WATER

PROJECT:

Strengthening Institutions to Improve Public Expenditure Accountability

Partner Institutions:

FUNDESA
Fundación para el Desarrollo de Guatemala

GDN
GLOBAL DEVELOPMENT NETWORK

RESULTS FOR DEVELOPMENT INSTITUTE

Strengthening Institutions to Improve Public Expenditure Accountability

Sector: **Health**
Phase 1: **Program Budgeting Analysis**
Phase 2: **Benefit Incidence Analysis**

Institutions involved in the Project:

- *Fundación para el Desarrollo de Guatemala* – **FUNDESA** – www.fundesa.org.gt
- Global Development Network – **GDN** – www.gdnet.org
- Results for Development Institute – **R4D** – www.resultsfordevelopment.org

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PARTNER INSTITUTIONS

FUNDACIÓN PARA EL DESARROLLO DE GUATEMALA – FUNDESA –

FUNDESA is a private, nonpartisan, independent and nonprofit organization, made up by business people, acting with personal capacity. The foundation conducts research and engages in advocacy in several areas such as social policy and economic reforms that contribute to the integral, sustainable and democratic development as well as the promotion of a market economy and the rule of law. The foundation acts as an independent, representative and proactive organization that has a long-term vision for key Guatemalan development issues.

GLOBAL DEVELOPMENT NETWORK – GDN –

The Global Development Network (**GDN**) is an International Organization of research and policy institutes promoting the generation, sharing and application to policy of multidisciplinary knowledge for the purpose of development. It was founded on the premise that good policy research, properly applied, can accelerate development and improve people's lives. **GDN**'s approach to policy relevant research is a multidisciplinary one, in that efforts to address development challenges must be informed by knowledge based on a variety of methodological approaches.

RESULTS FOR DEVELOPMENT INSTITUTE – R4D –

The Results for Development Institute (**R4D**) is a nonprofit organization dedicated to accelerating social and economic progress in low and middle income countries. It provides policy analysis, critical information, decision-making tools, and policy advice to governments, civil society organizations, and international funders in order to stimulate positive change. With expertise in many areas – including specialties in economics and finance, health policy, education, and governance – **R4D** works with leaders, globally and at country level, to design and test solutions to some of the world's biggest development challenges.

UNITED KINGDOM DEPARTMENT FOR INTERNATIONAL DEVELOPMENT – DFID –

The UK Government believes it is in all our interests to help poor people build a better life for themselves. So in 1997 it created a separate government department – the **Department for International Development** (**DFID**) – to meet the many challenges of tackling world poverty. It is **DFID**'s job to make sure every pound of British aid works its hardest to help the world's poor. As sponsor of the project, **DFID** confirms its cooperation with governments of developing countries, charities, businesses and international bodies, including the World Bank, the UN agencies and the European Commission. All partners share the ambition to achieve the Millennium Development Goals.

STRENGTHENING INSTITUTIONS TO IMPROVE PUBLIC EXPENDITURE ACCOUNTABILITY

The project will sponsor up to fifteen institutions over a four-year project period to conduct detailed budget analyses of public expenditures in health, education, and water services by the usage of methodologies including program budgeting, benefit incidence analysis, and cost effectiveness studies. The main goal of the project is to provide research-based policy alternatives.

The project will culminate with the development of research-based policy options by each institution based upon results from their budget analyses and the dissemination and communication for shaping public policy debates.

This project aims to strengthen the analytical underpinnings of the policy debates around public expenditure priorities and their impact to improve the governance of public service delivery by:

- **Building** and **strengthening** institutional capacity for public expenditure analysis, development of policy alternatives and communication in a peer learning environment;
- **Producing** internationally comparable information on public expenditures; incidence (who benefits), effectiveness, and research-based policy options in the social sectors and infrastructure that will begin to build institutional benchmarks for the quality of public spending;
- **Creating** a strong network of institutions to share training materials, templates for analysis and communication, and examples of analysis that other institutions will be able to adapt for their own use;
- **Conducting** periodic assessments of outcomes and impacts in each country as a way to adjust the project along the way and to provide data for an end-project evaluation.

