water), (thousands)                                                                   | 2,061       | 4,214       | 2,144       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,319       | 4,501       | 2,243       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 89          | 94          | 96          |
| 2.1 Sewerage coverage (%)                                                                                | 47          | 70          | 90          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | 3           |
| 6.1 Nonrevenue water (%)                                                                                 | 65.00       | 51.00       | 31.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 141         | 78          | 37          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | 0.80        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | —           | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 93          | 94          | 93          |
| 23.1 Collection period (days)                                                                            | 286         | 169         | 59          |
| 23.2 Collection ratio (%)                                                                                | 101         | 110         | 116         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.70        | 0.63        | 0.59        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.43        | 0.50        | 0.37        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.64        | 1.26        | 1.61        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | —           | 374.00      | 291.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 163.00      | 184.00      | 201.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 100         | 132         | 162         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.18        | 1.04        | 1.00        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | 22.32       | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | 1.14        | 2.22        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: El Salvador**

| <b>Latest year available</b>                                                                             | <b>2006</b> |
|----------------------------------------------------------------------------------------------------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 21,041      |
| GNI per capita, Atlas method (current US\$)                                                              | 2,990       |
| Total population (thousands)                                                                             | 6,074       |
| Urban population (%)                                                                                     | 62          |
| Total urban population (thousands)                                                                       | 3,766       |
| <b>MDGs</b>                                                                                              |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 88          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 87          |
| <b>IBNET sourced data</b>                                                                                |             |
| Number of utilities reporting in IBNET sample                                                            | 1           |
| Population served (water), (thousands)                                                                   | 3,951       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 5,382       |
| <b>Services coverage</b>                                                                                 |             |
| 1.1 Water coverage (%)                                                                                   | 73          |
| 2.1 Sewerage coverage (%)                                                                                | 39          |
| <b>Operational efficiency</b>                                                                            |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 34.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 75          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |
| 8.1 Water sold that is metered (%)                                                                       | 65          |
| 23.1 Collection period (days)                                                                            | 93          |
| 23.2 Collection ratio (%)                                                                                | 104         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.04        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.03        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.17        |
| <b>Production and consumption</b>                                                                        |             |
| 3.1 Water production (l/person/day)                                                                      | 239.39      |
| 4.1 Total water consumption (l/person/day)                                                               | 158.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 122         |
| <b>Poverty and affordability</b>                                                                         |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.08        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Arab Republic of Egypt**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,002,000   | 1,002,000   | 1,002,000   |
| GNI per capita, Atlas method (current US\$)                                                              | 1,880       | 2,270       | 2,550       |
| Total population (thousands)                                                                             | 78,323      | 79,716      | 81,121      |
| Urban population (%)                                                                                     | 43          | 43          | 43          |
| Total urban population (thousands)                                                                       | 33,864      | 34,521      | 35,186      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99          | 99          | 99          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 95          | 95          | 95          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 21          | 21          | 21          |
| Population served (water), (thousands)                                                                   | 83,134      | 77,530      | 79,211      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 83,838      | 78,332      | 80,014      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 99          | 99          | 99          |
| 2.1 Sewerage coverage (%)                                                                                | 43          | 47          | 50          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 17          | 17          | 18          |
| 6.1 Nonrevenue water (%)                                                                                 | 31.00       | 28.00       | 28.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 53          | 39          | 39          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60        | 0.80        | 0.90        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 61          | 66          | 76          |
| 23.1 Collection period (days)                                                                            | 530         | 414         | 279         |
| 23.2 Collection ratio (%)                                                                                | 92          | 86          | 84          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.14        | 0.16        | 0.19        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.15        | 0.16        | 0.18        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.98        | 1.02        | 1.13        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 237.00      | 245.00      | 253.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 164.00      | 175.00      | 183.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 119         | 122         | 126         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.45        | 0.45        | 0.50        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 5.29        | 5.25        | 6.02        |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 7.72        | 4.77        | 4.47        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Ethiopia**

| Latest year available                                                                                    | 2007      | 2008      | 2009      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 1,104,300 | 1,104,300 | 1,104,300 |
| GNI per capita, Atlas method (current US\$)                                                              | 230       | 280       | 320       |
| Total population (thousands)                                                                             | 77,718    | 79,446    | 81,188    |
| Urban population (%)                                                                                     | 16        | 16        | 17        |
| Total urban population (thousands)                                                                       | 12,530    | 12,977    | 13,433    |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 44        | 44        | 44        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 21        | 21        | 21        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 6         | 6         | 6         |
| Population served (water), (thousands)                                                                   | 3,570     | 3,696     | 3,796     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,643     | 3,742     | 3,844     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 98        | 99        | 99        |
| 2.1 Sewerage coverage (%)                                                                                | —         | —         | —         |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 39        | 36        | 45        |
| 6.1 Nonrevenue water (%)                                                                                 | 38.00     | 41.00     | 39.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 39        | 38        | 36        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.40      | 0.60      | 0.60      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 16.30     | 17.00     | 16.30     |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 100       | 100       | 100       |
| 23.1 Collection period (days)                                                                            | 39        | 34        | 23        |
| 23.2 Collection ratio (%)                                                                                | 102       | 93        | 104       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.39      | 0.42      | 0.31      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.14      | 0.18      | 0.15      |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.75      | 2.28      | 2.05      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 76.00     | 78.00     | 81.00     |
| 4.1 Total water consumption (l/person/day)                                                               | 47.00     | 46.00     | 49.00     |
| 4.7 Residential consumption (l/person/day)                                                               | 32        | 24        | 28        |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 2.91      | 2.52      | 1.73      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —         | —         | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 3.58      | 0.41      | 0.35      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Fiji**

| <b>Latest year available</b>                                                                             | <b>2012</b> | <b>2013</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 18,270      | 18,270      |
| GNI per capita, Atlas method (current US\$)                                                              | 4,110       | 4,200       |
| Total population (thousands)                                                                             | 877         | 885         |
| Urban population (%)                                                                                     | 53          | 53          |
| Total urban population (thousands)                                                                       | 461         | 469         |
| <b>MDGs</b>                                                                                              |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98          | 98          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 83          | 83          |
| <b>IBNET sourced data</b>                                                                                |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           |
| Population served (water), (thousands)                                                                   | 600         | 660         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 520         | 600         |
| <b>Services coverage</b>                                                                                 |             |             |
| 1.1 Water coverage (%)                                                                                   | 87          | 98          |
| 2.1 Sewerage coverage (%)                                                                                | 37          | 21          |
| <b>Operational efficiency</b>                                                                            |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 23          | 38          |
| 6.1 Nonrevenue water (%)                                                                                 | 50.00       | 51.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 47          | 43          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 19.00       |
| <b>Financial efficiency</b>                                                                              |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 478         | 525         |
| 23.2 Collection ratio (%)                                                                                | 94          | 94          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.26        | 0.27        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.63        | 0.60        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.42        | 0.45        |
| <b>Production and consumption</b>                                                                        |             |             |
| 3.1 Water production (l/person/day)                                                                      | 589.00      | 506.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 294.00      | 247.00      |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.68        | 0.58        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | 210.64      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00        | 1.00        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Gabon**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 267,668 | 267,668 | 267,668 |
| GNI per capita, Atlas method (current US\$)                                                              | 6,470   | 7,500   | 7,860   |
| Total population (thousands)                                                                             | 1,424   | 1,450   | 1,478   |
| Urban population (%)                                                                                     | 84      | 85      | 85      |
| Total urban population (thousands)                                                                       | 1,202   | 1,231   | 1,261   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 87      | 87      | 87      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 33      | 33      | 33      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 932     | 932     | 933     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,218   | 1,218   | 1,222   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 77      | 77      | 76      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 36      | 33      | 23      |
| 6.1 Nonrevenue water (%)                                                                                 | 18.00   | 21.00   | 23.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 20      | 24      | 27      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.60    | 1.60    | 1.60    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 85      | 87      | 89      |
| 23.2 Collection ratio (%)                                                                                | 98      | 98      | 98      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.66    | 0.73    | 0.73    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.21    | 0.25    | 0.27    |
| 24.1 Operating cost coverage (ratio)                                                                     | 3.05    | 2.92    | 2.68    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 218.00  | 228.00  | 238.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 178.00  | 181.00  | 184.00  |
| 4.7 Residential consumption (l/person/day)                                                               | —       | —       | —       |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.66    | 0.64    | 0.62    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | —       | —       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: The Gambia**

| <b>Latest year available</b>                                                                             | <b>2005</b> |
|----------------------------------------------------------------------------------------------------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 11,295      |
| GNI per capita, Atlas method (current US\$)                                                              | 390         |
| Total population (thousands)                                                                             | 1,504       |
| Urban population (%)                                                                                     | 53          |
| Total urban population (thousands)                                                                       | 799         |
| <b>MDGs</b>                                                                                              |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 89          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 68          |
| <b>IBNET sourced data</b>                                                                                |             |
| Number of utilities reporting in IBNET sample                                                            | 1           |
| Population served (water), (thousands)                                                                   | 626         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 821         |
| <b>Services coverage</b>                                                                                 |             |
| 1.1 Water coverage (%)                                                                                   | 76          |
| 2.1 Sewerage coverage (%)                                                                                | 5           |
| <b>Operational efficiency</b>                                                                            |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 17.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 25          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | —           |
| <b>Financial efficiency</b>                                                                              |             |
| 8.1 Water sold that is metered (%)                                                                       | —           |
| 23.1 Collection period (days)                                                                            | —           |
| 23.2 Collection ratio (%)                                                                                | 94          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.26        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.33        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.79        |
| <b>Production and consumption</b>                                                                        |             |
| 3.1 Water production (l/person/day)                                                                      | 68.67       |
| 4.1 Total water consumption (l/person/day)                                                               | 57.00       |
| 4.7 Residential consumption (l/person/day)                                                               | —           |
| <b>Poverty and affordability</b>                                                                         |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.39        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Georgia**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2007</b> | <b>2008</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 69,700      | 69,700      | 69,700      |
| GNI per capita, Atlas method (current US\$)                                                              | 1,680       | 2,090       | 2,460       |
| Total population (thousands)                                                                             | 4,398       | 4,388       | 4,384       |
| Urban population (%)                                                                                     | 53          | 53          | 53          |
| Total urban population (thousands)                                                                       | 2,312       | 2,311       | 2,312       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98          | 98          | 98          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 95          | 95          | 95          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 14          | 14          | 14          |
| Population served (water), (thousands)                                                                   | 1,230       | 1,242       | 1,260       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,301       | 1,303       | 1,318       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 95          | 95          | 96          |
| 2.1 Sewerage coverage (%)                                                                                | 84          | 83          | 82          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 14          | 15          | 18          |
| 6.1 Nonrevenue water (%)                                                                                 | 43.00       | 43.00       | 46.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 126         | 131         | 129         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 2.60        | 2.50        | 2.60        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 14.07       | 14.71       | 14.71       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 8           | 8           | 8           |
| 23.1 Collection period (days)                                                                            | 207         | 152         | 92          |
| 23.2 Collection ratio (%)                                                                                | 105         | 98          | 114         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.09        | 0.13        | 0.14        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.18        | 0.14        | 0.14        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.50        | 0.95        | 0.98        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 1,201.75    | 1,231.58    | 1,025.93    |
| 4.1 Total water consumption (l/person/day)                                                               | 685.00      | 702.00      | 554.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 603         | 619         | 616         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.34        | 1.59        | 1.15        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 4.94        | 7.49        | 7.77        |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 36.38       | 47.78       | 45.44       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Ghana**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 238,539     | 238,539     | 238,539     |
| GNI per capita, Atlas method (current US\$)                                                              | 810         | 1,160       | 1,200       |
| Total population (thousands)                                                                             | 22,712      | 23,264      | 23,824      |
| Urban population (%)                                                                                     | 49          | 50          | 51          |
| Total urban population (thousands)                                                                       | 11,152      | 11,587      | 12,034      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 86          | 86          | 86          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 14          | 14          | 14          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 6,249       | 6,569       | 6,655       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 11,300      | 11,900      | 12,100      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 55          | 55          | 55          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 52.00       | 52.00       | 52.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 40          | 41          | 42          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | —           |
| 23.1 Collection period (days)                                                                            | 363         | 369         | 372         |
| 23.2 Collection ratio (%)                                                                                | 90          | 91          | 79          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.74        | 0.87        | 0.63        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.61        | 0.76        | 0.54        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.21        | 1.15        | 1.16        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 96.00       | 93.00       | 95.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 46.00       | 45.00       | 46.00       |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.53        | 1.23        | 0.88        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00        | 1.00        | 1.00        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Guinea**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 245,857 | 245,857 | 245,857 |
| GNI per capita, Atlas method (current US\$)                                                              | 330     | 340     | 390     |
| Total population (thousands)                                                                             | 9,374   | 9,559   | 9,761   |
| Urban population (%)                                                                                     | 34      | 34      | 35      |
| Total urban population (thousands)                                                                       | 3,158   | 3,261   | 3,372   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 74      | 74      | 74      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 18      | 18      | 18      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 3,243   | 3,401   | 3,530   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 4,580   | 4,731   | 4,920   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 71      | 72      | 72      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 6       | 10      | 9       |
| 6.1 Nonrevenue water (%)                                                                                 | 50.00   | 46.00   | 43.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 11      | 13      | 13      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —       | —       | —       |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 8.00    | 8.00    | 10.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 89      | 92      | 93      |
| 23.1 Collection period (days)                                                                            | —       | —       | —       |
| 23.2 Collection ratio (%)                                                                                | 77      | 64      | 72      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.56    | 0.59    | 0.65    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.07    | 0.75    | 0.68    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.52    | 0.79    | 0.96    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 30.00   | 37.04   | 40.35   |
| 4.1 Total water consumption (l/person/day)                                                               | 15.00   | 20.00   | 23.00   |
| 4.7 Residential consumption (l/person/day)                                                               | 8       | 9       | 9       |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.93    | 1.27    | 1.40    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 21.23   | 32.08   | 39.28   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Hungary**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2007</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 93,028      | 93,028      |
| GNI per capita, Atlas method (current US\$)                                                              | 11,040      | 11,510      |
| Total population (thousands)                                                                             | 10,071      | 10,056      |
| Urban population (%)                                                                                     | 67          | 67          |
| Total urban population (thousands)                                                                       | 6,718       | 6,747       |
| <b>MDGs</b>                                                                                              |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100         | 100         |
| <b>IBNET sourced data</b>                                                                                |             |             |
| Number of utilities reporting in IBNET sample                                                            | 20          | 20          |
| Population served (water), (thousands)                                                                   | 4,853       | 4,853       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 4,902       | 4,902       |
| <b>Services coverage</b>                                                                                 |             |             |
| 1.1 Water coverage (%)                                                                                   | 99          | 99          |
| 2.1 Sewerage coverage (%)                                                                                | 70          | 70          |
| <b>Operational efficiency</b>                                                                            |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 10          | 11          |
| 6.1 Nonrevenue water (%)                                                                                 | 41.00       | 51.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 15          | 14          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90        | 0.90        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 45          | 49          |
| 23.2 Collection ratio (%)                                                                                | 94          | 101         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.37        | 1.64        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.33        | 1.51        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.03        | 1.09        |
| <b>Production and consumption</b>                                                                        |             |             |
| 3.1 Water production (l/person/day)                                                                      | 233.90      | 238.78      |
| 4.1 Total water consumption (l/person/day)                                                               | 138.00      | 117.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 109         | 110         |
| <b>Poverty and affordability</b>                                                                         |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.63        | 0.61        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 77.95       | 99.80       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.32        | 1.22        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: India**

| Latest year available                                                                                    | 2009      |
|----------------------------------------------------------------------------------------------------------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 3,287,240 |
| GNI per capita, Atlas method (current US\$)                                                              | 1,170     |
| Total population (thousands)                                                                             | 1,207,740 |
| Urban population (%)                                                                                     | 31        |
| Total urban population (thousands)                                                                       | 374,400   |
| <b>MDGs</b>                                                                                              |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 92        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 34        |
| <b>IBNET sourced data</b>                                                                                |           |
| Number of utilities reporting in IBNET sample                                                            | 28        |
| Population served (water), (thousands)                                                                   | 57,401    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 56,838    |
| <b>Services coverage</b>                                                                                 |           |
| 1.1 Water coverage (%)                                                                                   | 100       |
| 2.1 Sewerage coverage (%)                                                                                | 23        |
| <b>Operational efficiency</b>                                                                            |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 43        |
| 6.1 Nonrevenue water (%)                                                                                 | 41.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 119       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 5.20      |
| <b>Financial efficiency</b>                                                                              |           |
| 8.1 Water sold that is metered (%)                                                                       | 39        |
| 23.1 Collection period (days)                                                                            | —         |
| 23.2 Collection ratio (%)                                                                                | 82        |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.15      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.28      |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.55      |
| <b>Production and consumption</b>                                                                        |           |
| 3.1 Water production (l/person/day)                                                                      | 194.00    |
| 4.1 Total water consumption (l/person/day)                                                               | 114.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 83        |
| <b>Poverty and affordability</b>                                                                         |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.53      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 9.32      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Indonesia**

