

# International Comparison Program

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## **Water Supply** **Approach and Data Requirements**

*Draft version*



**Operational Guide**

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# Water Supply: Approach and Data Requirements <sup>1</sup>

## 1. Guidelines for the Collection of Water Tariff

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Traditionally, water is drawn from local surface or groundwater sources, treated and distributed by registered water supply utilities. These may be owned and/or operated as part of the state or local municipal governments, private developers, community management organizations, etc. Water treatment facilities normally have a design life of several decades or more and represent a major capital investment and normally significant ongoing operating and maintenance costs. Usually tight regulations govern the water service subsector and cover areas including but not limited to infrastructure, production, distribution, sewage, sanitation, human health, environment, and price schedule.

Water distribution includes outdoor as well as indoor outlets for residential as well as nonresidential water customers. Economics of water uses assumes two ways in which water can be priced. These are direct pricing and indirect pricing. Direct pricing involves the setting of prices, fees, and charges payable by users, re-users and disposers of water while indirect pricing relies on assessment of a number of parameters and mechanisms revealing the cost of using water and associated resources. Historically, direct pricing used to be favored for ease of observation. But as knowledge evolves along with the establishment of standardized water pricing systems, indirect pricing may provide more accurate indicators comparable across countries.

The 2011 Global Core List for Household Consumption Survey of the International Comparison Program is designed to collect the associated cost of water consumption through the direct pricing method. It covers three items under Basic Heading 1104411: Water supply. Participating regions/countries are collecting prices for one (1) cubic of meter for the following items: (i) Drinking water - excluding sewerage, (ii) Drinking water - including sewerage, and (iii) Tap water - individual consumption meters. Prices and quantities will be collected for each item and validated at country, regional and global level.

In the past, ICP adopted different approaches of collection of prices for water supply services. In 2005 for example, prices were collected using different lists of items in the regions in particular during the Ring exercise. As a result, the Purchasing Power Parities faced comparability issues. Statistical discrepancies observed were mainly related to differences in water sector regulation, nature of provider (public vs. private), water treatment, water service quality, and forms of distribution of drinking water through individual versus collective taps in the countries. It was also reported that, in some regions, provision of water service at municipality level varied according to location. For example, prices in urban areas tend to be higher than rural areas, where water service is sometimes subsidized.

In order to address these issues, and in addition to the Global Core List, the Global Office has developed for the 2011 round of the International Comparison Program a special form to collect important structural information to understand the formation of water tariffs in the countries. This form is meant for indirect pricing and features the status of the water service management company, e.g. public/private, tariff structure type per block of consumption volumes for water and sewage, price for a typical monthly variable and fixed costs, consumption patterns, exchange rates and few data assessment indicators such as Country GDP per capita, per capita domestic consumption volume and water/wastewater bill as % of GDP/capita. The block pricing concept can be uniformly applied across countries. The thresholds may vary from country to country, but almost all countries would have blocks for lower, average, and higher household consumption expressed in volume (cubic meter or cubic feet).

It is expected that these calibration information collected through the Data Collection Form for Water Tariff would support the prices collected under the Water Supply basic heading (including Global Core items and Regional items). This information may be used to adjust prices or PPPs for quality, both at the regional and the global comparison levels, if needed.

The preferred sources of information for the Data Collection Form for Water Tariff are utility companies, water bills, and water sector studies in ICP participating countries.

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<sup>1</sup> This chapter is prepared by Biokou Mathieu Djayeyola, with input from Nada Hamadeh and Virginia Romand, based on discussions with Alexander V. Danilenko.

## 2. Data Collection Form for Water Tariff

Collection Form of Water Tariff				
Country Name : _____				
Time period: _____				
City name: _____				
Utility name _____				
1	Management (Public/Private)		Public o	Private o
2	Combined wastewater billing (y/n)			
3	Tariff structure type			
31	The blocks tariff (water)			
311	First block limit m3 per month			
312	First block tariff per m3 (ex VAT)			
313	Second block limit m3 per month			
314	Second block tariff per m3 (ex VAT)			
315	Third block limit m3 per month			
316	Third block tariff per m3 (ex VAT)			
317	Other blocks describe <sup>1</sup>			
32	The blocks tariff (wastewater)			
321	First block limit			
322	First block tariff per m3 (ex VAT)			
323	Second block limit			
324	Second block tariff per m3 (ex VAT)			
325	Third block limit			
326	Third block tariff per m3 (ex VAT)			
327	Other blocks describe <sup>2</sup>			
391	Other volumetric charges			
392	Other fixed charges (per month)			
393	Other percentage charges			
394	Sales Tax (%)			
395	Other structures (describe)			
4	Water and wastewater/m3 for 15m3/month user via pipe of 5/8" in diameter (local currency)			
41	Water/m3 for 15m3/month user (Inc VAT)			
42	Water/m3 for 15m3/month user			
43	Wastewater/m3 for 15m3/month user (inc VAT)			
44	Wastewater/m3 for 15m3/month user			
5	Water and wastewater/m3 for 15m3/month user via any other type of pipe (local currency)			
51	Water/m3 for 15m3/month user			
52	Wastewater/m3 for 15m3/month user			
6	Exchange rate			
7	Total Water and Wastewater			
71	Total water 3			
711	Water Variable costs			
712	Water Fixed Costs			
713	Total Water Tax			
72	Total wastewater 4			
721	Wastewater variable costs			
722	Wastewater fixed costs			
	Wastewater Sales tax			
8	Total Increase (%) water and wastewater			
81	Increase Vs previous period water (%) in own currency			
82	Per capita domestic consumption			
83	Average household bill assumption per capital consumption and 3 person household			
84	GDP per capita			
85	Water/Wastewater bill as % of GDP/head			

**Notes:** 1/2. Description if there are more blocks available in the countries.

3. The value of total water is equal to sum of water variable costs, water fixed costs and total water tax.

4. The value of total wastewater is equal to sum of wastewater variable costs, wastewater fixed costs and total wastewater tax.