Participating institutions will undertake each of these activities for three distinct programs, one each in the health sector, the education sector, and the water services sector. Programs will be determined jointly by the network of grantee institutions such that the research findings can be compiled into cross-country comparable data while still being relevant and important for each country's context. In addition, each of these activities will have a research component and a corresponding policy **dissemination** and **communication** component, during which the institutions will communicate results of the activity and work with stakeholders including policymakers to enact positive change.

GUATEMALA´S WATER RESULTS

"[T]hree questions should be analyzed for social programs evaluation, which are crucial to effective social action and hence to the lives of those whom social programs are designed to improve: ***(1)*** *why has so little high quality evaluative research been done?* ***(2)*** *What problems are involved in developing more evaluative research and using its results in policy making? and,* ***(3)*** *What should government and social scientists do to foster soundly conceived and executed evaluative research?"*

Evaluating Social Programs: Theory, Practice, and Politics – **P. Rossi & W. Williams** –

FUNDESA recognizes that a detailed analysis of the context will reinforce the justification of the project, providing an important starting point from which change can be measured. Guatemala´s health results will, therefore, provide a clear justification of the governance issues that **FUNDESA** intends to address, working to increase efficiency and efficacy on the sector. As a brief summary of the most relevant results presented in this report, next we introduce some numbers and tables that illustrate very well the **water situation in Guatemala**.

SECTOR: WATER SERVICES

A very basic analysis showed us that, between 2006 and 2009, there was an increase of **108.7%** in the amount of resources allocated in **Water** sector (real numbers, using 2006 as base year).

Nevertheless, it will be also important to compare these numbers with the evolution of economic growth (i.e., GDP growth). Disaggregating information by recurrent and capital expenditures, next we present the percentage of GDP that these numbers represent:

	2006	2007	2008	2009*
Recurrent Expenditures	0.06%	0.14%	0.17%	0.20%
Capital Expenditures	0.51%	0.41%	0.43%	0.68%
Total	**0.56%**	**0.55%**	**0.60%**	**0.88%**

In addition, we present how the funds are distributed among the different expenditure categories used in this report, identifying the priorities of the government at the moment of executing the budget.

	2006	2007	2008	2009*
Recurrent Expenditures	**10.3%**	**25.4%**	**28.1%**	**22.8%**
Wages	8.6%	10.6%	13.8%	11.6%
Non-wages	1.7%	14.8%	14.3%	11.2%
Capital Expenditures	**89.7%**	**74.6%**	**71.9%**	**77.2%**
Domestic	71.1%	61.1%	57.9%	60.0%
Donor	18.6%	13.5%	14.0%	17.2%
Total	**100%**	**100%**	**100%**	**100%**

According to the characteristics of the sector, instead of disaggregating information by facility level, nest we present the share of participation that the different government institutions – **Central Government**, **Decentralized Institutions** and **Municipalities** – has in the provision of funds to improve Water sector.

	2006	2007	2008	2009*
• Central Government	37%	24%	27%	26%
• Decentralized Institutions	9%	13%	30%	28%
• Municipalities	54%	63%	43%	46%
Total	100%	100%	100%	100%

Finally, it will be important to explain the importance of the distribution of beneficiaries/benefits among the different socio-economic sectors of the population. We divided people in five segments, according to its consumption level, going from the lowest through the highest level of consumption. The objective of this kind of analysis is to determine if the Government beneficiates equally the population or if it targets its help to a determined group or segment.

Following we present a brief description about the distribution of the **access to water services**, **how is distributed the usage** of water, and **who are in charge of the provision** of the service.