| <b>Latest year available</b>                                                                             | <b>2002</b> | <b>2003</b> | <b>2004</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,860,360   | 1,860,360   | 1,860,360   |
| GNI per capita, Atlas method (current US\$)                                                              | 720         | 890         | 1,070       |
| Total population (thousands)                                                                             | 219,026     | 221,839     | 224,607     |
| Urban population (%)                                                                                     | 44          | 44          | 45          |
| Total urban population (thousands)                                                                       | 95,443      | 98,415      | 101,410     |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 82          | 82          | 82          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 54          | 54          | 54          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 14          | 14          | 7           |
| Population served (water), (thousands)                                                                   | 4,729       | 5,308       | 1,952       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 10,530      | 10,874      | 2,571       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 45          | 49          | 76          |
| 2.1 Sewerage coverage (%)                                                                                | 11          | 12          | 15          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 17          | 17          | 17          |
| 6.1 Nonrevenue water (%)                                                                                 | 30.00       | 30.00       | 30.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 36          | 37          | 28          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.10        | 1.00        | 1.00        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 19.14       | 19.79       | 19.86       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 46          | 55          | 56          |
| 23.2 Collection ratio (%)                                                                                | 111         | 110         | 110         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.14        | 0.18        | 0.20        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.12        | 0.15        | 0.15        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.22        | 1.21        | 1.39        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 215.71      | 202.86      | 185.71      |
| 4.1 Total water consumption (l/person/day)                                                               | 151.00      | 142.00      | 130.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 133         | 123         | 117         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.07        | 1.05        | 0.89        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Jordan**

| Latest year available                                                                                    | 2008   | 2009   | 2010   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 89,342 | 89,342 | 89,342 |
| GNI per capita, Atlas method (current US\$)                                                              | 3,530  | 3,900  | 4,140  |
| Total population (thousands)                                                                             | 5,787  | 5,915  | 6,047  |
| Urban population (%)                                                                                     | 82     | 82     | 82     |
| Total urban population (thousands)                                                                       | 4,743  | 4,863  | 4,987  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 97     | 97     | 97     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 98     | 98     | 98     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 3      | 4      | 4      |
| Population served (water), (thousands)                                                                   | 4,335  | 6,087  | 6,268  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 4,346  | 6,109  | 6,264  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 100    | 100    | 100    |
| 2.1 Sewerage coverage (%)                                                                                | 73     | 71     | 73     |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 33     | 33     | 34     |
| 6.1 Nonrevenue water (%)                                                                                 | 43.00  | 42.00  | 36.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 16     | 15     | 15     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.80   | 0.80   | 0.80   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 9.00   | 8.80   | 8.80   |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 94     | 94     | 94     |
| 23.1 Collection period (days)                                                                            | 856    | 918    | 683    |
| 23.2 Collection ratio (%)                                                                                | 115    | 121    | 109    |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.73   | 0.71   | 0.69   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.85   | 0.80   | 0.70   |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.85   | 0.89   | 0.99   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 164.00 | 150.00 | 152.00 |
| 4.1 Total water consumption (l/person/day)                                                               | 94.00  | 86.00  | 97.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 63     | 64     | 73     |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.71   | 0.57   | 0.59   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 25.97  | 25.97  | 25.97  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.46   | 2.55   | 2.51   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Kazakhstan**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 2,724,900   | 2,724,900   | 2,724,900   |
| GNI per capita, Atlas method (current US\$)                                                              | 6,150       | 6,790       | 7,440       |
| Total population (thousands)                                                                             | 15,674      | 16,093      | 16,323      |
| Urban population (%)                                                                                     | 54          | 54          | 54          |
| Total urban population (thousands)                                                                       | 8,484       | 8,679       | 8,771       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 95          | 95          | 95          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 97          | 97          | 97          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 24          | 24          | 25          |
| Population served (water), (thousands)                                                                   | 5,072       | 5,125       | 5,306       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 7,592       | 7,736       | 7,838       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 81          | 79          | 81          |
| 2.1 Sewerage coverage (%)                                                                                | 61          | 62          | 63          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 33          | 29          | 29          |
| 6.1 Nonrevenue water (%)                                                                                 | 34.00       | 35.00       | 31.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 82          | 78          | 59          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.40        | 1.50        | 1.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 42          | 46          | 47          |
| 23.1 Collection period (days)                                                                            | 66          | 130         | 163         |
| 23.2 Collection ratio (%)                                                                                | 101         | 85          | 92          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.20        | 0.27        | 0.34        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.25        | 0.28        | 0.33        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.80        | 0.97        | 1.02        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 485.00      | 471.00      | 416.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 318.00      | 304.00      | 286.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 130         | 132         | 129         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.38        | 0.44        | 0.48        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 30.05       | 30.99       | 37.83       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 0.90        | 1.54        | 1.74        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Kenya**

| Latest year available                                                                                    | 2009    | 2010    |
|----------------------------------------------------------------------------------------------------------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 580,367 | 580,367 |
| GNI per capita, Atlas method (current US\$)                                                              | 780     | 800     |
| Total population (thousands)                                                                             | 39,462  | 40,513  |
| Urban population (%)                                                                                     | 23      | 24      |
| Total urban population (thousands)                                                                       | 9,152   | 9,549   |
| <b>MDGs</b>                                                                                              |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 59      | 59      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 32      | 32      |
| <b>IBNET sourced data</b>                                                                                |         |         |
| Number of utilities reporting in IBNET sample                                                            | 48      | 62      |
| Population served (water), (thousands)                                                                   | 7,231   | 8,111   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 15,025  | 20,469  |
| <b>Services coverage</b>                                                                                 |         |         |
| 1.1 Water coverage (%)                                                                                   | 48      | 39      |
| 2.1 Sewerage coverage (%)                                                                                | 15      | 15      |
| <b>Operational efficiency</b>                                                                            |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —       | —       |
| 6.1 Nonrevenue water (%)                                                                                 | 43.00   | 45.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 108     | 103     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.70    | 0.70    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 11.00   | 13.60   |
| <b>Financial efficiency</b>                                                                              |         |         |
| 8.1 Water sold that is metered (%)                                                                       | —       | —       |
| 23.1 Collection period (days)                                                                            | 64      | 4       |
| 23.2 Collection ratio (%)                                                                                | 84      | 82      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.57    | 0.72    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.60    | 0.75    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.93    | 0.95    |
| <b>Production and consumption</b>                                                                        |         |         |
| 3.1 Water production (l/person/day)                                                                      | 110.00  | 102.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 62.00   | 56.00   |
| 4.7 Residential consumption (l/person/day)                                                               | —       | 36      |
| <b>Poverty and affordability</b>                                                                         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.65    | 1.84    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | —       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Kiribati**

| Latest year available                                                                                    | 2011      | 2012      | 2013      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 811       | 811       | 811       |
| GNI per capita, Atlas method (current US\$)                                                              | 2,100     | 2,520     | 2,600     |
| Total population (thousands)                                                                             | 101       | 102       | 104       |
| Urban population (%)                                                                                     | 44        | 44        | 44        |
| Total urban population (thousands)                                                                       | 44        | 45        | 46        |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 77 (2000) | 77 (2000) | 77 (2000) |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 44        | 44        | 44        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 1         | 1         | 1         |
| Population served (water), (thousands)                                                                   | 50        | 50        | 51        |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 30        | 31        | 34        |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 60        | 62        | 67        |
| 2.1 Sewerage coverage (%)                                                                                | 53        | 26        | 32        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 32        | —         | —         |
| 6.1 Nonrevenue water (%)                                                                                 | 31.00     | 75.00     | 81.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 4         | 10        | 11        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —         | —         | —         |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 4.00      | 2.00      | 2.00      |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | —         | 22        | 100       |
| 23.1 Collection period (days)                                                                            | 177       | 1,812     | 1,896     |
| 23.2 Collection ratio (%)                                                                                | 14        | 95        | 23        |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 2.22      | 4.32      | 6.00      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.25      | 6.33      | 7.07      |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.78      | 0.68      | 0.85      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 54.00     | 62.00     | 58.00     |
| 4.1 Total water consumption (l/person/day)                                                               | 37.00     | 16.00     | 11.00     |
| 4.7 Residential consumption (l/person/day)                                                               | —         | —         | —         |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.43      | 1.00      | 0.93      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 119.92    | —         | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —         | —         | —         |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Kuwait**

| Latest year available                                                                                    | 2008     | 2009     | 2010     |
|----------------------------------------------------------------------------------------------------------|----------|----------|----------|
| Surface area (km <sup>2</sup> )                                                                          | 17,820   | 17,820   | 17,820   |
| GNI per capita, Atlas method (current US\$)                                                              | 54,540   | 45,480   | 44,100   |
| Total population (thousands)                                                                             | 2,548    | 2,646    | 2,737    |
| Urban population (%)                                                                                     | 98       | 98       | 98       |
| Total urban population (thousands)                                                                       | 2,503    | 2,599    | 2,689    |
| <b>MDGs</b>                                                                                              |          |          |          |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99       | 99       | 99       |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100      | 100      | 100      |
| <b>IBNET sourced data</b>                                                                                |          |          |          |
| Number of utilities reporting in IBNET sample                                                            | 1        | 1        | 1        |
| Population served (water), (thousands)                                                                   | 3,400    | 3,442    | 3,485    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,400    | 3,442    | 3,485    |
| <b>Services coverage</b>                                                                                 |          |          |          |
| 1.1 Water coverage (%)                                                                                   | 100      | 100      | 100      |
| 2.1 Sewerage coverage (%)                                                                                | 100      | 100      | 100      |
| <b>Operational efficiency</b>                                                                            |          |          |          |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 91       | 91       | 92       |
| 6.1 Nonrevenue water (%)                                                                                 | —        | —        | —        |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | —        | —        | —        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.70     | 0.90     | 1.30     |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00    | 24.00    | 24.00    |
| <b>Financial efficiency</b>                                                                              |          |          |          |
| 8.1 Water sold that is metered (%)                                                                       | 62       | 30       | 35       |
| 23.1 Collection period (days)                                                                            | —        | —        | —        |
| 23.2 Collection ratio (%)                                                                                | 100      | 100      | 100      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.38     | 0.18     | 0.30     |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 4.20     | 1.06     | 2.84     |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.09     | 0.09     | 0.11     |
| <b>Production and consumption</b>                                                                        |          |          |          |
| 3.1 Water production (l/person/day)                                                                      | 1,116.00 | 2,297.00 | 1,976.00 |
| 4.1 Total water consumption (l/person/day)                                                               | 1,116.00 | 2,297.00 | 1,976.00 |
| 4.7 Residential consumption (l/person/day)                                                               | 538      | 532      | 502      |
| <b>Poverty and affordability</b>                                                                         |          |          |          |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.28     | 0.33     | 0.49     |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 48.20    | 44.32    | 43.71    |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 54.49    | 26.67    | 15.55    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Kyrgyz Republic**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2010</b> | <b>2011</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 199,951     | 199,951     | 199,951     |
| GNI per capita, Atlas method (current US\$)                                                              | 500         | 840         | 900         |
| Total population (thousands)                                                                             | 5,218       | 5,268       | 5,319       |
| Urban population (%)                                                                                     | 35          | 35          | 35          |
| Total urban population (thousands)                                                                       | 1,826       | 1,844       | 1,862       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 90          | 90          | 90          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 93          | 93          | 93          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 9           | 5           | 5           |
| Population served (water), (thousands)                                                                   | 1,376       | 1,333       | 1,387       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 669         | 1,082       | 1,124       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 56          | 69          | 68          |
| 2.1 Sewerage coverage (%)                                                                                | 15          | 23          | 24          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 36          | 26          | 22          |
| 6.1 Nonrevenue water (%)                                                                                 | 70.00       | 76.00       | 77.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 83          | 196         | 198         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.80        | 1.50        | 1.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 23.60       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 10          | 31          | 33          |
| 23.1 Collection period (days)                                                                            | 514         | 167         | 169         |
| 23.2 Collection ratio (%)                                                                                | 58          | 95          | 99          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.11        | 0.12        | 0.15        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.11        | 0.11        | 0.12        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.03        | 1.09        | 1.21        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 453.00      | 747.00      | 771.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 137.00      | 176.00      | 180.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 64          | 122         | 121         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.10        | 0.92        | 1.10        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 6.60        | 11.96       | 12.27       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.97        | 5.77        | 3.78        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Lao People's Democratic Republic**

| Latest year available                                                                                    | 2006    | 2007    | 2008    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 236,800 | 236,800 | 236,800 |
| GNI per capita, Atlas method (current US\$)                                                              | 510     | 620     | 760     |
| Total population (thousands)                                                                             | 5,842   | 5,931   | 6,022   |
| Urban population (%)                                                                                     | 29      | 30      | 31      |
| Total urban population (thousands)                                                                       | 1,668   | 1,763   | 1,860   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 67      | 67      | 67      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 63      | 63      | 63      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 2       | 10      | 2       |
| Population served (water), (thousands)                                                                   | 321     | 596     | 57      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 658     | 1,055   | 66      |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 49      | 56      | 87      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 15      | 11      | 16      |
| 6.1 Nonrevenue water (%)                                                                                 | 27.00   | 26.00   | 21.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 47      | 26      | 46      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.60    | 1.60    | 2.20    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 77      | 101     | 49      |
| 23.2 Collection ratio (%)                                                                                | —       | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.09    | 0.13    | 0.15    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.15    | 0.24    | 0.14    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.58    | 0.54    | 1.07    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 375.34  | 336.49  | 316.46  |
| 4.1 Total water consumption (l/person/day)                                                               | 274.00  | 249.00  | 250.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 223     | 197     | 154     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.76    | 1.91    | 1.80    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 4.02    | 3.45    | 2.12    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Lesotho**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2007</b> | <b>2008</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 30,355      | 30,355      | 30,355      |
| GNI per capita, Atlas method (current US\$)                                                              | 910         | 950         | 1,050       |
| Total population (thousands)                                                                             | 2,086       | 2,106       | 2,127       |
| Urban population (%)                                                                                     | 24          | 25          | 25          |
| Total urban population (thousands)                                                                       | 501         | 521         | 542         |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 78          | 78          | 78          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 26          | 26          | 26          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 259         | 300         | 394         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 550         | 560         | 571         |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 47          | 54          | 69          |
| 2.1 Sewerage coverage (%)                                                                                | 9           | 13          | 16          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 28.00       | 30.00       | 28.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 39          | 43          | 40          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | —           |
| 23.1 Collection period (days)                                                                            | 210         | 226         | 234         |
| 23.2 Collection ratio (%)                                                                                | —           | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.80        | 0.96        | 0.88        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.71        | 0.79        | 0.85        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.13        | 1.21        | 1.04        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 161.11      | 141.43      | 106.94      |
| 4.1 Total water consumption (l/person/day)                                                               | 116.00      | 99.00       | 77.00       |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 3.72        | 3.65        | 2.36        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Liberia**

