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Disparities in Water Pricing in Latin America and the Caribbean

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WATER FOR HUMAN DEVELOPMENT

Disparities in Water Pricing in Latin America and the Caribbean

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Tables 1: Disparities in prices and quality of water for human consumption

Tables included in the file **Tables 1.xls** show statistical evidence on disparities in prices of water for human consumption and differences in water quality.

Table 1.1 presents information on access to water. In this table we divide the sources of water into five categories: 1) piped water (mainly piped public water); 2) public, but not piped water; 3) water vendors; 4) well water (including rainwater and river/lake/spring water²); and 5) other sources.

To analyze whether poor people have access to water of lower quality we construct Table 1.2. It shows the sources of water by household equivalized income quintiles. If we assume that water from pipe and vendors is water of higher quality than water from well and other sources, we can provide some statistical evidence on disparities in water quality by income quintiles.

Unfortunately, most of the household surveys included in this project do not collect information on prices of water, but all the surveys contain questions about total expenditures in water.³ Table 1.3 reports average household total expenditure in water by source⁴, highlighting the potential differences between the price of piped water, well water and water vendors. Table 1.4 shows average household total expenditure in water by household equivalized income quintiles, presenting evidence on the relation between access to water and purchasing power.

Finally, Tables 1.5 to 1.8 show statistical evidence on access to different sources of drinking water disaggregated by gender and educational level of the household head, poverty condition and geographical location.

Tables 2: Water spending as a share of household income

All the tables included in the file **Tables 2.xls** present statistical evidence on water spending as a share of total household income.

Table 2.1 reports this evidence disaggregated by household equivalized income quintiles. The information contained on this table is useful if we want to check the fact that poorer people spend a larger share of their income in water. Similar conclusions can

² Alternatively, these sources can be included in other sources.

³ In some cases this information exists only if the source of water is piped water and water vendors.

⁴ If a household have 2 sources of water, the expenditure in water from the second source is assigned to the main source, because in some countries is not possible to separate the water expenditure between different sources.

be obtained from Table 2.2. This table shows water spending as a share of total household income by poverty condition. We use 2 alternative poverty lines to identify the poor: USD 2-a-day poverty line and national moderate poverty line.

On Table 2.3 the information on water spending is divided by area (urban-rural) to take into account the role played by geographic location in water access and consumption. In Table 2.4 race (white-non white) is used as the division criterion, highlighting that ethnic group membership can be an explanatory variable of differences in water access. Table 2.5 presents information on water spending as a share of total household income by educational groups (low-middle-high).⁵ Finally, Table 2.6 shows similar statistics to previous tables disaggregated by gender of the household head.

Tables 3: Per capita water expenditure

In the file **Tables 3.xls** there are 4 tables reporting information about per capita water expenditure by income quintiles and deciles. We use per capita expenditure as a proxy of per capita consumption because of the latter variable could be constructed only in a few countries.

Tables 3.1 and 3.2 show per capita water expenditure by household equivalized income quintiles and deciles, respectively. To assess the robustness of the results to the income variable chose in Tables 3.3 and 3.4 we present similar information using household per capita income.

Tables 4: Access to a safe source of water

The easy access to a safe source of water is one of the fundamental indicators of development. Most LAC surveys do not ask about potable water, but on the location of the water source. We construct a variable that takes the value 1 if the household has access to a source of water (safe water if recorded in the survey) in the house or lot. All the tables included in the file **Tables 4.xls** present statistical evidence on this aspect.

Table 4.1 shows the share of population with access to a safe source of water by household equivalized income quintiles at the national level. Table 4.2 presents similar information, but restricted to urban areas. On Table 4.3 the data about access to a safe source of water is divided by areas (urban-rural). Finally, in Table 4.4 the information is reported by gender of the household head.

Tables 5: Income shares and water spending shares

⁵ Low: 0 to 8 years of education, Middle: 8 to 12 years of education and High: 13 or more years of education.

In the file **Tables 5.xls** there are 4 tables reporting information about shares of each quintile (decile) in income and water expenditure. Table 5.1 (5.2) shows the share of each quintile (decile) in total household income and total household water expenditure. Similarly, Table 5.3 (5.4) presents the share of each quintile (decile) in household per capita income and household per capita water expenditure.

List of countries and years included

Country	Year	Name of the Survey
Argentina	1996-97	Encuesta Nacional de Gasto de los Hogares
Bolivia	2002	Encuesta a Hogares
Colombia	2003	Encuesta de Calidad de Vida
Ecuador	1998	Encuesta de Condiciones de Vida
El Salvador	2003	Encuesta de Hogares de Propósitos Múltiples
Guatemala	2000	Encuesta de Condiciones de Vida
Jamaica	2002	Jamaican Survey of Living Conditions
Mexico	2002	Encuesta Nacional de Ingresos y Gastos de los Hogares
Nicaragua	2001	Encuesta Nacional de Hogares sobre Medición de Niveles de Vida
Paraguay	2000-01	Encuesta Integrada de Hogares
Peru	2003	Encuesta Nacional de Hogares
Suriname	1999	Expenditure Household Survey

Questions about water in household surveys

In this Appendix we list the questions about water access, water consumption and expenditures on water in the household surveys of most of the countries to be included in the study.