	Lowest Consumption → Highest Consumption					
Access to Water Services	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	SHARE
• Without Connection	24.7%	23.3%	21.9%	17.2%	12.9%	28.1%
• **With Connection**	**18.1%**	**18.7%**	**19.3%**	**21.1%**	**22.8%**	**71.9%**
Total	20.0%	20.0%	20.0%	20.0%	20.0%	100%

	Lowest Consumption → Highest Consumption					
Usage of Water Services	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	SHARE
• Household	17.3%	18.5%	19.6%	21.1%	23.4%	87.0%
• Public Usage	23.6%	20.3%	16.9%	20.8%	18.4%	13.0%
Total	18.1%	18.7%	19.3%	21.1%	22.8%	100%

	Lowest Consumption → Highest Consumption					
Provision of Water Services	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	SHARE
• Public	18.1%	17.7%	17.7%	20.7%	25.8%	53.3%
• Private	14.7%	14.9%	16.5%	21.2%	32.6%	5.8%
• Communal Committee	18.7%	20.5%	21.8%	21.6%	17.4%	40.9%
Total	18.1%	18.7%	19.3%	21.1%	22.8%	100%

With a more detailed analysis, the objective of this report is to describe the situation of health in Guatemala, especially considering how the resources are used in order to improve transparency and accountability in the public sector.

PROGRAM BUDGETING ANALYSIS

For the purposes of this project, **Program Budgeting** will involve institutions compiling budgets from different ministries contributing to education, health and water sector budgets. For each of these sectors, participating institutions will report the division of revenue sources (specific ministries, sub-national governments, donors, households) and allocation of expenditures across inputs and specific sector programs.

This analysis will be done for the current budget (in Year 1 of the project) and the preceding 3 years of the budget, and updates to this analysis will be completed in subsequent years. The purpose of this exercise is to better understand how spending by sector is being divided in terms of specific programs. Program budgets can help institutions monitor how well public spending matches the stated policy objectives of government.

"*In very poor countries, economic growth rather than income redistribution is the key for long-term poverty reduction. Evaluating programs and policies according to their impact on distribution alone may lead to the rejection of interventions that may not be highly redistributive yet have strong growth potential. This may be detrimental not only to poverty reduction but also to the overall level of well-being in society.*"

Inequality and Social Welfare – **Poverty Net (World Bank)** –

I. PBA METHODOLOGY

> "*The importance of institutions is not restricted to the legal framework. Government attitudes toward markets and freedoms and the efficiency of its operations are also very important: excessive bureaucracy and red tape, overregulation, corruption, dishonesty in dealing with public contracts, lack of transparency and trustworthiness, or the political dependence of the judicial system impose significant economic costs to businesses and slow down the process of economic development.*"
>
> The Global Competitiveness Report 2008-2009 – **World Economic Forum** –

REQUIRED VARIABLES

The first analytical component of the project is a program budgeting analysis of the education, health and water sectors. The purpose of this activity is to gain a better understanding of sources of funding and the way money is allocated in the social sectors.

For the investigation purposes, some variables were necessary to identify:

a) Administrative sources of spending for each of the three sectors
b) Budget data for the four years covered by the analysis (2006 to 2009)
c) Programs and facility levels included in the budget of each sector
d) Exchange rate for currency equivalencies (GTQ for 1 US$)
e) Consumer Price Index Guatemala to convert budget data to constant prices (base year 2006)
f) Consumer Price Index USA to guarantee Purchasing Power Parity
g) Gross Domestic Product (estimations for each year)
h) Population (estimations for each year)

With these variables data will be integrated to describe the evolution of the expenditure, pointing out increases in participation of every program and facility level for each sector, showing how expenditure reflects or not a bigger portion of the GDP, and the amount of resources perceived by individuals.

EVALUATION OF HEALTH SECTOR

Building an analytical system to evaluate social spending, the project aims to identify how resources are being oriented to the basic public services, which ones contribute directly to improve social development and live conditions of the people, especially the poorest.