| Latest year available                                                                                    | 2004    | 2005    | 2006    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 111,369 | 111,369 | 111,369 |
| GNI per capita, Atlas method (current US\$)                                                              | 90      | 120     | 140     |
| Total population (thousands)                                                                             | 3,093   | 3,183   | 3,314   |
| Urban population (%)                                                                                     | 46      | 46      | 46      |
| Total urban population (thousands)                                                                       | 1,414   | 1,466   | 1,538   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 73      | 73      | 73      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 18      | 18      | 18      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 350     | 350     | 350     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,500   | 1,500   | 1,200   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 23      | 23      | 29      |
| 2.1 Sewerage coverage (%)                                                                                | 10      | 10      | 17      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —       | —       | —       |
| 6.1 Nonrevenue water (%)                                                                                 | 7.00    | 29.00   | 49.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 1       | 4       | 10      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.10    | 0.20    | 0.20    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 6.00    | 6.00    | 12.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | —       | —       | 95      |
| 23.1 Collection period (days)                                                                            | 80      | 133     | 127     |
| 23.2 Collection ratio (%)                                                                                | 57      | 63      | 75      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.15    | 1.15    | 1.22    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.91    | 1.17    | 1.17    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.26    | 0.98    | 1.05    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 7.53    | 8.45    | 11.76   |
| 4.1 Total water consumption (l/person/day)                                                               | 7.00    | 6.00    | 6.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 1       | 1       | 1       |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 3.26    | 2.10    | 1.91    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 44.59   | 45.33   | 48.00   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 4.15    | 3.40    | 2.54    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Lithuania**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 65,200      | 65,200      | 65,200      |
| GNI per capita, Atlas method (current US\$)                                                              | 12,000      | 11,700      | 11,620      |
| Total population (thousands)                                                                             | 3,358       | 3,339       | 3,287       |
| Urban population (%)                                                                                     | 67          | 67          | 67          |
| Total urban population (thousands)                                                                       | 2,250       | 2,237       | 2,202       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98          | 98          | 98          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 95          | 95          | 95          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 27          | 26          | 26          |
| Population served (water), (thousands)                                                                   | 1,453       | 1,462       | 1,449       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,813       | 1,821       | 1,788       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 80          | 80          | 82          |
| 2.1 Sewerage coverage (%)                                                                                | 73          | 74          | 76          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 15          | 16          | 19          |
| 6.1 Nonrevenue water (%)                                                                                 | 23.00       | 24.00       | 24.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 8           | 8           | 7           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90        | 0.80        | 0.80        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 99          | 99          | 99          |
| 23.1 Collection period (days)                                                                            | 77          | 119         | 115         |
| 23.2 Collection ratio (%)                                                                                | 103         | 103         | 105         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.91        | 1.78        | 1.58        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.49        | 1.42        | 1.28        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.29        | 1.22        | 1.22        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 164.00      | 152.00      | 150.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 126.00      | 115.00      | 113.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 79          | 74          | 72          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.73        | 0.64        | 0.56        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 161.29      | 151.80      | 136.72      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.07        | 2.26        | 2.23        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Former Yugoslav Republic of Macedonia**

| Latest year available                                                                                    | 2010   | 2011   | 2012   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 25,713 | 25,713 | 25,713 |
| GNI per capita, Atlas method (current US\$)                                                              | 4,580  | 4,710  | 4,620  |
| Total population (thousands)                                                                             | 2,061  | 2,064  | 2,068  |
| Urban population (%)                                                                                     | 59     | 59     | 59     |
| Total urban population (thousands)                                                                       | 1,220  | 1,224  | 1,228  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100    | 100    | 100    |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 59     | 59     | 59     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 13     | 27     | 24     |
| Population served (water), (thousands)                                                                   | 746    | 750    |        |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 781    | 785    |        |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 96     | 95     | 91     |
| 2.1 Sewerage coverage (%)                                                                                | 84     | 84     | 73     |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 14     | 13     | 9      |
| 6.1 Nonrevenue water (%)                                                                                 | 60.00  | 60.00  | 64.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 114    | 109    | 103    |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.10   | 1.00   | 1.00   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00  | 24.00  | 23.80  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 93     | 94     | 96     |
| 23.1 Collection period (days)                                                                            | 501    | 487    | 730    |
| 23.2 Collection ratio (%)                                                                                | 96     | 97     | 87     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.61   | 0.71   | 0.82   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.33   | 0.44   | 0.75   |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.82   | 1.61   | 1.08   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 471.00 | 464.00 | 43.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 187.00 | 186.00 | 158.00 |
| 4.7 Residential consumption (l/person/day)                                                               | 134    | 134    | 115    |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.91   | 1.02   | 1.02   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 36.92  | 47.26  | 37.82  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.01   | 1.98   | 1.30   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Macao SAR, China**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 29          | 29          | 29          |
| GNI per capita, Atlas method (current US\$)                                                              | 33,640      | 36,660      | 46,400      |
| Total population (thousands)                                                                             | 518         | 531         | 544         |
| Urban population (%)                                                                                     | 100         | 100         | 100         |
| Total urban population (thousands)                                                                       | 518         | 531         | 544         |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | —           | —           | —           |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | —           | —           | —           |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 549         | 540         | 552         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 549         | 540         | 552         |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 100         | 100         |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 11          | 11          | 10          |
| 6.1 Nonrevenue water (%)                                                                                 | 13.00       | 13.00       | 13.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 56          | 55          | 54          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.40        | 0.50        | 0.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 26          | 34          | 35          |
| 23.2 Collection ratio (%)                                                                                | 100         | 101         | 100         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.57        | 0.58        | 0.58        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.44        | 0.44        | 0.49        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.28        | 1.33        | 1.17        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 387.00      | 396.00      | 381.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 339.00      | 345.00      | 333.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 160         | 162         | 154         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.21        | 0.20        | 0.15        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 39.91       | 40.32       | 40.23       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.10        | 1.11        | 1.09        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Madagascar**

| Latest year available                                                                                    | 2003    | 2004    | 2005    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 587,041 | 587,041 | 587,041 |
| GNI per capita, Atlas method (current US\$)                                                              | 290     | 300     | 300     |
| Total population (thousands)                                                                             | 16,842  | 17,358  | 17,886  |
| Urban population (%)                                                                                     | 28      | 28      | 29      |
| Total urban population (thousands)                                                                       | 4,706   | 4,898   | 5,098   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 46      | 46      | 46      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 15      | 15      | 15      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 843     | 895     | 932     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 961     | 986     | 1,032   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 88      | 91      | 90      |
| 2.1 Sewerage coverage (%)                                                                                | 20      | 20      | 20      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —       | —       | —       |
| 6.1 Nonrevenue water (%)                                                                                 | 36.00   | 33.00   | 34.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 34      | 29      | 30      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —       | —       | —       |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | —       | —       | —       |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | —       | —       | —       |
| 23.1 Collection period (days)                                                                            | —       | —       | —       |
| 23.2 Collection ratio (%)                                                                                | —       | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | —       | —       | —       |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | —       | —       | —       |
| 24.1 Operating cost coverage (ratio)                                                                     | —       | —       | —       |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 304.69  | 286.57  | 283.33  |
| 4.1 Total water consumption (l/person/day)                                                               | 195.00  | 192.00  | 187.00  |
| 4.7 Residential consumption (l/person/day)                                                               | —       | —       | —       |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | —       | —       | —       |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | —       | —       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Malawi**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 118,484 | 118,484 | 118,484 |
| GNI per capita, Atlas method (current US\$)                                                              | 250     | 290     | 320     |
| Total population (thousands)                                                                             | 13,589  | 14,005  | 14,442  |
| Urban population (%)                                                                                     | 15      | 15      | 15      |
| Total urban population (thousands)                                                                       | 2,038   | 2,101   | 2,166   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 83      | 83      | 83      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 51      | 51      | 51      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 5       | 5       | 5       |
| Population served (water), (thousands)                                                                   | 1,688   | 1,773   | 1,871   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,478   | 2,545   | 2,623   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 68      | 70      | 71      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 31      | 23      | 22      |
| 6.1 Nonrevenue water (%)                                                                                 | 40.00   | 36.00   | 40.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 24      | 20      | 23      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.10    | 1.00    | 1.00    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 19.40   | 19.60   | 21.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 199     | 199     | 195     |
| 23.2 Collection ratio (%)                                                                                | 68      | 83      | 86      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.56    | 0.62    | 0.70    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.53    | 0.63    | 0.65    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.09    | 1.05    | 1.15    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 126.00  | 119.00  | 125.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 76.00   | 76.00   | 75.00   |
| 4.7 Residential consumption (l/person/day)                                                               | 35      | 37      | 36      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.21    | 5.93    | 5.99    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.42    | 1.72    | 1.14    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Malaysia**

| <b>Latest year available</b>                                                                             | <b>2007</b> |
|----------------------------------------------------------------------------------------------------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 330,803     |
| GNI per capita, Atlas method (current US\$)                                                              | 6,550       |
| Total population (thousands)                                                                             | 27,051      |
| Urban population (%)                                                                                     | 69          |
| Total urban population (thousands)                                                                       | 18,784      |
| <b>MDGs</b>                                                                                              |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 96          |
| <b>IBNET sourced data</b>                                                                                |             |
| Number of utilities reporting in IBNET sample                                                            | 7           |
| Population served (water), (thousands)                                                                   | 15,154      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 16,093      |
| <b>Services coverage</b>                                                                                 |             |
| 1.1 Water coverage (%)                                                                                   | 94          |
| 2.1 Sewerage coverage (%)                                                                                | —           |
| <b>Operational efficiency</b>                                                                            |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 7           |
| 6.1 Nonrevenue water (%)                                                                                 | 34.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 44          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         |
| 23.1 Collection period (days)                                                                            | 365         |
| 23.2 Collection ratio (%)                                                                                | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.40        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.35        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.15        |
| <b>Production and consumption</b>                                                                        |             |
| 3.1 Water production (l/person/day)                                                                      | 535.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 351.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 227         |
| <b>Poverty and affordability</b>                                                                         |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.78        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 8.53        |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.69        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Mali**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,240,192   | 1,240,192   | 1,240,192   |
| GNI per capita, Atlas method (current US\$)                                                              | 470         | 520         | 620         |
| Total population (thousands)                                                                             | 14,021      | 14,460      | 14,910      |
| Urban population (%)                                                                                     | 32          | 33          | 34          |
| Total urban population (thousands)                                                                       | 4,538       | 4,772       | 5,016       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 64          | 64          | 64          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 22          | 22          | 22          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 1,968       | 2,076       | 2,212       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,815       | 2,958       | 3,107       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 70          | 70          | 71          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 34          | 23          | 29          |
| 6.1 Nonrevenue water (%)                                                                                 | 26.00       | 26.00       | 27.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 18          | 19          | 20          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.30        | 0.20        | 0.20        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | 100         | 96          | 99          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.64        | 0.75        | 0.65        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.33        | 0.34        | 0.33        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.97        | 2.20        | 1.96        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 98.00       | 99.00       | 99.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 73.00       | 74.00       | 73.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 66          | 67          | 66          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 3.63        | 3.90        | 2.79        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.33        | 1.31        | 1.31        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Mauritania**

| Latest year available                                                                                    | 2006      | 2007      | 2008      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 1,025,520 | 1,025,520 | 1,025,520 |
| GNI per capita, Atlas method (current US\$)                                                              | 860       | 960       | 1,080     |
| Total population (thousands)                                                                             | 3,213     | 3,295     | 3,378     |
| Urban population (%)                                                                                     | 41        | 41        | 41        |
| Total urban population (thousands)                                                                       | 1,304     | 1,344     | 1,385     |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 50        | 50        | 50        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 26        | 26        | 26        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 1         | 1         | 1         |
| Population served (water), (thousands)                                                                   | 652       | 551       | 415       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 973       | 1,404     | 1,476     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 67        | 39        | 28        |
| 2.1 Sewerage coverage (%)                                                                                | —         | —         | —         |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —         | 22        | —         |
| 6.1 Nonrevenue water (%)                                                                                 | 36.00     | 34.00     | 38.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 16        | 18        | 22        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.50      | 2.00      | 2.90      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 6.00      | —         | —         |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 100       | 100       | 100       |
| 23.1 Collection period (days)                                                                            | 321       | 765       | —         |
| 23.2 Collection ratio (%)                                                                                | 116       | 84        | —         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.66      | 0.32      | 0.36      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.72      | 0.71      | —         |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.91      | 0.45      | —         |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 104.69    | 139.39    | 201.61    |
| 4.1 Total water consumption (l/person/day)                                                               | 67.00     | 92.00     | 125.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 34        | 40        | 53        |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.88      | 1.12      | 1.52      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 52.20     | 27.06     | 28.51     |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.01      | 0.56      | 0.70      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Mauritius**

| <b>Latest year available</b>                                                                             | <b>2004</b> | <b>2005</b> | <b>2006</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 2,040       | 2,040       | 2,040       |
| GNI per capita, Atlas method (current US\$)                                                              | 4,990       | 5,360       | 5,540       |
| Total population (thousands)                                                                             | 1,233       | 1,243       | 1,253       |
| Urban population (%)                                                                                     | 40          | 40          | 41          |
| Total urban population (thousands)                                                                       | 497         | 502         | 508         |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99          | 99          | 99          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 89          | 89          | 89          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 1,159       | 1,170       | 1,182       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,159       | 1,171       | 1,182       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 100         | 100         |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 53.00       | 52.00       | 54.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 58          | 56          | 62          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90        | 0.80        | 0.80        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | —           |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | 101         | 102         | 102         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.34        | 0.33        | 0.32        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.14        | 0.13        | 0.13        |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.52        | 2.44        | 2.48        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 436.17      | 441.67      | 460.87      |
| 4.1 Total water consumption (l/person/day)                                                               | 205.00      | 212.00      | 212.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 160         | 164         | 164         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.51        | 0.48        | 0.45        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.58        | 2.43        | 2.51        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Mexico**

| Latest year available                                                                                    | 2007      | 2008      | 2009      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 1,964,375 | 1,964,375 | 1,964,375 |
| GNI per capita, Atlas method (current US\$)                                                              | 9,070     | 9,630     | 8,500     |
| Total population (thousands)                                                                             | 109,221   | 110,627   | 112,033   |
| Urban population (%)                                                                                     | 77        | 77        | 78        |
| Total urban population (thousands)                                                                       | 83,663    | 84,740    | 87,386    |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 96        | 96        | 96        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 85        | 85        | 85        |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 13        | 13        | 13        |
| Population served (water), (thousands)                                                                   | 6,130     | 6,147     | 6,321     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 5,947     | 5,938     | 6,074     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 100       | 100       | 100       |
| 2.1 Sewerage coverage (%)                                                                                | 92        | 94        | 96        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 12        | 12        | 13        |
| 6.1 Nonrevenue water (%)                                                                                 | 21.00     | 20.00     | 19.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 21        | 21        | 19        |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60      | 0.60      | 0.60      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 22.80     | 22.90     | 22.90     |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 81        | 80        | 80        |
| 23.1 Collection period (days)                                                                            | 217       | 235       | 240       |
| 23.2 Collection ratio (%)                                                                                | 71        | 73        | 71        |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.00      | 1.08      | 0.93      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.59      | 0.68      | 0.53      |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.69      | 1.60      | 1.74      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 263.00    | 268.00    | 258.00    |
| 4.1 Total water consumption (l/person/day)                                                               | 209.00    | 214.00    | 208.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 171       | 176       | 173       |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.84      | 0.88      | 0.83      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 120.55    | 127.12    | 101.44    |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 3.18      | 3.23      | 3.15      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Micronesia**

| <b>Latest year available</b>                                                                             | <b>2011</b> | <b>2012</b> | <b>2013</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 702         | 702         | 702         |
| GNI per capita, Atlas method (current US\$)                                                              | 3,050       | 3,230       | 2,300       |
| Total population (thousands)                                                                             | 112         | 112         | 112         |
| Urban population (%)                                                                                     | 23          | 23          | 23          |
| Total urban population (thousands)                                                                       | 25          | 25          | 26          |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 94 (2000)   | 94 (2000)   | 94 (2000)   |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 59 (2000)   | 59 (2000)   | 59 (2000)   |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 6           | 6           | 6           |
| Population served (water), (thousands)                                                                   | 32          | 33          | 33          |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 34          | 35          | 36          |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 38          | 75          | 79          |
| 2.1 Sewerage coverage (%)                                                                                | 28          | 35          | 36          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 22.00       | 29.00       | 32.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 15          | 14          | 24          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.50       | 24.00       | 15.30       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 99          | 100         |
| 23.1 Collection period (days)                                                                            | 67          | 251         | 857         |
| 23.2 Collection ratio (%)                                                                                | 86          | 94          | 78          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.58        | 0.69        | 0.55        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.40        | 0.52        | 0.44        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.27        | 1.34        | 1.24        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 740.00      | 325.00      | 398.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 961.00      | 244.00      | 270.00      |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.67        | 1.90        | 2.36        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 498.00      | —           | 961.60      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Moldova**