ARGENTINA 1996-1997

- The dwelling is located in a block with...
 - ✓ Piped water?
- The water for drinking and cooking in your dwelling is distributed by...
 1. Pipe inside dwelling
 2. Pipe outside dwelling, by inside yard
 3. Outside yard
- What is the main type of water supply does you dwelling have?
- Do you have hot water in the kitchen?
- Do you have hot water in the bathroom?
- How much was the last expenditure on piped potable water and electricity for your household?

BOLIVIA 2002

- What is the main type of water supply does you dwelling have?
- How many hours a day is water available in this dwelling?
- Do you have water continuously (all the year)?
- The water for drinking and cooking is distributed by...
 1. Tap inside dwelling
 2. Tap outside dwelling, by inside yard
 3. Not distributed inside dwelling or yard
- How much was the water bill for your household (last month)?

COLOMBIA 2003

- What is the main source of drinking water for your household?
- Where is your water tap located?
 1. Inside dwelling
 2. Inside yard
 3. Outside yard
- How many days was water available the last month in this dwelling?
- How many hours a day was water available on an average day the last month in this dwelling?
- In your opinion, the quality of the water is good for drinking?
- During the last month did you pay for water consumption?
- How much was the latest bill for water service for your household?
- How many months were covered by this bill?

ECUADOR 1998

- What is the main source of drinking water for your household?
- Do you have water continuously?
- Where is your water tap located?
 1. Inside dwelling
 2. Inside yard
 3. Outside yard
- How far is the source of water? (In house, walking, each way)
- During the last month did you pay for water consumption?
- How much was the latest water bill for your household?
- How many months were covered by this bill?
- What steps are taken to improve the quality of drinking water in this household?
 1. None
 2. Water is boiled
 3. Bleach chloride is added to the water
 4. Other
- What steps are taken to improve the quality of drinking water in this household?

EL SALVADOR 2003

- What is the main source of water for your household?
- In your opinion, the quality of the water from this source is good for drinking?
- What steps are taken to improve the quality of drinking water in this household?
 1. Water is boiled
 2. Water is treated with bleach or another product
 3. Water is filtered
 4. None
 5. Purified water is bought
 6. Drinking water is obtained from other source
 7. Other
- How much was the latest monthly water bill for your household?

GUATEMALA 2000

- What is the main source of water used by this household?
- The water supply system is...
 1. Public
 2. Private
- In the last month, what quantity of water your household consume?
- How many days was water available the last month in this dwelling?
- How many hours a day was water available on an average day the last month in this dwelling?
- How far is the source of water? (In minutes, walking, each way)
- How much are your monthly water expenses (piped or truck water)?
- What steps are taken to improve the quality of drinking water in this household?
 1. None

2. Water is boiled
3. Water is filtered
4. Bleach chloride is added to the water
5. Other

JAMAICA 2002

- What is the main source of drinking water for your household?
- Have you had a water lock-off in the last 20 days?
- Have you a group or individual meter?
- How much was the latest water bill for your household?
- How many months were covered by this bill?
- Is this supply source used by your household only or it is shared with others?
- How far from this dwelling is this supply source?
- Are you satisfied with the quality of the piped water used for drinking in the home?
- Why are you not satisfied?
- Are any steps taken to the conserve water in this household?
- What steps are taken?

MEXICO 2002

- Do you have piped water?
- If you not, what is the main source of drinking water for your household?
- Where is your water tap located?
- Do you have water continuously?
- How much was the water bill for your household (last month)?

NICARAGUA 2001

- What is the main source of drinking water for your household?
- Do you have water continuously?
- How many hours in a day, on average, did dwelling receive water during the last week?
- How many days in a week, on average, did dwelling receive water during the last month?
- How many people transport the water from the main supply source to the dwelling?
- How far from this dwelling is this supply source? (In hours, walking, each way)
- How far from this dwelling is this supply source? (In minutes, walking, each way)
- During the last month did you pay for water consumption?
- How much was the water bill for your household (last time)?
- What steps are taken to improve the quality of drinking water in this household?
 1. None
 2. Water is boiled

3. Bleach chloride is added to the water
4. Purified water is bought
5. Other

PARAGUAY 2001

- What is the main source of drinking water for your household?
- Last month: ¿How much did you pay for water consumption?
- Where is your water tap located?
 1. Inside dwelling
 2. Inside yard
 3. Outside yard

PERU 2003

- What is the main source of drinking water for your household?
- How much was the last monthly water bill for your household?

SURINAME 1999

- Water, types of monthly household expenses
- Monthly expenses water in LCU