- **Water:** According to the Public Finance Ministry,[1] Water Services sector covers all the actions related with the elaboration and administration of the legal framework for water supplying, sewerage and excretes elimination. It also includes maintenance of the infrastructure and emergency repairs. Every quetzal spent with these characteristics is registered under ***Función* 306** (function 306) in the budget of every public institution – Central Government, Decentralized Institutions and Municipalities –.

[1] *Ministerio de Finanzas Públicas*. "*Dirección Técnica del Presupuesto: Manual de Clasificaciones Presupuestarias para el Sector Público de Guatemala*". Fourth Edition, Guatemala: January 2008.

There in not an institution in charge of this budget theme, but the main actor involved in the management of the sources are **Municipalities** and Local Water Enterprises. Different **Executive Branch programs** have a minimal participation in this issue.

This classification obeys to the necessity to identify how the government homogenizes budget treatment of different allocations for some items. Due to the complexity of registering all the government expenditures, the use of this scheme helps to identify all the expenditures related to each one of the analyzed sectors.

ADMINISTRATIVE SOURCES OF SPENDING

The institution in charge of the General Budget of the Nation is the Public Finance Ministry, institution that is delegated to manage revenues and expenditures of the government. All this information is publicly available through online tools that only require the permission of the institution.[2]

Two are the sources that provide all the information used in this report:

- **SICOIN: Integrated Accountability System**. (www.sicoin.minfin.gob.gt) This source compiles all the information related with the execution of the government budget, including data series since 2005. The update of this information is at real time because it is the platform where all government institutions – Central Government and Decentralized Institutions – register their daily operations.

- **SIAF-MUNI: Integrated System of Financial Information**. (www.siafmuni.gob.gt) This source is used to register expenditures of municipalities, including data series since 2004. Observing the autonomy of these institutions, central government only registers what every financial division at local level reports as its budget execution, remaining the responsibility of the expenditure in the Mayor of each one of the 333 municipalities in Guatemala.

It is important to say that in these sites people can find electronic manuals that indicate how to search and interpret available information. Nevertheless, thanks to the Free Access to Public Information Law, any individual can ask for specific information to the Public Finance Ministry, obtaining a response in the next few days after the solicitation.

BUDGET DATA SPECIFICATIONS

Taking into account project requirements, it was necessary to process information, filter the data and make specific queries to identify the amount that were spent in each component for the three analyzed sectors.

Components refer to two main divisions; each one having a particular disaggregation:

1. **Recurrent Expenditures:** those expenditures that refer to operational activities, including wages and other items not included in this topic, such as materials, office supplies and different payments for infrastructure and utilities.

2. **Capital Expenditures:** those expenditures that refer to investment activities and have duration over one year. Also, these expenditures were divided, referring to the specific source of the resources – Domestic or Donor –.

[2] **FUNDESA** obtained the permission assigned to press and media to access online databases.

To obtain this kind of information, the analysis was based on the records of the budget expenditure referred to Object of Expenditure, Type of Expenditure and Source of Expenditure. The graphic arrangement of the budget and the respective explanation of each category is the following:

OBJECT OF EXPENDITURE	TYPE OF EXPENDITURE	SOURCE OF EXPENDITURE	
Group 0: Personal services (wages) **Group 1:** Non-Personal services **Group 2:** Supplies and Materials **Group 4:** Recurrent Transfers	**Type 10:** Recurrent	All sources of expenditure	
Group 3: Building, Properties and Equipment **Group 5:** Capital Transfers **Group 6:** Financial Assets **Group 8:** Other Expenditures **Group 9:** Global Allocations	**Type 20:** Capital Investment	Other sources of expenditure	
		52	Foreign Loans
		54	Reduction of Foreign Loans
		61	Foreign Donations
		62	Reduction of Foreign Donations
Group 7: Amortizations and Debt Services	**Type 30:** Debt Services	All sources of expenditure	