| <b>Latest year available</b>                                                                             | <b>2010</b> | <b>2011</b> | <b>2012</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 33,846      | 33,846      | 33,846      |
| GNI per capita, Atlas method (current US\$)                                                              | 1,820       | 1,980       | 2,070       |
| Total population (thousands)                                                                             | 3,562       | 3,559       | 3,555       |
| Urban population (%)                                                                                     | 47          | 48          | 49          |
| Total urban population (thousands)                                                                       | 1,672       | 1,696       | 1,747       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99          | 99          | 99          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 89          | 89          | 89          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 39          | 39          | 39          |
| Population served (water), (thousands)                                                                   | 1,171       | 1,182       | 1,184       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,467       | 1,438       | 1,420       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 80          | 83          | 84          |
| 2.1 Sewerage coverage (%)                                                                                | 67          | 69          | 70          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 25          | 24          | 24          |
| 6.1 Nonrevenue water (%)                                                                                 | 45.00       | 44.00       | 44.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 32          | 29          | 30          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 2.50        | 2.30        | 2.30        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.30       | 20.80       | 21.30       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 85          | 85          | 90          |
| 23.1 Collection period (days)                                                                            | 246         | 273         | 282         |
| 23.2 Collection ratio (%)                                                                                | 98          | 97          | 101         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.06        | 1.15        | 1.14        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.93        | 1.07        | 1.05        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.14        | 1.08        | 1.09        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 248.00      | 236.00      | 240.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 137.00      | 133.00      | 133.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 106         | 103         | 103         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 2.91        | 2.82        | 2.67        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 94.11       | 103.87      | 110.85      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 3.44        | 3.53        | 3.43        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Mozambique**

| <b>Latest year available</b>                                                                             | <b>2005</b> | <b>2006</b> | <b>2007</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 801,590     | 801,590     | 801,590     |
| GNI per capita, Atlas method (current US\$)                                                              | 300         | 310         | 340         |
| Total population (thousands)                                                                             | 20,770      | 21,291      | 21,811      |
| Urban population (%)                                                                                     | 30          | 30          | 30          |
| Total urban population (thousands)                                                                       | 6,231       | 6,387       | 6,543       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 47          | 47          | 47          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 18          | 18          | 18          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 5           | 5           | 5           |
| Population served (water), (thousands)                                                                   | 956         | 957         | 1,201       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,166       | 3,199       | 3,211       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 30          | 30          | 37          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 18          | 17          | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 58.00       | 56.00       | 59.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 128         | 120         | 131         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.20        | 1.20        | 1.00        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 14.40       | 16.20       | 19.20       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 56          | 47          | 51          |
| 23.1 Collection period (days)                                                                            | 296         | 298         | 334         |
| 23.2 Collection ratio (%)                                                                                | 80          | 73          | 85          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.55        | 0.57        | 0.69        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.77        | 0.67        | 0.85        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.72        | 0.85        | 0.82        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 245.24      | 240.91      | 212.20      |
| 4.1 Total water consumption (l/person/day)                                                               | 103.00      | 106.00      | 87.00       |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.89        | 7.11        | 6.44        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Namibia**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 824,116 | 824,116 | 824,116 |
| GNI per capita, Atlas method (current US\$)                                                              | 3,970   | 4,080   | 4,190   |
| Total population (thousands)                                                                             | 2,159   | 2,200   | 2,242   |
| Urban population (%)                                                                                     | 36      | 37      | 37      |
| Total urban population (thousands)                                                                       | 781     | 808     | 835     |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 93      | 93      | 93      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 32      | 32      | 32      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 57      | 60      | 63      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 57      | 60      | 63      |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 100     | 100     | 100     |
| 2.1 Sewerage coverage (%)                                                                                | 100     | 100     | 100     |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 1       | 0       | 1       |
| 6.1 Nonrevenue water (%)                                                                                 | 15.00   | 17.00   | 14.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 5       | 6       | 5       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.50    | 0.50    | 0.50    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 0       | 0       | 0       |
| 23.2 Collection ratio (%)                                                                                | 71      | 69      | 69      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 2.23    | 2.05    | 2.20    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.64    | 1.44    | 1.49    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.35    | 1.42    | 1.48    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 210.00  | 212.00  | 208.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 178.00  | 177.00  | 179.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 80      | 80      | 80      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 3.65    | 3.25    | 3.43    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 108.94  | 101.69  | 109.09  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | —       | —       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Netherlands Antilles**

| <b>Latest year available</b>                                                                             | <b>2005</b> | <b>2006</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 37,354      | 37,354      |
| GNI per capita, Atlas method (current US\$)                                                              | 33,000      | 33,000      |
| Total population (thousands)                                                                             | 186         | 189         |
| Urban population (%)                                                                                     | 92          | 92          |
| Total urban population (thousands)                                                                       | 171         | 174         |
| <b>MDGs</b>                                                                                              |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100         | 100         |
| <b>IBNET sourced data</b>                                                                                |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           |
| Population served (water), (thousands)                                                                   | 133         | 134         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 133         | 134         |
| <b>Services coverage</b>                                                                                 |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 100         |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 30.00       | 29.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 4           | 4           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 2.70        | 2.60        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 126         | 100         |
| 23.2 Collection ratio (%)                                                                                | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 7.60        | 8.10        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 5.09        | 6.44        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.49        | 1.26        |
| <b>Production and consumption</b>                                                                        |             |             |
| 3.1 Water production (l/person/day)                                                                      | 255.71      | 252.11      |
| 4.1 Total water consumption (l/person/day)                                                               | 179.00      | 179.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 132         | 128         |
| <b>Poverty and affordability</b>                                                                         |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.50        | 1.60        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 69.72       | 72.74       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.06        | 1.02        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: New Zealand**

| Latest year available                                                                                    | 2005    | 2006    | 2007    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 270,467 | 270,467 | 270,467 |
| GNI per capita, Atlas method (current US\$)                                                              | 24,990  | 25,570  | 27,320  |
| Total population (thousands)                                                                             | 4,134   | 4,185   | 4,228   |
| Urban population (%)                                                                                     | 86      | 86      | 86      |
| Total urban population (thousands)                                                                       | 3,563   | 3,612   | 3,655   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100     | 100     | 100     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100     | 100     | 100     |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 419     | 425     | 431     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 419     | 425     | 431     |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 100     | 100     | 100     |
| 2.1 Sewerage coverage (%)                                                                                | 100     | 102     | 100     |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —       | —       | —       |
| 6.1 Nonrevenue water (%)                                                                                 | 18.00   | 12.00   | 12.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 12      | 1       | 1       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —       | —       | —       |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | —       | —       | —       |
| 23.2 Collection ratio (%)                                                                                | —       | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.89    | 1.36    | 1.90    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.89    | 1.36    | 1.90    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.00    | 1.00    | 1.00    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 358.54  | 396.59  | 388.64  |
| 4.1 Total water consumption (l/person/day)                                                               | 294.00  | 349.00  | 342.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 189     | 164     | 168     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.81    | 0.68    | 0.87    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | —       | —       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Nicaragua**

| <b>Latest year available</b>                                                                             | <b>2003</b> | <b>2004</b> | <b>2005</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 130,373     | 130,373     | 130,373     |
| GNI per capita, Atlas method (current US\$)                                                              | 1,000       | 1,090       | 1,170       |
| Total population (thousands)                                                                             | 5,288       | 5,356       | 5,424       |
| Urban population (%)                                                                                     | 55          | 55          | 56          |
| Total urban population (thousands)                                                                       | 2,931       | 2,946       | 3,032       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 85          | 85          | 85          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 52          | 52          | 52          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 2,916       | 2,998       | 2,969       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,190       | 3,153       | 3,153       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 91          | 95          | 94          |
| 2.1 Sewerage coverage (%)                                                                                | 35          | 35          | 34          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | 40          |
| 6.1 Nonrevenue water (%)                                                                                 | 57.00       | 60.00       | 58.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 89          | —           | —           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.00       | 20.00       | 20.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | 69          |
| 23.1 Collection period (days)                                                                            | —           | —           | 151         |
| 23.2 Collection ratio (%)                                                                                | —           | —           | 82          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.41        | —           | 0.42        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | —           | —           | 0.38        |
| 24.1 Operating cost coverage (ratio)                                                                     | —           | —           | 1.11        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 239.53      | 250.00      | 259.52      |
| 4.1 Total water consumption (l/person/day)                                                               | 103.00      | 100.00      | 109.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 60          | 60          | 60          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 5.30        | —           | 1.43        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Niger**

| Latest year available                                                                                    | 2007      | 2008      | 2009      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 1,267,000 | 1,267,000 | 1,267,000 |
| GNI per capita, Atlas method (current US\$)                                                              | 290       | 330       | 340       |
| Total population (thousands)                                                                             | 13,946    | 14,450    | 14,972    |
| Urban population (%)                                                                                     | 17        | 17        | 17        |
| Total urban population (thousands)                                                                       | 2,383     | 2,494     | 2,611     |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 49        | 49        | 49        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 9         | 9         | 9         |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 1         | 1         | 1         |
| Population served (water), (thousands)                                                                   | 1,665     | 1,736     | 1,819     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,337     | 2,418     | 2,509     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 71        | 72        | 72        |
| 2.1 Sewerage coverage (%)                                                                                | —         | —         | —         |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 2         | 2         | 2         |
| 6.1 Nonrevenue water (%)                                                                                 | 17.00     | 15.00     | 16.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 8         | 7         | 7         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.40      | 0.30      | 0.40      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 22.00     | 22.00     | 22.00     |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 100       | 100       | 100       |
| 23.1 Collection period (days)                                                                            | 227       | 243       | 273       |
| 23.2 Collection ratio (%)                                                                                | 90        | 92        | 87        |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.55      | 0.64      | 0.58      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.43      | 0.48      | 0.47      |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.28      | 1.33      | 1.22      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 77.00     | 77.00     | 79.00     |
| 4.1 Total water consumption (l/person/day)                                                               | 64.00     | 65.00     | 67.00     |
| 4.7 Residential consumption (l/person/day)                                                               | 51.00     | 51.00     | 52.00     |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 4.43      | 4.60      | 4.17      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 31.69     | 37.10     | 33.13     |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 6.48      | 6.61      | 6.79      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Pakistan**

| <b>Latest year available</b>                                                                             | <b>2010</b> | <b>2011</b> | <b>2012</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 803,940     | 803,940     | 803,940     |
| GNI per capita, Atlas method (current US\$)                                                              | 1,060       | 1,140       | 1,260       |
| Total population (thousands)                                                                             | 167,442     | 170,494     | 173,593     |
| Urban population (%)                                                                                     | 35          | 36          | 36          |
| Total urban population (thousands)                                                                       | 57,868      | 61,378      | 62,494      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 92          | 92          | 92          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 48          | 48          | 48          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 5           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 24,438      | 217         | 217         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 30,620      | 1,244       | 1,284       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 80          | 17          | 17          |
| 2.1 Sewerage coverage (%)                                                                                | 78          | 52          | 51          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 42          | 43          | 39          |
| 6.1 Nonrevenue water (%)                                                                                 | 36.00       | 57.00       | 57.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 183         | —           | 316         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60        | 1.90        | 2.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 9.90        | 10.80       | —           |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 15          | —           | —           |
| 23.1 Collection period (days)                                                                            | 1,168       | 166         | 159         |
| 23.2 Collection ratio (%)                                                                                | 53          | 55          | 62          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.10        | 0.01        | 0.02        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.11        | 0.19        | 0.31        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.89        | 0.06        | 0.08        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 233.00      | 240.00      | 289.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 153.00      | 124.00      | 124.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 127         | 113         | 113         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.53        | 0.04        | 0.07        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 4.28        | 3.41        | 2.81        |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 30.47       | 34.22       | 0.41        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Panama**

| Latest year available                                                                                    | 2004      | 2005      | 2006      |
|----------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Surface area (km <sup>2</sup> )                                                                          | 75,517    | 75,517    | 75,517    |
| GNI per capita, Atlas method (current US\$)                                                              | 4,300     | 4,640     | 4,940     |
| Total population (thousands)                                                                             | 3,182     | 3,238     | 3,295     |
| Urban population (%)                                                                                     | 70        | 71        | 72        |
| Total urban population (thousands)                                                                       | 2,221     | 2,293     | 2,359     |
| <b>MDGs</b>                                                                                              |           |           |           |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 97        | 97        | 97        |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 74 (2000) | 74 (2000) | 74 (2000) |
| <b>IBNET sourced data</b>                                                                                |           |           |           |
| Number of utilities reporting in IBNET sample                                                            | 1         | 1         | 1         |
| Population served (water), (thousands)                                                                   | 2,037     | 1,889     | 2,381     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,243     | 2,303     | 2,372     |
| <b>Services coverage</b>                                                                                 |           |           |           |
| 1.1 Water coverage (%)                                                                                   | 91        | 82        | 100       |
| 2.1 Sewerage coverage (%)                                                                                | 52        | 45        | 48        |
| <b>Operational efficiency</b>                                                                            |           |           |           |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 60        | 38        | 44        |
| 6.1 Nonrevenue water (%)                                                                                 | 44.00     | 43.00     | 39.00     |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 120       | 112       | 100       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —         | 0.80      | 0.60      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.00     | 22.00     |           |
| <b>Financial efficiency</b>                                                                              |           |           |           |
| 8.1 Water sold that is metered (%)                                                                       | 44        | 46        | 43        |
| 23.1 Collection period (days)                                                                            | 342       | 152       | 112       |
| 23.2 Collection ratio (%)                                                                                | —         | 78        | 111       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.27      | 0.26      | 0.25      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.11      | 0.19      | 0.18      |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.38      | 1.39      | 1.44      |
| <b>Production and consumption</b>                                                                        |           |           |           |
| 3.1 Water production (l/person/day)                                                                      | 619.64    | 684.21    | 549.18    |
| 4.1 Total water consumption (l/person/day)                                                               | 347.00    | 390.00    | 335.00    |
| 4.7 Residential consumption (l/person/day)                                                               | 258       | 151       | 112       |
| <b>Poverty and affordability</b>                                                                         |           |           |           |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.80      | 0.80      | 0.62      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —         | —         | —         |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —         | 0.35      | —         |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Papua New Guinea**

| <b>Latest year available</b>                                                                             | <b>2011</b> | <b>2012</b> | <b>2013</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 462,840     | 462,840     | 462,840     |
| GNI per capita, Atlas method (current US\$)                                                              | 1,480       | 1,790       | 1,800       |
| Total population (thousands)                                                                             | 7,014       | 7,169       | 7,324       |
| Urban population (%)                                                                                     | 13          | 13          | 13          |
| Total urban population (thousands)                                                                       | 877         | 896         | 916         |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 40          | 40          | 40          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 45          | 45          | 45          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 2           | 2           |
| Population served (water), (thousands)                                                                   | 500         | 770         | 840         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 415         | 739         | 731         |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 83          | 96          | 87          |
| 2.1 Sewerage coverage (%)                                                                                | 40          | 21          | 18          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 51.00       | 51.00       | 51.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 51          | 52          | 45          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 93          |
| 23.1 Collection period (days)                                                                            | 144         | 152         | 143         |
| 23.2 Collection ratio (%)                                                                                | 101         | 83          | 93          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.85        | 1.85        | 2.03        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.00        | 1.33        | 1.38        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.85        | 1.39        | 1.47        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 321.00      | 303.00      | 309.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 156.00      | 150.00      | 151.00      |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 7.12        | 5.66        | 6.22        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 727.72      | —           | 847.27      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Paraguay**

| Latest year available                                                                                    | 2003    | 2004    | 2005    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 406,752 | 406,752 | 406,752 |
| GNI per capita, Atlas method (current US\$)                                                              | 1,010   | 1,070   | 1,260   |
| Total population (thousands)                                                                             | 5,676   | 5,787   | 5,898   |
| Urban population (%)                                                                                     | 57      | 58      | 58      |
| Total urban population (thousands)                                                                       | 3,248   | 3,348   | 3,421   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 86      | 86      | 86      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 71      | 71      | 71      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 4       | 4       |
| Population served (water), (thousands)                                                                   | 903     | 770     | 717     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,188   | 1,421   | 1,002   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 76      | 54      | 72      |
| 2.1 Sewerage coverage (%)                                                                                | 43      | 39      | 32      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 19      | 19      | 17      |
| 6.1 Nonrevenue water (%)                                                                                 | 52.00   | 45.00   | 44.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 45      | 44      | 42      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —       | —       | 0.50    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | —       | 90      | 91      |
| 23.1 Collection period (days)                                                                            | 54      | 173     | 170     |
| 23.2 Collection ratio (%)                                                                                | —       | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.86    | 0.37    | 0.36    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.16    | 0.17    | 0.17    |
| 24.1 Operating cost coverage (ratio)                                                                     | 5.34    | 2.23    | 2.15    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 270.83  | 440.00  | 433.93  |
| 4.1 Total water consumption (l/person/day)                                                               | 130.00  | 242.00  | 243.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 121     | 206     | 205     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 4.04    | 3.05    | 2.53    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —       | —       | 0.10    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Peru**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2007</b> | <b>2008</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,285,216   | 1,285,216   | 1,285,216   |
| GNI per capita, Atlas method (current US\$)                                                              | 3,130       | 3,380       | 4,020       |
| Total population (thousands)                                                                             | 27,866      | 28,166      | 28,463      |
| Urban population (%)                                                                                     | 75          | 76          | 76          |
| Total urban population (thousands)                                                                       | 21,014      | 21,346      | 21,678      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 85          | 85          | 85          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 71          | 71          | 71          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 49          | 49          | 49          |
| Population served (water), (thousands)                                                                   | 13,955      | 14,599      | 14,990      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 16,689      | 17,076      | 17,443      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 84          | 85          | 86          |
| 2.1 Sewerage coverage (%)                                                                                | 76          | 77          | 78          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 23          | 23          | 23          |
| 6.1 Nonrevenue water (%)                                                                                 | 43.00       | 42.00       | 42.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 63          | 61          | 62          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 16.50       | 15.10       | 15.11       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 60          | 63          | 63          |
| 23.1 Collection period (days)                                                                            | 128         | 114         | 67          |
| 23.2 Collection ratio (%)                                                                                | —           | —           | 101         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.53        | 0.57        | 0.68        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.49        | 0.50        | 0.58        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.08        | 1.14        | 1.17        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 245.61      | 234.48      | 232.76      |
| 4.1 Total water consumption (l/person/day)                                                               | 140.00      | 136.00      | 135.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 76          | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.87        | 0.84        | 0.83        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00        | 1.00        | 1.00        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Philippines**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 300,000 | 300,000 | 300,000 |
| GNI per capita, Atlas method (current US\$)                                                              | 1,510   | 1,770   | 1,870   |
| Total population (thousands)                                                                             | 88,653  | 90,173  | 91,703  |
| Urban population (%)                                                                                     | 48      | 48      | 49      |
| Total urban population (thousands)                                                                       | 42,801  | 43,646  | 44,499  |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 92      | 92      | 92      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 74      | 74      | 74      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 4       | 25      | 25      |
| Population served (water), (thousands)                                                                   | 13,740  | 16,084  | 15,886  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 16,815  | 20,831  | 20,522  |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 82      | 77      | 77      |
| 2.1 Sewerage coverage (%)                                                                                | 7       | 6       | 6       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 20      | 18      | 23      |
| 6.1 Nonrevenue water (%)                                                                                 | 49.00   | 45.00   | 43.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 284     | 207     | 194     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.40    | 0.40    | 0.40    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.70   | 22.80   | 21.70   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 36      | 47      | 40      |
| 23.2 Collection ratio (%)                                                                                | 98      | 98      | 99      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.48    | 0.53    | 0.54    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.23    | 0.24    | 0.22    |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.12    | 0.15    | 2.40    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 294.00  | 281.00  | 271.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 151.00  | 154.00  | 156.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 111     | 118     | 117     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.75    | 1.68    | 1.64    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 26.37   | 37.79   | 36.22   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.74    | 1.77    | 2.48    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Poland**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 312,685     | 312,685     | 312,685     |
| GNI per capita, Atlas method (current US\$)                                                              | 11,870      | 12,190      | 12,400      |
| Total population (thousands)                                                                             | 38,126      | 38,152      | 38,184      |
| Urban population (%)                                                                                     | 62          | 61          | 61          |
| Total urban population (thousands)                                                                       | 23,447      | 23,440      | 23,437      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 99          | 99          | 99          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 31          | 31          | 31          |
| Population served (water), (thousands)                                                                   | 8,533       | 8,550       | 8,624       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 8,927       | 8,919       | 8,981       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 96          | 96          | 96          |
| 2.1 Sewerage coverage (%)                                                                                | 89          | 90          | 90          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 9           | 10          | 10          |
| 6.1 Nonrevenue water (%)                                                                                 | 17.00       | 16.00       | 15.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 10          | 9           | 8           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60        | 0.60        | 0.60        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 99          |
| 23.1 Collection period (days)                                                                            | 158         | 71          | 74          |
| 23.2 Collection ratio (%)                                                                                | 111         | 111         | 112         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 2.60        | 1.93        | 1.92        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.92        | 1.40        | 1.41        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.35        | 1.38        | 1.36        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 190.00      | 183.00      | 179.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 158.00      | 154.00      | 152.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 117         | 114         | 113         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.26        | 0.89        | 0.86        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 99.43       | 71.80       | 70.59       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.80        | 1.79        | 1.78        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Romania**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 238,391     | 238,391     | 238,391     |
| GNI per capita, Atlas method (current US\$)                                                              | 8,290       | 8,250       | 8,010       |
| Total population (thousands)                                                                             | 21,514      | 21,480      | 21,438      |
| Urban population (%)                                                                                     | 53          | 53          | 53          |
| Total urban population (thousands)                                                                       | 11,402      | 11,385      | 11,362      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99          | 99          | 99          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 88 (2000)   | 88 (2000)   | 88 (2000)   |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 19          | 20          | 20          |
| Population served (water), (thousands)                                                                   | 3,968       | 4,518       | 4,952       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 4,715       | 5,478       | 5,926       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 84          | 82          | 84          |
| 2.1 Sewerage coverage (%)                                                                                | 69          | 65          | 62          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 15          | 12          | 11          |
| 6.1 Nonrevenue water (%)                                                                                 | 49.00       | 49.00       | 51.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 61          | 48          | 43          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 2.00        | 2.10        | 2.00        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 92          | 92          | 95          |
| 23.1 Collection period (days)                                                                            | 80          | 80          | 87          |
| 23.2 Collection ratio (%)                                                                                | 107         | 108         | 112         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.20        | 1.08        | 1.02        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.12        | 0.98        | 0.94        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.07        | 1.10        | 1.08        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 371.00      | 336.00      | 311.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 191.00      | 172.00      | 153.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 111         | 106         | 103         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.01        | 0.82        | 0.71        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 129.34      | 98.51       | 82.27       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.37        | 1.40        | 1.51        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Russian Federation**

| Latest year available                                                                                    | 2009       | 2010       | 2011       | 2012       |
|----------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|
| Surface area (km <sup>2</sup> )                                                                          | 17,098,242 | 17,098,242 | 17,098,242 | 17,098,242 |
| GNI per capita, Atlas method (current US\$)                                                              | 9,290      | 10,000     | 10,810     | 12,700     |
| Total population (thousands)                                                                             | 141,910    | 142,389    | 142,960    | 143,297    |
| Urban population (%)                                                                                     | 74         | 74         | 74         | 75         |
| Total urban population (thousands)                                                                       | 105,013    | 105,368    | 105,790    | 107,473    |
| <b>MDGs</b>                                                                                              |            |            |            |            |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 97         | 97         | 97         | 97         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 70         | 70         | 70         | 70         |
| <b>IBNET sourced data</b>                                                                                |            |            |            |            |
| Number of utilities reporting in IBNET sample                                                            | 82         | 95         | 80         | 88         |
| Population served (water), (thousands)                                                                   | 43,164     | 45,306     | 54,837     | 55,098     |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 42,070     | 45,249     | 54,837     | 55,098     |
| <b>Services coverage</b>                                                                                 |            |            |            |            |
| 1.1 Water coverage (%)                                                                                   | 100        | 100        | 100        | 100        |
| 2.1 Sewerage coverage (%)                                                                                | 94         | 94         | 95         | 94         |
| <b>Operational efficiency</b>                                                                            |            |            |            |            |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 18         | 25         | 22         | 19         |
| 6.1 Nonrevenue water (%)                                                                                 | 21.00      | 24.00      | 23.00      | 24.00      |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 56         | 60         | 54         | 52         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.40       | 1.30       | 1.30       | 1.30       |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00      | 24.00      | 24.00      | 24.00      |
| <b>Financial efficiency</b>                                                                              |            |            |            |            |
| 8.1 Water sold that is metered (%)                                                                       | —          | 74         | —          | —          |
| 23.1 Collection period (days)                                                                            | 92         | 95         | 99         | 111        |
| 23.2 Collection ratio (%)                                                                                | 91         | 92         | 88         | 91         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.63       | 0.73       | 0.85       | 0.93       |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.45       | 0.52       | 0.60       | 0.66       |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.40       | 1.40       | 1.41       | 1.38       |
| <b>Production and consumption</b>                                                                        |            |            |            |            |
| 3.1 Water production (l/person/day)                                                                      | 436.00     | 415.00     | 384.00     | 375.00     |
| 4.1 Total water consumption (l/person/day)                                                               | 343.00     | 316.00     | 296.00     | 284.00     |
| 4.7 Residential consumption (l/person/day)                                                               | 216        | 199        | 182        | 172        |
| <b>Poverty and affordability</b>                                                                         |            |            |            |            |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.85       | 0.84       | 0.85       | 0.76       |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 27.83      | 32.17      | 37.64      | 38.86      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.45       | 1.27       | 1.24       | 1.22       |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Rwanda**

| Latest year available                                                                                    | 2003   | 2004   | 2005   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 26,338 | 26,338 | 26,338 |
| GNI per capita, Atlas method (current US\$)                                                              | 210    | 230    | 270    |
| Total population (thousands)                                                                             | 8,858  | 9,010  | 9,202  |
| Urban population (%)                                                                                     | 16     | 17     | 18     |
| Total urban population (thousands)                                                                       | 1,419  | 1,510  | 1,610  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 65     | 65     | 65     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 55     | 55     | 55     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 1      | 1      | 1      |
| Population served (water), (thousands)                                                                   | 2,085  | 2,232  | 2,394  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,843  | 1,973  | 2,010  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 113    | 113    | 119    |
| 2.1 Sewerage coverage (%)                                                                                | —      | —      | —      |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 42     | 31     | 46     |
| 6.1 Nonrevenue water (%)                                                                                 | 51.00  | 44.00  | 38.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 12     | 9      | 7      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60   | 0.60   | 0.60   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 12.00  | 12.00  | 12.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 100    | 100    | 100    |
| 23.1 Collection period (days)                                                                            | —      | 50     | 438    |
| 23.2 Collection ratio (%)                                                                                | 100    | 100    | 144    |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.62   | 0.57   | 0.42   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.19   | 0.34   | 0.51   |
| 24.1 Operating cost coverage (ratio)                                                                     | 3.36   | 1.65   | 0.82   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 24.49  | 19.64  | 17.74  |
| 4.1 Total water consumption (l/person/day)                                                               | 12.00  | 11.00  | 11.00  |
| 4.7 Residential consumption (l/person/day)                                                               | —      | —      | —      |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.29   | 1.00   | 0.62   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 33.71  | 31.54  | 32.60  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —      | —      | —      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Senegal**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 196,722     | 196,722     | 196,722     |
| GNI per capita, Atlas method (current US\$)                                                              | 900         | 1,020       | 1,030       |
| Total population (thousands)                                                                             | 11,475      | 11,787      | 12,107      |
| Urban population (%)                                                                                     | 42          | 42          | 42          |
| Total urban population (thousands)                                                                       | 4,819       | 4,903       | 5,068       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 72          | 72          | 72          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 52          | 52          | 52          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 5,124       | 5,358       | 5,504       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 5,445       | 5,848       | 6,281       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 94          | 92          | 88          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 46          | 52          | 50          |
| 6.1 Nonrevenue water (%)                                                                                 | 20.00       | 21.00       | 21.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 9           | 10          | 10          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.20        | 0.20        | 0.20        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 18          | 14          | 13          |
| 23.2 Collection ratio (%)                                                                                | 90          | 91          | 94          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.15        | 1.40        | 1.25        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.44        | 0.55        | 0.51        |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.51        | 2.55        | 2.40        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 72.00       | 71.00       | 69.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 58.00       | 56.00       | 55.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 49          | 47          | 47          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 2.71        | 2.81        | 2.44        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 4.33        | 4.33        | 4.33        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: The Seychelles**

| <b>Latest year available</b>                                                                             | <b>2004</b> | <b>2005</b> | <b>2006</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 8,240       | 9,820       | 11,150      |
| GNI per capita, Atlas method (current US\$)                                                              | 8,190       | 9,000       | 9,000       |
| Total population (thousands)                                                                             | 83          | 83          | 85          |
| Urban population (%)                                                                                     | 51          | 52          | 52          |
| Total urban population (thousands)                                                                       | 42          | 43          | 44          |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 98          | 98          | 98          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 79          | 80          | 80          |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 79          | 80          | 80          |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 99          | 100         |
| 2.1 Sewerage coverage (%)                                                                                | 15          | 15          | 20          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 17.00       | 20.00       | 14.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 18          | 25          | 15          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 5.30        | 5.20        | 5.20        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 50          | 45          | 45          |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | 99          | 100         | 100         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.06        | 0.77        | 0.79        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 2.04        | 1.69        | 1.77        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.52        | 0.45        | 0.44        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 418.07      | 473.75      | 438.37      |
| 4.1 Total water consumption (l/person/day)                                                               | 347.00      | 379.00      | 377.00      |
| 4.7 Residential consumption (l/person/day)                                                               | —           | —           | —           |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.64        | 1.18        | 1.21        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 86.60       | 81.96       | 83.00       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Singapore**

| Latest year available                                                                                    | 2007   | 2008   |
|----------------------------------------------------------------------------------------------------------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 705    | 705    |
| GNI per capita, Atlas method (current US\$)                                                              | 33,760 | 35,750 |
| Total population (thousands)                                                                             | 4,589  | 4,839  |
| Urban population (%)                                                                                     | 100    | 100    |
| Total urban population (thousands)                                                                       | 4,589  | 4,839  |
| <b>MDGs</b>                                                                                              |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100    | 100    |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100    | 100    |
| <b>IBNET sourced data</b>                                                                                |        |        |
| Number of utilities reporting in IBNET sample                                                            | 1      | 1      |
| Population served (water), (thousands)                                                                   | 4,589  | 4,840  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 4,589  | 4,840  |
| <b>Services coverage</b>                                                                                 |        |        |
| 1.1 Water coverage (%)                                                                                   | 100    | 100    |
| 2.1 Sewerage coverage (%)                                                                                | 100    | 100    |
| <b>Operational efficiency</b>                                                                            |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —      | —      |
| 6.1 Nonrevenue water (%)                                                                                 | 4.00   | 4.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 10     | 9      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.30   | 0.30   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00  | 24.00  |
| <b>Financial efficiency</b>                                                                              |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 100    | 100    |
| 23.1 Collection period (days)                                                                            | —      | —      |
| 23.2 Collection ratio (%)                                                                                | —      | —      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | —      | —      |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | —      | —      |
| 24.1 Operating cost coverage (ratio)                                                                     | —      | —      |
| <b>Production and consumption</b>                                                                        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 283.33 | 272.92 |
| 4.1 Total water consumption (l/person/day)                                                               | 272.00 | 262.00 |
| 4.7 Residential consumption (l/person/day)                                                               | 158    | 154    |
| <b>Poverty and affordability</b>                                                                         |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | —      | —      |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 90.54  | 101.74 |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —      | —      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Slovak Republic**