- **Object of Expenditure**: The classification by Object of Expenditure constitutes a systematic and homogenous arrangement of the goods and services, the transfers and the variations of assets and liabilities that the public sector applies in the development of its productive process. This category is divided in nine sub-categories:

  Group 0: Personal services (wages)
  Group 1: Non-Personal services
  Group 2: Supplies and Materials
  Group 3: Properties and Equipment
  Group 5: Capital Transfers
  Group 5: Capital Transfers
  Group 6: Financial Assets
  Group 7: Amortization and Debt Services
  Group 4: Recurrent Transfers
  Group 9: Global Allocations

  Each of these groups has its own definition, being relevant for the study only the **Group 0**, which represents recurrent expenditures on wages.

- **Type of Expenditure:** The classification by Type of Expenditure groups the different programs and activities according to its use, in agreement with the goods and services to produce in order to identify if these have the objective to support the administrative management, to improve the human resources, to invest in the quality of the service or payment of national debt. This category is divided in three sub-categories:

  Type 10: Recurrent expenditures
  Type 20: Investment expenditures
  Type 30: Debt Services

  The importance of this classification is that specifies recurrent expenditures (including wage expenditures) and Investment as a proxy variable for Capital expenditures. **Debt Services**, due to its annual payment commitment, were classified as Recurrent Expenditure.

- **Source of Expenditure:** Another form to organize budget expenditures is by identifying the source of the item, i.e., where the resources come from. In this classification we only refer to four sources, that help to recognize if the source was domestic or donor. The sources used in this report, previously filtered as capital expenditures, were:

Source 52: Foreign loans
Source 54: Reduction in foreign loans
Source 61: Foreign donations
Source 62: Reduction in foreign donations

After a series of arrangements, the final aggregation of information allowed to obtain the amount allocated to each item required for the analysis. The following table illustrates how each budget line was classified:

Recurrent Expenditures		
Wages	→	Group 0
Non-Wages	→	Type 10 – Group 0
Capital Expenditures		
Domestic	→	Type 20 – Sources: 52 + 54 + 61 + 62
Donor	→	**Sources:** 52 + 54 + 61 + 62

As additional information, these classifications only register the same budget expenditures, but ordered in different ways, implying that total amounts maintain the same independently on how budget lines could be arranged. **FUNDESA** clarifies how the different budget lines were arranged in order to make it easier to replicate the analysis in further studies.

PROGRAMS AND FACILITY LEVELS

For the purpose of this project, three ways have been defined in which data can be aggregated for each sector (education, health and water services). According to the specific requirement for international comparison purposes, the following classification will be the base to analyze and present data from the budget analysis.

1. **Spending by Facility-Level or Type:** Analyzing spending by facility level will generally not involve looking at budget record from specific facilities. Instead, the purpose or this analysis is to identify how spending is divided overall across facility types and how money is spent within the three sectors included in the project. This analysis also involves looking at spending over time to identify trends or disruptions in the way that the government is allocating funds.

2. **Spending by Sector:** The sector-wide analysis does not sub-divide spending by facility types or inputs. Instead, this analysis presents a big picture view of the sector, including the division of spending between recurrent and capital costs, wages versus non-wages costs, and domestic versus donor sources. This analysis also involves looking at spending over time to identify trends or disruptions in the way that the government is allocating funds.

3. **Spending by Purpose:** This type of analysis is the least aggregated and can be the most informative. Once the analysis by sector and by facility level has been done, it will be very useful to take a more in-depth look at some aspect of how money is spent within the sector. It would be impossible given the time and resource constraints to do an in-depth analysis of all aspects of each sector.

Instead, the project pretends to select one component in each sector that could be considered interesting and that deserves more careful investigation.

Each of these spending aggregates will be discussed further in this report, explaining the selection of certain items, assumptions made and justification for each one of the spending-by-purpose analyses.