| Latest year available                                                                                    | 2005   | 2006   | 2007   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 49,035 | 49,035 | 49,035 |
| GNI per capita, Atlas method (current US\$)                                                              | 11,040 | 12,550 | 14,410 |
| Total population (thousands)                                                                             | 5,387  | 5,391  | 5,397  |
| Urban population (%)                                                                                     | 56     | 55     | 55     |
| Total urban population (thousands)                                                                       | 3,027  | 2,965  | 2,969  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100    | 100    | 100    |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100    | 100    | 100    |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 5      | 6      | 7      |
| Population served (water), (thousands)                                                                   | 2,732  | 3,430  | 3,664  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,479  | 4,209  | 4,533  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 79     | 81     | 81     |
| 2.1 Sewerage coverage (%)                                                                                | 53     | 57     | 56     |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —      | —      | —      |
| 6.1 Nonrevenue water (%)                                                                                 | 11.00  | 18.00  | 18.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 14     | 16     | 14     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —      | 0.50   | 0.50   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00  | 24.00  | 24.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 100    | 100    | 100    |
| 23.1 Collection period (days)                                                                            | 72     | 70     | 80     |
| 23.2 Collection ratio (%)                                                                                | 104    | 103    | 102    |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.34   | 1.50   | 1.81   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.94   | 1.04   | 1.28   |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.43   | 1.44   | 1.42   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 161.80 | 184.15 | 181.71 |
| 4.1 Total water consumption (l/person/day)                                                               | 144.00 | 151.00 | 149.00 |
| 4.7 Residential consumption (l/person/day)                                                               | 98     | 101    | 102    |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.64   | 0.66   | 0.68   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 91.13  | 112.34 | 133.96 |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.32   | 0.98   | 0.98   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: South Africa**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,221,037   | 1,221,037   | 1,221,037   |
| GNI per capita, Atlas method (current US\$)                                                              | 5,760       | 5,850       | 5,730       |
| Total population (thousands)                                                                             | 48,257      | 48,793      | 49,320      |
| Urban population (%)                                                                                     | 60          | 61          | 61          |
| Total urban population (thousands)                                                                       | 29,037      | 29,583      | 30,129      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 91          | 91          | 91          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 79          | 79          | 79          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 4           | 4           | 4           |
| Population served (water), (thousands)                                                                   | 7,887       | 8,074       | 8,169       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 10,102      | 10,301      | 10,499      |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 78          | 78          | 78          |
| 2.1 Sewerage coverage (%)                                                                                | 49          | 50          | 53          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 1           | 2           | 2           |
| 6.1 Nonrevenue water (%)                                                                                 | 32.00       | 37.00       | 37.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 27          | 35          | 35          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.30        | 0.10        | 0.30        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 99          | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 314         | 368         | 284         |
| 23.2 Collection ratio (%)                                                                                | 97          | 98          | 100         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.15        | 1.21        | 1.26        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.28        | 1.27        | 1.41        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.99        | 0.95        | 0.89        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 306.00      | 384.00      | 386.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 207.00      | 244.00      | 242.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 132         | 191         | 190         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.51        | 1.84        | 1.94        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.12        | 1.08        | 0.96        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Sri Lanka**

| Latest year available                                                                                    | 2007   | 2008   | 2009   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 65,610 | 65,610 | 65,610 |
| GNI per capita, Atlas method (current US\$)                                                              | 1,540  | 1,770  | 1,970  |
| Total population (thousands)                                                                             | 20,039 | 20,217 | 20,450 |
| Urban population (%)                                                                                     | 15     | 15     | 15     |
| Total urban population (thousands)                                                                       | 3,026  | 3,053  | 3,088  |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 91     | 91     | 91     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 92     | 92     | 92     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 1      | 1      | 1      |
| Population served (water), (thousands)                                                                   | 3,300  | 3,510  | 3,680  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 4,400  | 4,500  | 4,600  |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 75     | 78     | 80     |
| 2.1 Sewerage coverage (%)                                                                                | 2      | 3      | 3      |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 21     | —      | —      |
| 6.1 Nonrevenue water (%)                                                                                 | 33.00  | 32.00  | 31.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 38     | 37     | 37     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 2.60   | 2.50   | 2.40   |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.00  | 21.00  | 22.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | —      | —      | —      |
| 23.1 Collection period (days)                                                                            | —      | —      | —      |
| 23.2 Collection ratio (%)                                                                                | 100    | 99     | 94     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.24   | 0.25   | 0.32   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.23   | 0.28   | 0.35   |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.03   | 0.89   | 0.90   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 352.00 | 343.00 | 334.00 |
| 4.1 Total water consumption (l/person/day)                                                               | 236.00 | 235.00 | 231.00 |
| 4.7 Residential consumption (l/person/day)                                                               | —      | 132    | 131    |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.34   | 1.21   | 1.37   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —      | —      | —      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 15.38  | 12.93  | —      |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Sudan**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 2,505,813   | 2,506,000   | 2,506,000   |
| GNI per capita, Atlas method (current US\$)                                                              | 550         | 900         | 1,120       |
| Total population (thousands)                                                                             | 31,935      | 32,438      | 32,971      |
| Urban population (%)                                                                                     | 33          | 33          | 33          |
| Total urban population (thousands)                                                                       | 10,538      | 10,705      | 10,880      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 58          | 58          | 58          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 26          | 26          | 26          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 5           | 5           | 5           |
| Population served (water), (thousands)                                                                   | 3,501       | 3,820       | 4,241       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 6,480       | 6,723       | 7,173       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 54          | 57          | 59          |
| 2.1 Sewerage coverage (%)                                                                                | —           | —           | —           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 25          | 36          | 24          |
| 6.1 Nonrevenue water (%)                                                                                 | 15.00       | 7.00        | 9.00        |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 25          | 11          | 14          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.20        | 1.00        | 0.90        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 18.60       | 18.20       | 18.20       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 32          | 32          | 39          |
| 23.1 Collection period (days)                                                                            | 171         | 171         | 136         |
| 23.2 Collection ratio (%)                                                                                | —           | —           | —           |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.46        | 0.41        | 0.36        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.23        | 0.21        | 0.18        |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.00        | 1.98        | 2.03        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 231.00      | 227.00      | 264.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 197.00      | 211.00      | 241.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 121         | 131         | 151         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.01        | 3.51        | 2.83        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 122.45      | 118.81      | 169.23      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 8.38        | 10.01       | 12.98       |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: Swaziland**

| Latest year available                                                                                    | 2007   | 2008   | 2009   |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Surface area (km <sup>2</sup> )                                                                          | 17,364 | 17,364 | 17,364 |
| GNI per capita, Atlas method (current US\$)                                                              | 3,030  | 3,100  | 2,670  |
| Total population (thousands)                                                                             | 1,020  | 1,032  | 1,044  |
| Urban population (%)                                                                                     | 22     | 22     | 21     |
| Total urban population (thousands)                                                                       | 221    | 222    | 224    |
| <b>MDGs</b>                                                                                              |        |        |        |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 71     | 71     | 71     |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 57     | 57     | 57     |
| <b>IBNET sourced data</b>                                                                                |        |        |        |
| Number of utilities reporting in IBNET sample                                                            | 1      | 1      | 1      |
| Population served (water), (thousands)                                                                   | 270    | 285    | 285    |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 290    | 300    | 300    |
| <b>Services coverage</b>                                                                                 |        |        |        |
| 1.1 Water coverage (%)                                                                                   | 93     | 95     | 95     |
| 2.1 Sewerage coverage (%)                                                                                | 33     | 38     | 38     |
| <b>Operational efficiency</b>                                                                            |        |        |        |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 8      | 10     | 14     |
| 6.1 Nonrevenue water (%)                                                                                 | 39.00  | 37.00  | 40.00  |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 28     | 26     | 30     |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —      | —      | —      |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00  | 24.00  | 24.00  |
| <b>Financial efficiency</b>                                                                              |        |        |        |
| 8.1 Water sold that is metered (%)                                                                       | 100    | 100    | 100    |
| 23.1 Collection period (days)                                                                            | 86     | 62     | 65     |
| 23.2 Collection ratio (%)                                                                                | 96     | 99     | 97     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.53   | 1.40   | 1.56   |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.66   | 1.33   | 1.48   |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.92   | 1.06   | 1.06   |
| <b>Production and consumption</b>                                                                        |        |        |        |
| 3.1 Water production (l/person/day)                                                                      | 183.00 | 183.00 | 192.00 |
| 4.1 Total water consumption (l/person/day)                                                               | 112.00 | 115.00 | 115.00 |
| 4.7 Residential consumption (l/person/day)                                                               | —      | 77     | 77     |
| <b>Poverty and affordability</b>                                                                         |        |        |        |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 2.06   | 1.90   | 2.45   |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 79.10  | 74.75  | 79.37  |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —      | 3.02   | 3.00   |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Tajikistan**

| <b>Latest year available</b>                                                                             | <b>2003</b> | <b>2004</b> | <b>2005</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 143,100     | 143,100     | 143,100     |
| GNI per capita, Atlas method (current US\$)                                                              | 210         | 280         | 340         |
| Total population (thousands)                                                                             | 6,337       | 6,391       | 6,453       |
| Urban population (%)                                                                                     | 26          | 26          | 26          |
| Total urban population (thousands)                                                                       | 1,675       | 1,689       | 1,704       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 64          | 64          | 64          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 94          | 94          | 94          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 9           | 9           | 9           |
| Population served (water), (thousands)                                                                   | 1,029       | 1,042       | 1,090       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 1,112       | 1,128       | 1,179       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 93          | 92          | 92          |
| 2.1 Sewerage coverage (%)                                                                                | 60          | 60          | 59          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 35.00       | 35.00       | 36.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 199         | 208         | 226         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.50        | 1.40        | 1.20        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 22.40       | 21.73       | 21.29       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 1           | 2           | 1           |
| 23.1 Collection period (days)                                                                            | 326         | 263         | 273         |
| 23.2 Collection ratio (%)                                                                                | 52          | 47          | 42          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.01        | 0.02        | 0.03        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.01        | 0.01        | 0.02        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.39        | 1.40        | 1.42        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 796.92      | 833.85      | 865.63      |
| 4.1 Total water consumption (l/person/day)                                                               | 518.00      | 542.00      | 554.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 313         | 328         | 336         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.90        | 1.41        | 1.78        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 0.87        | 1.66        | 1.62        |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 20.09       | 22.21       | 23.56       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Tanzania**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 945,087 | 945,087 | 945,087 |
| GNI per capita, Atlas method (current US\$)                                                              | 410     | 460     | 500     |
| Total population (thousands)                                                                             | 41,068  | 42,268  | 43,525  |
| Urban population (%)                                                                                     | 25      | 25      | 26      |
| Total urban population (thousands)                                                                       | 10,300  | 10,567  | 11,108  |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | —       | —       | —       |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | —       | —       | —       |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 20      | 20      | 20      |
| Population served (water), (thousands)                                                                   | 4,749   | 5,675   | 4,749   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 5,977   | 6,959   | 5,977   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 79      | 82      | 83      |
| 2.1 Sewerage coverage (%)                                                                                | 5       | 4       | 4       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —       | —       | —       |
| 6.1 Nonrevenue water (%)                                                                                 | 45.00   | 36.00   | 46.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 52      | 35      | 44      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.50    | 0.50    | 0.30    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 15.00   | 17.60   | 17.50   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | —       |
| 23.1 Collection period (days)                                                                            | 81      | 95      | 263     |
| 23.2 Collection ratio (%)                                                                                | 88      | 97      | 103     |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.35    | 0.24    | 0.39    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.40    | 0.29    | 0.44    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.88    | 0.83    | 0.87    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 116.00  | 95.00   | 82.00   |
| 4.1 Total water consumption (l/person/day)                                                               | 64.00   | 61.00   | 44.00   |
| 4.7 Residential consumption (l/person/day)                                                               | 43      | —       | 29      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.99    | 1.16    | 1.25    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.02    | 1.01    | —       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Togo**

| <b>Latest year available</b>                                                                             | <b>2007</b> | <b>2008</b> | <b>2009</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 56,785      | 56,785      | 56,785      |
| GNI per capita, Atlas method (current US\$)                                                              | 420         | 470         | 450         |
| Total population (thousands)                                                                             | 5,653       | 5,777       | 5,902       |
| Urban population (%)                                                                                     | 36          | 37          | 37          |
| Total urban population (thousands)                                                                       | 2,042       | 2,114       | 2,187       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 61          | 61          | 61          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 13          | 13          | 13          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 1,340       | 1,419       | 1,536       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,497       | 2,600       | 2,800       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 54          | 55          | 55          |
| 2.1 Sewerage coverage (%)                                                                                | 8           | 8           | 7           |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 6           | 7           | 7           |
| 6.1 Nonrevenue water (%)                                                                                 | 15.00       | 16.00       | 15.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 2           | 2           | 2           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.50        | 0.50        | 0.40        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 86          | 90          | 112         |
| 23.2 Collection ratio (%)                                                                                | 88          | 98          | 91          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.70        | 0.81        | 0.71        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.60        | 2.02        | 1.57        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.44        | 0.40        | 0.45        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 36.00       | 36.00       | 36.00       |
| 4.1 Total water consumption (l/person/day)                                                               | 31.00       | 30.00       | 32.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 26          | 26          | 27          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.89        | 1.89        | 1.84        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | —           | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Tunisia**

| Latest year available                                                                                    | 2008    | 2009    | 2010    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 163,610 | 163,610 | 163,610 |
| GNI per capita, Atlas method (current US\$)                                                              | 3,900   | 4,100   | 4,150   |
| Total population (thousands)                                                                             | 10,329  | 10,440  | 10,549  |
| Urban population (%)                                                                                     | 66      | 66      | 66      |
| Total urban population (thousands)                                                                       | 6,787   | 6,880   | 6,973   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | —       | —       | —       |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | —       | —       | —       |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 2       | 2       | 2       |
| Population served (water), (thousands)                                                                   | 8,527   | 8,647   | 8,780   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 10,380  | 10,489  | 10,615  |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 82      | 82      | 83      |
| 2.1 Sewerage coverage (%)                                                                                | —       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 10      | 11      | 12      |
| 6.1 Nonrevenue water (%)                                                                                 | 25.00   | 25.00   | 26.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 7       | 8       | 8       |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.80    | 0.80    | 0.80    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00   | 24.00   | 24.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 101     | 101     | 101     |
| 23.1 Collection period (days)                                                                            | —       | 195     | 183     |
| 23.2 Collection ratio (%)                                                                                | —       | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | —       | 0.44    | 0.40    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | —       | 0.59    | 0.50    |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.82    | 0.76    | 0.81    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 153.00  | 156.00  | 164.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 115.00  | 116.00  | 121.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 86      | 86      | 90      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | —       | 0.45    | 0.43    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 17.23   | 15.00   | 13.58   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00    | 1.00    | 1.00    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Turkey**

| <b>Latest year available</b>                                                                             | <b>2006</b> | <b>2007</b> | <b>2008</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 783,562     | 783,562     | 783,562     |
| GNI per capita, Atlas method (current US\$)                                                              | 7,470       | 8,440       | 9,260       |
| Total population (thousands)                                                                             | 69,064      | 69,993      | 70,924      |
| Urban population (%)                                                                                     | 68          | 68          | 69          |
| Total urban population (thousands)                                                                       | 46,797      | 47,749      | 48,710      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 90          | 90          | 90          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 17          | 20          | 10          |
| Population served (water), (thousands)                                                                   | 2,398       | 2,619       | 905         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,328       | 2,641       | 990         |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 100         | 99          | 100         |
| 2.1 Sewerage coverage (%)                                                                                | 94          | 95          | 94          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 54          | 51          | 41          |
| 6.1 Nonrevenue water (%)                                                                                 | 56.00       | 62.00       | 59.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 44          | 63          | 43          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | 0.70        | 0.50        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 97          | 96          | 100         |
| 23.1 Collection period (days)                                                                            | —           | 139         | 108         |
| 23.2 Collection ratio (%)                                                                                | 96          | 94          | 90          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.04        | 1.36        | 1.21        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.72        | 1.09        | 0.93        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.37        | 1.25        | 1.25        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 204.55      | 242.11      | 278.05      |
| 4.1 Total water consumption (l/person/day)                                                               | 90.00       | 92.00       | 114.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 72          | 73          | 87          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.46        | 0.54        | 0.54        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 66.05       | 79.77       | 85.00       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.31        | 2.25        | 1.72        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Uganda**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 241,038 | 241,038 | 241,038 |
| GNI per capita, Atlas method (current US\$)                                                              | 380     | 420     | 400     |
| Total population (thousands)                                                                             | 30,340  | 31,339  | 32,368  |
| Urban population (%)                                                                                     | 14      | 14      | 15      |
| Total urban population (thousands)                                                                       | 4,251   | 4,511   | 4,783   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 72      | 72      | 72      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 34      | 34      | 34      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 1       | 1       | 1       |
| Population served (water), (thousands)                                                                   | 1,803   | 1,944   | 2,137   |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 2,540   | 2,700   | 2,946   |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 71      | 72      | 73      |
| 2.1 Sewerage coverage (%)                                                                                | 7       | 6       | 6       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —       | 18      | 18      |
| 6.1 Nonrevenue water (%)                                                                                 | 33.00   | 34.00   | 36.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 17      | 18      | 14      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.70    | 0.60    | 0.60    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 23.00   | 23.00   | 23.00   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | —       | —       | —       |
| 23.1 Collection period (days)                                                                            | 518     | 525     | 449     |
| 23.2 Collection ratio (%)                                                                                | 92      | 92      | 99      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.05    | 1.29    | 1.10    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.78    | 1.04    | 0.82    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.34    | 1.24    | 1.34    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 92.54   | 90.91   | 89.06   |
| 4.1 Total water consumption (l/person/day)                                                               | 62.00   | 60.00   | 57.00   |
| 4.7 Residential consumption (l/person/day)                                                               | 33      | 31      | 30      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 6.25    | 6.73    | 5.72    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —       | —       | —       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.00    | 1.00    | 1.00    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Ukraine**

| <b>Latest year available</b>                                                                             | <b>2005</b> | <b>2006</b> | <b>2007</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 603,500     | 603,500     | 603,500     |
| GNI per capita, Atlas method (current US\$)                                                              | 1,540       | 1,950       | 2,570       |
| Total population (thousands)                                                                             | 47,105      | 46,788      | 46,509      |
| Urban population (%)                                                                                     | 68          | 68          | 68          |
| Total urban population (thousands)                                                                       | 31,937      | 31,750      | 31,589      |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 98          | 98          | 98          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 94          | 94          | 94          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 16          | 16          | 16          |
| Population served (water), (thousands)                                                                   | 2,703       | 2,721       | 2,736       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,452       | 3,432       | 3,411       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 78          | 79          | 80          |
| 2.1 Sewerage coverage (%)                                                                                | 63          | 64          | 67          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 30          | 33          | 36          |
| 6.1 Nonrevenue water (%)                                                                                 | 45.00       | 44.00       | 45.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 77          | 77          | 75          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 2.20        | 2.10        | 2.10        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 22.00       | 22.00       | 22.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 27          | 31          | 36          |
| 23.1 Collection period (days)                                                                            | 278         | 251         | 225         |
| 23.2 Collection ratio (%)                                                                                | 92          | 84          | 92          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.25        | 0.32        | 0.44        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.30        | 0.37        | 0.48        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.84        | 0.87        | 0.91        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 496.36      | 494.64      | 480.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 273.00      | 277.00      | 264.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 231         | 224         | 208         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.62        | 1.66        | 1.65        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 18.07       | 29.49       | 37.32       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 5.30        | 4.93        | 3.25        |

a. UNICEF and WHO 2012.



**IBNET Indicator/Country: United States**

| <b>Latest year available</b>                                                                             | <b>2011</b> |
|----------------------------------------------------------------------------------------------------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 9,827,000   |
| GNI per capita, Atlas method (current US\$)                                                              | 48,040      |
| Total population (thousands)                                                                             | 311,592     |
| Urban population (%)                                                                                     | 82          |
| Total urban population (thousands)                                                                       | 255,505     |
| <b>MDGs</b>                                                                                              |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 99          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100         |
| <b>IBNET sourced data</b>                                                                                |             |
| Number of utilities reporting in IBNET sample                                                            | 1           |
| Population served (water), (thousands)                                                                   | 311         |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 311         |
| <b>Services coverage</b>                                                                                 |             |
| 1.1 Water coverage (%)                                                                                   | 100         |
| 2.1 Sewerage coverage (%)                                                                                | 46          |
| <b>Operational efficiency</b>                                                                            |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 7           |
| 6.1 Nonrevenue water (%)                                                                                 | 13.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 10          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.70        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |
| 8.1 Water sold that is metered (%)                                                                       | 100         |
| 23.1 Collection period (days)                                                                            | 415         |
| 23.2 Collection ratio (%)                                                                                | 168         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.36        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.92        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.48        |
| <b>Production and consumption</b>                                                                        |             |
| 3.1 Water production (l/person/day)                                                                      | 699.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 610.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 218         |
| <b>Poverty and affordability</b>                                                                         |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.63        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 1464.00     |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 0.49        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Uruguay**

| <b>Latest year available</b>                                                                             | <b>2009</b> | <b>2010</b> | <b>2011</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 176,215     | 176,215     | 176,215     |
| GNI per capita, Atlas method (current US\$)                                                              | 8,520       | 10,110      | 11,700      |
| Total population (thousands)                                                                             | 3,324       | 3,334       | 3,345       |
| Urban population (%)                                                                                     | 92          | 92          | 92          |
| Total urban population (thousands)                                                                       | 3,049       | 3,063       | 3,081       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 100         | 100         | 100         |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100         | 100         | 100         |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 1           | 1           | 1           |
| Population served (water), (thousands)                                                                   | 3,014       | 3,027       | 3,033       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,261       | 3,271       | 3,282       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 98          | 98          | 90          |
| 2.1 Sewerage coverage (%)                                                                                | 23          | 24          | 23          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 13          | 12          | 14          |
| 6.1 Nonrevenue water (%)                                                                                 | 53.00       | 49.00       | 49.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 34          | 32          | 31          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 24.00       | 24.00       | 24.00       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 96          | 97          | 97          |
| 23.1 Collection period (days)                                                                            | 54          | 61          | 76          |
| 23.2 Collection ratio (%)                                                                                | 103         | 11          | 107         |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.84        | 1.80        | 1.94        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.40        | 1.48        | 1.48        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.32        | 1.22        | 1.31        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 277.00      | 280.00      | 311.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 130.00      | 142.00      | 157.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 104         | 114         | 128         |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.02        | 0.92        | 0.95        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           | 124.26      | 127.36      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.21        | 2.83        | 3.13        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Uzbekistan**

| Latest year available                                                                                    | 2008    | 2009    | 2010    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 447,400 | 447,400 | 447,400 |
| GNI per capita, Atlas method (current US\$)                                                              | 960     | 1,130   | 1,300   |
| Total population (thousands)                                                                             | 26,167  | 26,486  | 26,868  |
| Urban population (%)                                                                                     | 36      | 36      | 36      |
| Total urban population (thousands)                                                                       | 9,420   | 9,535   | 9,672   |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 87      | 87      | 87      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 100     | 100     | 100     |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 10      | 10      | 13      |
| Population served (water), (thousands)                                                                   | 7,468   | 7,771   | 11,095  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 8,097   | 8,234   | 12,368  |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 92      | 94      | 90      |
| 2.1 Sewerage coverage (%)                                                                                | 36      | 34      | 24      |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 40      | 40      | 35      |
| 6.1 Nonrevenue water (%)                                                                                 | 29.00   | 29.00   | 36.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 33      | 32      | 34      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90    | 0.90    | 0.90    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 21.00   | 21.00   | 19.20   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 59      | 59      | 65      |
| 23.1 Collection period (days)                                                                            | 242     | 228     | 242     |
| 23.2 Collection ratio (%)                                                                                | 88      | 90      | 95      |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.12    | 0.13    | 0.10    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.11    | 0.12    | 0.11    |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.03    | 1.07    | 0.94    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 351.00  | 342.00  | 304.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 251.00  | 244.00  | 195.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 122     | 122     | 99      |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.15    | 1.02    | 0.55    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 9.81    | 10.51   | 10.55   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 3.96    | 3.41    | 3.91    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: República Bolivariana de Venezuela**

| <b>Latest year available</b>                                                                             | <b>2006</b> |
|----------------------------------------------------------------------------------------------------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 912,050     |
| GNI per capita, Atlas method (current US\$)                                                              | 6,090       |
| Total population (thousands)                                                                             | 27,031      |
| Urban population (%)                                                                                     | 92          |
| Total urban population (thousands)                                                                       | 24,869      |
| <b>MDGs</b>                                                                                              |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | —           |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | —           |
| <b>IBNET sourced data</b>                                                                                |             |
| Number of utilities reporting in IBNET sample                                                            | 17          |
| Population served (water), (thousands)                                                                   | 22,677      |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 25,149      |
| <b>Services coverage</b>                                                                                 |             |
| 1.1 Water coverage (%)                                                                                   | 90          |
| 2.1 Sewerage coverage (%)                                                                                | 74          |
| <b>Operational efficiency</b>                                                                            |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 3           |
| 6.1 Nonrevenue water (%)                                                                                 | 62.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 138         |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.60        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 20.00       |
| <b>Financial efficiency</b>                                                                              |             |
| 8.1 Water sold that is metered (%)                                                                       | 38          |
| 23.1 Collection period (days)                                                                            | 416         |
| 23.2 Collection ratio (%)                                                                                | 91          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.25        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.26        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.95        |
| <b>Production and consumption</b>                                                                        |             |
| 3.1 Water production (l/person/day)                                                                      | 473.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 178.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 128         |
| <b>Poverty and affordability</b>                                                                         |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 0.27        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | —           |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Vietnam**

| Latest year available                                                                                    | 2007    | 2008    | 2009    |
|----------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Surface area (km <sup>2</sup> )                                                                          | 331,212 | 331,212 | 331,212 |
| GNI per capita, Atlas method (current US\$)                                                              | 790     | 920     | 1,120   |
| Total population (thousands)                                                                             | 84,221  | 85,122  | 86,025  |
| Urban population (%)                                                                                     | 29      | 29      | 30      |
| Total urban population (thousands)                                                                       | 24,025  | 24,812  | 25,610  |
| <b>MDGs</b>                                                                                              |         |         |         |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 95      | 95      | 95      |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 76      | 76      | 76      |
| <b>IBNET sourced data</b>                                                                                |         |         |         |
| Number of utilities reporting in IBNET sample                                                            | 69      | 66      | 66      |
| Population served (water), (thousands)                                                                   | 16,339  | 18,096  | 19,613  |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 22,717  | 24,662  | 25,858  |
| <b>Services coverage</b>                                                                                 |         |         |         |
| 1.1 Water coverage (%)                                                                                   | 69      | 72      | 75      |
| 2.1 Sewerage coverage (%)                                                                                | 2       | —       | —       |
| <b>Operational efficiency</b>                                                                            |         |         |         |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 24      | 19      | 18      |
| 6.1 Nonrevenue water (%)                                                                                 | 32.00   | 31.00   | 30.00   |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 42      | 43      | 40      |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.20    | 1.10    | 1.10    |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 22.20   | 22.60   | 22.70   |
| <b>Financial efficiency</b>                                                                              |         |         |         |
| 8.1 Water sold that is metered (%)                                                                       | 100     | 100     | 100     |
| 23.1 Collection period (days)                                                                            | 250     | 263     | 245     |
| 23.2 Collection ratio (%)                                                                                | 98      | —       | —       |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.24    | 0.25    | 0.26    |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.12    | 0.15    | 0.15    |
| 24.1 Operating cost coverage (ratio)                                                                     | 2.05    | 1.72    | 1.68    |
| <b>Production and consumption</b>                                                                        |         |         |         |
| 3.1 Water production (l/person/day)                                                                      | 215.00  | 215.00  | 211.00  |
| 4.1 Total water consumption (l/person/day)                                                               | 147.00  | 147.00  | 149.00  |
| 4.7 Residential consumption (l/person/day)                                                               | 99      | 100     | 103     |
| <b>Poverty and affordability</b>                                                                         |         |         |         |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.63    | 1.46    | 1.26    |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 14.10   | 14.27   | 16.12   |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.14    | 2.05    | 2.07    |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: West Bank and Gaza**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 6,020       | 6,020       | 6,020       |
| GNI per capita, Atlas method (current US\$)                                                              | 1,300       | 1,400       | 1,600       |
| Total population (thousands)                                                                             | 3,937       | 3,920       | 3,905       |
| Urban population (%)                                                                                     | 73          | 74          | 74          |
| Total urban population (thousands)                                                                       | 2,894       | 2,889       | 2,887       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | —           | —           | —           |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | —           | —           | —           |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 6           | 6           | 6           |
| Population served (water), (thousands)                                                                   | 901         | 1,048       | 1,272       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 914         | 1,071       | 1,315       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 99          | 98          | 97          |
| 2.1 Sewerage coverage (%)                                                                                | 56          | 57          | 58          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 25          | 19          | 20          |
| 6.1 Nonrevenue water (%)                                                                                 | 44.00       | 45.00       | 44.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 29          | 35          | 32          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 0.90        | 0.90        | 0.80        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 16.00       | 16.40       | 14.70       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 99          | 100         | 100         |
| 23.1 Collection period (days)                                                                            | 978         | 776         | 585         |
| 23.2 Collection ratio (%)                                                                                | 66          | 57          | 44          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 1.12        | 0.89        | 1.31        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 1.01        | 1.19        | 1.51        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.01        | 1.19        | 1.51        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 115.00      | 133.00      | 123.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 64.00       | 80.00       | 73.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 57          | 80          | 69          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 2.01        | 1.86        | 2.18        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 96.33       | 83.40       | 101.11      |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 1.65        | 0.86        | 11.53       |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Republic of Yemen**

| <b>Latest year available</b>                                                                             | <b>2008</b> | <b>2009</b> | <b>2010</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 527,968     | 527,968     | 527,968     |
| GNI per capita, Atlas method (current US\$)                                                              | 980         | 1,110       | 1,220       |
| Total population (thousands)                                                                             | 22,627      | 23,328      | 24,053      |
| Urban population (%)                                                                                     | 31          | 31          | 32          |
| Total urban population (thousands)                                                                       | 6,928       | 7,274       | 7,635       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 55          | 55          | 55          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 53          | 53          | 53          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 10          | 10          | 10          |
| Population served (water), (thousands)                                                                   | 2,450       | 2,539       | 2,611       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 3,405       | 3,638       | 3,756       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 63          | 61          | 61          |
| 2.1 Sewerage coverage (%)                                                                                | 61          | 61          | 64          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | 17          | 24          | 24          |
| 6.1 Nonrevenue water (%)                                                                                 | 33.00       | 34.00       | 33.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | 18          | 17          | 18          |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | 1.30        | 1.20        | 1.20        |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 16.40       | 16.20       | 16.80       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | 104         | 104         | 104         |
| 23.1 Collection period (days)                                                                            | 428         | 407         | 364         |
| 23.2 Collection ratio (%)                                                                                | 115         | 122         | 71          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.49        | 0.57        | 0.56        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.64        | 0.72        | 0.68        |
| 24.1 Operating cost coverage (ratio)                                                                     | 0.61        | 0.59        | 0.59        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 108.00      | 105.00      | 106.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 74.00       | 71.00       | 73.00       |
| 4.7 Residential consumption (l/person/day)                                                               | 58          | 57          | 59          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.35        | 1.33        | 1.22        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 18.16       | 22.71       | 24.19       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | 2.84        | 3.24        | 3.18        |

a. UNICEF and WHO 2012.

**IBNET Indicator/Country: Zambia**

| <b>Latest year available</b>                                                                             | <b>2011</b> | <b>2012</b> | <b>2013</b> |
|----------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Surface area (km <sup>2</sup> )                                                                          | 1,160       | 1,160       | 1,160       |
| GNI per capita, Atlas method (current US\$)                                                              | 1,180       | 1,350       | 1,400       |
| Total population (thousands)                                                                             | 13,475      | 13,475      | 13,840      |
| Urban population (%)                                                                                     | 39          | 39          | 40          |
| Total urban population (thousands)                                                                       | 5,255       | 5,255       | 5,481       |
| <b>MDGs</b>                                                                                              |             |             |             |
| Access to improved water sources 2010 (%) <sup>a</sup>                                                   | 61          | 61          | 61          |
| Access to improved sanitation 2010 (%) <sup>a</sup>                                                      | 48          | 48          | 48          |
| <b>IBNET sourced data</b>                                                                                |             |             |             |
| Number of utilities reporting in IBNET sample                                                            | 11          | 11          | 11          |
| Population served (water), (thousands)                                                                   | 4,243       | 4,435       | 4,626       |
| Size of the sample: Total population living in service area (water supply), (thousands)                  | 5,559       | 5,620       | 5,682       |
| <b>Services coverage</b>                                                                                 |             |             |             |
| 1.1 Water coverage (%)                                                                                   | 76          | 79          | 82          |
| 2.1 Sewerage coverage (%)                                                                                | 53          | 55          | 56          |
| <b>Operational efficiency</b>                                                                            |             |             |             |
| 13.2 Electrical energy costs vs. operating costs (%) (share of energy cost as % of operational expenses) | —           | —           | —           |
| 6.1 Nonrevenue water (%)                                                                                 | 46.00       | 55.00       | 43.00       |
| 6.2 Nonrevenue water (m <sup>3</sup> /km/day)                                                            | —           | —           | —           |
| 12.3 Staff W/1,000 W population served (W/1,000 W population served)                                     | —           | —           | —           |
| 15.1 Continuity of service (hrs/day) (duration of water supply, hours)                                   | 16.30       | 16.30       | 17.10       |
| <b>Financial efficiency</b>                                                                              |             |             |             |
| 8.1 Water sold that is metered (%)                                                                       | —           | —           | —           |
| 23.1 Collection period (days)                                                                            | —           | —           | —           |
| 23.2 Collection ratio (%)                                                                                | 81          | 63          | 66          |
| 18.1 Average revenue W & WW (US\$/m <sup>3</sup> water sold)                                             | 0.44        | 0.61        | 0.52        |
| 11.1 Operational cost W & WW (US\$/m <sup>3</sup> water sold)                                            | 0.35        | 0.47        | 0.39        |
| 24.1 Operating cost coverage (ratio)                                                                     | 1.25        | 1.28        | 1.35        |
| <b>Production and consumption</b>                                                                        |             |             |             |
| 3.1 Water production (l/person/day)                                                                      | 227.00      | 217.00      | 197.00      |
| 4.1 Total water consumption (l/person/day)                                                               | 123.00      | 98.00       | 112.00      |
| 4.7 Residential consumption (l/person/day)                                                               | 77          | 73          | 74          |
| <b>Poverty and affordability</b>                                                                         |             |             |             |
| 19.1 Total revenues/service population/GNI (% GNI per capita) (average revenues)                         | 1.67        | 1.62        | 1.52        |
| 19.2 Annual bill for households consuming 6 m <sup>3</sup> of water/month (US\$/yr)                      | 23.37       | 23.22       | 23.26       |
| 21.1 Ratio of industrial to residential tariff (level of cross-subsidy)                                  | —           | —           | —           |

a. UNICEF and WHO 2012.