SUPPLEMENTARY VARIABLES

For purposes of international comparison, some variables will supplement the analysis, allowing to understand how spending evolves in each country. This basic analysis includes references to amount in dollars (purchasing power parity), use of actual rather than budgeted numbers; and real expenditure rather than nominal (2006 as the base year). In addition, to eliminate the influence of the country´s production as a determinant of budget capacity, **Gross Domestic Product – GDP –** will permit to illustrate what portion of the production is dedicated to social spending. In the same way, per capita spending will allow to relate the amount of expenditure to the population of each country.

The list of variables and its sources are shown below:[3]

a) **Consumer Price Index:** To adjust nominal expenditure to real expenditure
b) **Country´s Exchange Rate:** To convert Quetzals to US Dollars
c) **Consumer Price Index (USA):** To make the equivalence to Purchasing Power Parity
d) **Gross Domestic Product:** To obtain expenditure as a portion of national production
e) **Population:** To calculate per capita expenditures

All these variables were obtained, for each of the analyzed years, from the following official sources:

- Guatemala´s Central Bank (www.banguat.gob.gt)
- National Statistics Institute (www.ine.gob.gt)
- **Principal Global Indicators:**
  International Monetary Fund (http://financialdatalink.sharepointsite.net/default.aspx)

[3] Data is included in the **Annex** section.

II. ASSUMPTIONS MADE IN THE REPORT

"In the poorest countries, corruption levels can mean the difference between life and death, when money for hospitals or clean water is in play. The continuing high levels of corruption and poverty plaguing many of the world's societies amount to an ongoing humanitarian disaster and cannot be tolerated. But even in more privileged countries, with enforcement disturbingly uneven, a tougher approach to tackling corruption is needed."

Huguette Labelle (Corruption Perception Index) – **Transparency International** –

BASIC ASSUMPTIONS

Guatemala´s particular context present some peculiarities that require making assumptions to standardize the analysis and allow reproduction of results. This specific requirement contributes to the transparency of the process and confidence of the results.

Basic assumptions will contribute to accurately understand the process to achieving some results, indicating how the search team conducted the analysis to get specific data for international comparisons. These assumptions are listed below:

1. **National Expenditure:**
   The first assumption made in this report was the understanding of what we refer as National Expenditure. Basically, there are three sources for budget information: **Central Government**, **Decentralized Institutions** and **Municipalities**. Emphasizing that the project aims to compile public information, data were obtained of the **Public Finance Ministry**, who is the entity in charge of the administration of the national budget.

   We have to recognize that some sources are not taken into account, such as private expenditure, international donations and remittances. Nevertheless, some explanatory notes are incorporated in the tables included to this report.

2. **Actual rather than Budgeted Data:**
   Due to complications in the way that the government spends the funds during the year, there are important modifications to the budgeted data presented and approved by the Congress every year. Recognizing the importance of effective money spent in every sector, the analysis uses actual rather than budgeted data. **Actual budget** identifies executed funds, which could differ from budgeted data, but that effectively show the public expenditure.

3. **Real rather than Nominal Data:**
   A time series is included in the report, showing how expenditure has evolved during the past four years, including 2009. Despite these trends can evidence increases or decreases in the amount of funds destined to specific budget lines, the results could depend on variations on purchasing power of the national currency.

To avoid these complications, data were adjusted by the Consumer Price Index of Guatemala, reflecting real rather than nominal data. **Real budget** expresses funds with the same purchasing power, using 2006 as base year.

4. Purchasing Power Parity:

For international comparison purposes, data from each country needs to be converted to a common currency to allow comparable analysis. Nevertheless, even though **US Dollar** is used as a standard currency, differences in the purchasing power obligate to include a note on this aspect.[4]

Based on the **"One Price Theory"**, the **purchasing power parity** (PPP) theory uses the long-term equilibrium exchange rate of two currencies to equalize their purchasing power. The calculation implies to divide amount in dollars by the difference of the Consumer Price Index of the two countries in the analysis; in this case, Guatemala and United States.

5. Facility Levels:

Maybe the most important assumptions are related to what items were included in every facility level stipulated by the project. This classification depends on the country specific context and how the government allocates resources to each government unit. Because this subject needs a very detailed description, the assumptions made in each one of the three sectors are listed below:

WATER SERVICES	Description of spending by Facility Level
• **General Expenditures:**	In this sector there in is no classification by Facility Level; reason why all expenditures registered by central government, decentralized institutions and municipalities in relation with water services and sewerage are included here.

6. Administrative Division:

Finally, the last assumption made in this analysis is the administrative division of the expenditures. Guatemala counts with a centralized management of the budget, differing only in the execution of the funds. Avoiding specific taxes collected by municipalities that do not represent significant revenue, the greater portion of revenue is centralized in ministries, which allocate funds to its dependencies based on national objectives.

This is the reason why in Guatemala there is no difference among National and Local Expenditures, since there is no distinction in the source of the funds. In the report, all the expenditures correspond to national funds, executed by each one of the ministries, secretaries, specific programs, decentralized institutions or municipalities.

Project requirements establish a division between local and central government expenditures, but, for the case of Guatemala, there is no administrative division due to the centralization of the funds and subsequent execution by specific entities.

[4] See at the Annex Section: **World Bank**. "*Purchasing Power Parities*"

III. RESULTS FOR PROGRAM BUDGETING ANALYSIS

"A strong feature of the physical, human and social capital by building [Social Investment] Funds is their ability to tailor themselves to changing social and economic infrastructure, strengthening circumstances without sacrificing their efficiency and community organizations, providing training, or effectiveness as an instrument of government policy. […]*While the specific activities that the Funds undertake will depend on country circumstances, their overarching goal should be to contribute to the reduction of poverty."*

The Use of Social Investment Funds as an Instrument for Combating Poverty – **IADB** –

PROJECT REQUIREMENTS

For the purpose of the **Strengthening Institutions** project, partners were required to complete tables that provide information on **Spending by Facility Level** and **Spending by Sector** as part of their program budgeting analysis. The reason for these requirements is two-fold. First, the tables that are required provide an important overview of spending in the social sectors that every institution should consider a departure point for more detailed program budgeting analyses and for analytical activities of other projects. Second, consistent tables that will be filled out by all partners will provide a basis for country social sector spending benchmarks that partners can utilize in the next five years and beyond.

The required tables are presented below. Despite, the following should be noted about the data:

- Year refer to fiscal years (January to December)
- Expenses for years 2006 to 2008 are expressed in actual numbers; expenses for 2009 appear as effective numbers as of October 31.
- All numbers are expenditures in real terms, using 2006 as the base year.
- Complementary variables are mentioned as they were used in calculations.
- Exchange rate is based on monetary policy, as stipulated by legal framework, ***Resolución Junta Monetaria: 126-2006***. The terminology used by Central Bank is the Reference Exchange Rate – ***Tipo de Cambio de Referencia*** –.

Finally, it should be recognized that project requirements were considered as minimum requirements. When more information was available, it was included in the report. We should remember that the Strengthening Institutions Project required that partners gained access to a wealth of budget data, and the recommendation was to utilize the data to explore further issues in spending and budgeting in the social sectors that each country can use to better inform policymakers.

TABLES FOR PROGRAM BUDGETING ANALYSIS

A list of tables that cover the amount of money spent in each item line as described in the methodology follow. In addition, there are tables reflecting what portion of the total is spent in each facility level and how this contributes to total social expenditure in the sector.