## Reference

UNICEF and WHO (World Health Organization). 2012. *Progress on Drinking Water and Sanitation: 2012 Update*. [www.unicef.org/media/files/JMPreport2012.pdf](http://www.unicef.org/media/files/JMPreport2012.pdf).



# Index

*Boxes, figures, notes, and tables are indicated by “b,” “f,” “n,” and “t” following page numbers.*

## A

ACWUA (Arab Countries Water Utilities Association), xi  
affordability of water and sanitation services, 3, 19–20, 19*t*  
Africa. *See also specific regions and countries*  
    staff productivity in, 12  
    water consumption in, 18  
Albania, data table for, 37*t*  
Algeria, data table for, 38*t*  
Apgar score for water and sanitation utilities, 25–29  
    application of, 26–29, 27–28*f*, 28*t*, 33*n*1  
    criteria, 25, 26–27*t*  
    income levels and, 28–29, 28*t*  
    overview, 4  
    utility size and, 29, 29*f*  
    value to utility managers and water authorities, 34*n*3  
AquaRating system, 24*b*, 24*f*  
Arab Countries Water Utilities Association (ACWUA), xi  
Arab Republic of Egypt, data table for, 68*t*  
Argentina, data table for, 39*t*  
Armenia, data table for, 40*t*  
Asia. *See specific regions and countries*  
assessment. *See measures of performance*  
Australia, data table for, 41*t*  
Azerbaijan, data table for, 42*t*

## B

Bahrain, data table for, 44*t*  
Bangladesh, data table for, 43*t*  
Belarus, data table for, 45*t*  
benchmarking. *See* Apgar score for water and sanitation utilities; International Benchmarking Network for Water and Sanitation Utilities (IBNET)

## Benin

    cost recovery vs. vulnerability in, 32, 33*f*  
    data table for, 46*t*  
Bhutan, data table for, 47*t*  
billing and collections, 2, 18, 19*t*  
Bolivia (Plurinational State of), data table for, 48*t*  
Bosnia and Herzegovina, data table for, 49*t*  
Brazil, data table for, 50*t*  
Bulgaria, data table for, 51*t*  
Burkina Faso, data table for, 52*t*  
bursts and breaks of pipes, 3, 16*b*  
Burundi, data table for, 53*t*

## C

Cabo Verde, data table for, 54*t*  
Cambodia, data table for, 55*t*  
Cameroon, data table for, 56*t*  
Caribbean. *See* Latin America and Caribbean  
Central African Republic, data table for, 57*t*  
Central Asia. *See* Eastern Europe and Central Asia  
Chile, data table for, 58*t*  
China, data table for, 59*t*  
collection of data. *See* data collection and analysis  
collections. *See* billing and collections  
Colombia, data table for, 60*t*  
Congo (Democratic Republic of), data table for, 61*t*  
consumption of water, 3, 17–18, 18*t*  
Costa Rica, data table for, 62*t*  
cost recovery ratio (CRR), 2, 2*f*  
Côte d’Ivoire, data table for, 63*t*  
country data tables, 37–138. *See also specific countries*  
Croatia, data table for, 64*t*

cross-subsidies, 20–21, 20*t*

Czech Republic

data table for, 65*t*

privatization in, 33

## D

data collection and analysis, xi, 1, 7

data quality, 8

data tables by country, 37–138. *See also specific countries*

Democratic Republic of Congo, data table for, 61*t*

Demographic Health Surveys and Multiple Indicator Cluster Surveys, 22*n*3

## E

East Asia and Pacific, water consumption in, 17–18. *See also specific countries*

Eastern Europe and Central Asia. *See also specific countries*

staff productivity in, 12

water consumption in, 18

economic crises, effects of, 2, 8, 9, 21, 26, 29

economies of scale, 16*b*

Ecuador, data table for, 66*t*

Egypt (Arab Republic of), data table for, 68*t*

El Salvador, data table for, 67*t*

energy costs, 16–17

Estrella, A., 30

Ethiopia, data table for, 69*t*

Europe. *See specific regions and countries*

## F

Fiji, data table for, 70*t*

financial crises (2008 and 2010), 2, 8, 9, 21, 26, 29

financial performance, indicators of, 23

Former Yugoslav Republic of Macedonia, data table for, 89*t*

fuel crisis (2007), 21

## G

Gabon

cost recovery vs. vulnerability in, 32, 33*f*  
data table for, 71*t*

The Gambia, data table for, 72*t*

Gaza and West Bank, data table for, 136*t*

Georgia, data table for, 73*t*

German Society for International Cooperation (GIZ), xi

Ghana, data table for, 74*t*

global financial crises (2008 and 2010), 2, 8, 9, 21, 26, 29

good utility, definition of, 23–24. *See also*  
Apgar score for water and sanitation  
utilities; Water Utility Vulnerability  
Index (WUVI)

gross domestic product (GDP), 3, 7

gross national income (GNI), 16*b*

Guinea, data table for, 75*t*

## H

high-income countries

affordability of water and sanitation  
services, 3, 19–20

Apgar score for, 28–29, 28*t*

cost recovery ratio, 2, 2*f*

nonrevenue water, 10, 11–12*f*

operating cost coverage ratio, 14, 15*f*

operation and maintenance costs, 2, 15,  
16, 17

revenues, 17, 18

staff costs, 13

wastewater coverage, 9

water service coverage, 8

Honduras, inauguration of benchmarking  
efforts in, xi

Hungary, data table for, 76*t*

## I

IBNET. *See* International Benchmarking  
Network for Water and Sanitation  
Utilities

income levels. *See* high-income countries;  
low-income countries; middle-  
income countries

India, data table for, 77*t*

indicators. *See* performance indicators

Indonesia, data table for, 78*t*

industrial consumers, 20–21

Inter-American Development Bank  
(IDB), 24*b*

International Benchmarking Network  
for Water and Sanitation Utilities  
(IBNET). *See also* water and  
sanitation sector

Apgar score, 25–29, 26–28*t*, 27–29*f*

data collection and analysis, xi, 1, 7

growth of, 21

measures of performance, 23–35,  
33*n*1. *See also* measures of  
performance

objectives of, xi, 7

partners, list of, xvii

performance indicators, 8–22. *See also*  
performance indicators

quality of data, 8  
 success of, 1  
 Water Utility Vulnerability Index, 4,  
 23–24, 29–33, 31–33*f*  
 International Water Association (IWA),  
 9–10, 24*b*  
 investment subsidies, 14

## J

Jordan, data table for, 79*t*

## K

Kazakhstan, data table for, 80*t*  
 Kenya, data table for, 81*t*  
 Kingdom, B., 10  
 Kiribati, data table for, 82*t*  
 Kuwait, data table for, 83*t*  
 Kyrgyz Republic, data table for, 84*t*

## L

labor costs, 16*b*, 17  
 Lao People's Democratic Republic, data  
 table for, 85*t*  
 large vs. small utilities, 29, 29*f*  
 Latin America and Caribbean. *See also*  
*specific countries*  
 staff productivity in, 12  
 water consumption in, 17–18  
 Lesotho, data table for, 86*t*  
 Liberia, data table for, 87*t*  
 Liemberger, R., 10  
 Lithuania, data table for, 88*t*  
 low-income countries  
 affordability of water and sanitation  
 services, 3, 19–20  
 Apgar score for, 28–29, 28*t*  
 cost recovery ratio, 2, 2*f*  
 nonrevenue water, 3, 10, 11–12*f*  
 operating cost coverage ratio, 14, 15*f*  
 operation and maintenance costs, 2,  
 15–16, 17  
 revenues, 17, 18  
 staff productivity and costs, 12, 13  
 wastewater coverage, 9  
 water service coverage, 8

## M

Macao SAR, China, data table for, 90*t*  
 Macedonia (Former Yugoslav Republic  
 of), data table for, 89*t*  
 Madagascar, data table for, 91*t*  
 maintenance costs. *See* operation and  
 maintenance (O&M) costs  
 Malawi, data table for, 92*t*

Malaysia, data table for, 93*t*  
 Mali, data table for, 94*t*  
 managerial performance, 10–12, 11*t*  
 Marin, P., 10  
 Mauritania, data table for, 95*t*  
 Mauritius, data table for, 96*t*  
 measures of performance, 23–35. *See also*  
*performance indicators*  
 Apgar score, 25–29, 26–28*t*, 27–29*f*  
 AquaRating system, 24*b*, 24*f*  
 challenges in defining, 23, 24  
 Water Utility Vulnerability Index, 4,  
 23–24, 29–33, 31–33*f*  
 metering, 2, 12, 12*f*, 16*b*, 21  
 Mexico, data table for, 97*t*  
 Micronesia, data table for, 98*t*  
 Middle East and North Africa, water  
 consumption in, 17–18. *See also*  
*specific countries*  
 middle-income countries  
 affordability of water and sanitation  
 services, 3, 19–20  
 Apgar score for, 28–29, 28*t*  
 cost recovery ratio, 2, 2*f*  
 nonrevenue water, 3, 10, 11–12*f*  
 operating cost coverage ratio, 14, 15*f*  
 operation and maintenance costs, 2, 15,  
 16, 17  
 revenues, 17, 18  
 staff productivity and costs, 12, 13  
 wastewater coverage, 9  
 water service coverage, 8  
 Millennium Development Goals (MDGs),  
 2, 8  
 Mishkin, F., 30  
 Moldova  
 data table for, 99*t*  
 water sector development in, 31–32,  
 31–32*f*  
 Mozambique, data table for, 100*t*

## N

Namibia, data table for, 101*t*  
 Netherlands Antilles, data table for, 102*t*  
 New Zealand, data table for, 103*t*  
 Nicaragua, data table for, 104*t*  
 Niger, data table for, 105*t*  
 Nigeria, inauguration of benchmarking  
 efforts in, xi  
 nonrevenue water (NRW), 3, 9–12, 10–11*t*,  
 11–12*f*, 16*b*  
 North Africa. *See* Middle East and North  
 Africa; *specific countries*

**O**

operating cost coverage ratio (OCCR),  
13–14, 14*t*, 15*f*  
operating revenues, 17, 18, 18–19*t*  
operating subsidies, 14  
operation and maintenance (O&M) costs,  
2–3, 14–17, 16*b*, 16*t*, 21  
outsourcing, 13

**P**

Pacific Region. *See* East Asia and Pacific;  
*specific countries*  
Pacific Water and Wastes Association  
(PWWA), xi  
Pakistan, data table for, 106*t*  
Panama, data table for, 107*t*  
Papua New Guinea, data table for, 108*t*  
Paraguay, data table for, 109*t*  
performance indicators, 8–22. *See also*  
measures of performance  
affordability of water and sanitation  
services, 19–20, 19*t*  
billing and collections, 2, 18, 19*t*  
consumption of water, 3, 17–18, 18*t*  
cross-subsidies, 20–21, 20*t*  
drivers of, 16*b*, 21  
financial, 23  
interconnectivity of, 22  
managerial, 10–12, 11*t*  
nonrevenue water, 9–12, 10–11*t*,  
11–12*f*  
operating cost coverage ratio, 13–14,  
14*t*, 15*f*  
operating revenues, 17, 18*t*  
operation and maintenance costs,  
14–17, 16*b*, 16*t*  
staff productivity, 12–13, 13*t*  
wastewater coverage, 9, 9*t*  
water service coverage, 8, 9*t*  
weighting and normalization of, 24–25  
Peru, data table for, 110*t*  
Philippines, data table for, 111*t*  
Plurinational State of Bolivia, data table  
for, 48*t*  
pipe bursts and breaks, 3, 16*b*  
Poland, data table for, 112*t*  
probit analysis statistical technique, 30  
production of water, 16*b*  
productivity of staff. *See* staff  
productivity  
PWWA (Pacific Water and Wastes  
Association), xi

**Q**

quality of data, 8  
quality of service, 17

**R**

Republic of Yemen, data table for, 137*t*  
República Bolivariana de Venezuela, data  
table for, 134*t*  
revenues, operating, 17, 18, 18–19*t*  
Romania, data table for, 113*t*  
Russian Federation, data table for, 114*t*  
Rwanda, data table for, 115*t*

**S**

sanitation. *See* water and sanitation sector  
Senegal, data table for, 116*t*  
service coverage, as performance indicator,  
8, 9, 9*t*  
service quality, 17  
sewage treatment. *See* water and sanitation  
sector  
The Seychelles, data table for, 117*t*  
Singapore, data table for, 118*t*  
size of utility, 29, 29*f*  
Slovak Republic, data table for, 119*t*  
small vs. large utilities, 29, 29*f*  
South Africa, data table for, 120*t*  
South Asia, water consumption in, 18.  
*See also specific countries*  
Sri Lanka, data table for, 121*t*  
staff costs, 13, 13*t*  
staff productivity, 3, 12–13, 13*t*  
Sub-Saharan Africa. *See specific countries*  
subsidies, 14, 20–21, 20*t*  
Sudan  
data table for, 122*t*  
lack of water service coverage in, 1  
Swaziland, data table for, 123*t*  
Swiss Development Agency, xi

**T**

Tajikistan, data table for, 124*t*  
Tanzania, data table for, 125*t*  
tariffs, 1, 3, 21  
Togo  
cost recovery vs. vulnerability in, 32, 33*f*  
data table for, 126*t*  
Tunisia, data table for, 127*t*  
Turkey, data table for, 128*t*

**U**

Uganda, data table for, 129*t*  
Ukraine, data table for, 130*t*

unaccounted-for water, 1, 3  
 UNICEF-WHO Joint Monitoring  
   Program, 22*n*3  
 United States  
   data table for, 131*t*  
   water supply conditions in, 1  
 urbanization, 2, 25, 32  
 Uruguay, data table for, 132*t*  
 utility size, 29, 29*f*  
 Uzbekistan, data table for, 133*t*

## V

Venezuela (República Bolivariana de), data  
   table for, 134*t*  
 Vietnam, data table for, 135*t*

## W

wastewater coverage  
   as performance indicator, 9, 9*t*  
   scope of, 22*n*1  
 water and sanitation sector  
   affordability of services, 3, 19–20, 19*t*  
   definitions of success in, 23, 24  
   improvements in, xi–xii, 1–2, 3, 21  
   measures of performance, 23–35.  
     *See also* measures of performance  
   performance indicators, 8–22. *See also*  
     performance indicators  
   service coverage, 8, 9, 9*t*  
   size of utility, 29, 29*f*  
   staff productivity, 3, 12–13, 13*t*

  status of, 1–3  
   urbanization and, 2, 25, 32  
 water consumption, 3, 17–18, 18*t*  
 water production, 16*b*  
 water service coverage, as performance  
   indicator, 8, 9*t*  
 water tariffs, 1, 3, 21  
 Water Utility Vulnerability Index (WUVI),  
   29–33  
   Czech Republic case study, 33  
   defined, 29–30  
   determination of, 34*n*2  
   Moldova case study, 31–32, 31–32*f*  
   overview, 4, 23–24  
   properties of, 30–31  
   value to utility managers and water  
     authorities, 34*n*3  
   western Africa case study, 32, 33*f*  
 West Bank and Gaza, data table for, 136*t*  
 World Bank  
   IBNET administered by, xi  
   project development and supervision,  
     use of IBNET in, 21  
 WUVI. *See* Water Utility Vulnerability  
   Index

## Y

Yemen (Republic of), data table for, 137*t*

## Z

Zambia, data table for, 138*t*

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