(Tables 1 and 2 were only included for Education and Health Sectors)

TABLE 3W: **Recurrent and Capital Spending by Sector, Amount – Water Services**

SUBJECT	2006	2007	2008	2009*
TOTAL EXPENDITURE (USD)				
Recurrent Expenditures	$ 17,598,837	$ 44,837,784	$ 57,636,720	$ 66,053,439
Wages	$ 14,700,778	$ 18,739,958	$ 28,286,529	$ 33,530,743
Non-wages	$ 2,898,059	$ 26,097,826	$ 29,350,191	$ 32,522,696
Capital Expenditures	$ 152,866,236	$ 131,786,000	$ 147,689,955	$ 223,191,193
Domestic	$ 121,128,751	$ 107,951,745	$ 118,874,730	$ 173,475,576
Donor	$ 31,737,485	$ 23,834,255	$ 28,815,224	$ 49,715,617
Total	**$ 170,465,073**	**$ 176,623,784**	**$ 205,326,675**	**$ 289,244,633**

* 2009: effective numbers as of October 31

All numbers: US Dollars, Purchasing Power Parity (PPP). Base year: 2006.

TABLE 4W: **Recurrent and Capital Spending by Sector, Percentage – Water Services**

SUBJECT	2006	2007	2008	2009*
TOTAL EXPENDITURE (%)				
% of Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Recurrent Expenditures	10.3%	25.4%	28.1%	22.8%
Capital Expenditures	89.7%	74.6%	71.9%	77.2%
% of Recurrent Expenditures	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Wages	83.5%	41.8%	49.1%	50.8%
Non-wages	16.5%	58.2%	50.9%	49.2%

* 2009: effective numbers as of October 31

TABLE 5: **Sources of Spending by Sector – Explanation**

Following there is a set of tables describing how has evolved the funding of Water sector since 2006 to 2009. These tables also include a comparison with the aggregate total of other sectors analyzed in this project – Education and Health –, allowing us to determine the portion that health sector represents in the total social expenditure of the Government of Guatemala.

Numbers included in **Table No. 5** – years 2006 to 2009 –, refer to different sources of spending, further than public expenditures. Sources include **Public Sector** (government expenditures), **Private Sector** (household and private entities) and **International Cooperation** (Donor / Foreign Assistance). For a better explanation, following is the description for each item:

- **Public Sector:** this is the central subject of the project; it includes public funds managed by central government, decentralized institutions and municipalities. Differing from the previous tables, Table No. 5 presents public expenditure minus foreign assistance in all items, not only in **Capital Expenditures**.

- **Private Sector:** is the sum of outlays by private entities, such as commercial institutions, non-profit institutions serving households, resident corporations and quasi-corporations not controlled by government with a health services delivery or financing, and direct household out-of-pocket payments. Information for education was obtained from international institutions.[5]

- **International Cooperation:** Tables 1 to 4 reflects foreign assistance as part of Capital Expenditures; nevertheless, in Table 5, **Foreign Assistance** covers different aspects related with Recurrent Expenditures, such as wages for consultants, acquisition of equipment and materials and payment for specialized services (e. g. utilities)

One more issue to describe is how assumptions for private expenditures were made. Parallel to other assumptions used to obtain public expenditure data, it is important to mention that in Guatemala sources for private expenditures include only regular household surveys and data provided by international institutions, such as **United Nations Educational, Scientific and Cultural Organization** – **UNESCO** – and the **World Health Organization** – **WHO** –. Both of these institutions obtain information from specific forms filled by national institutions (**Education Ministry** for UNESCO and **Health Ministry** for WHO). Pitifully, data provided in those forms sometimes is not publicly available or contain significant delays.

TABLE 5 (2006): **Sources of Spending by Sector – Water Services and Other Sectors**

GDP (millions): $ 30,256.9

SUBJECT	Expenditures (US$)	Percentage of GDP	Percentage of SECTOR
WATER SERVICES			
Government Expenditure	**$ 138,727,588**	**0.46%**	**81.4%**
Central Government	$ 46,076,706	0.15%	27.0%
Decentralized Institutions	$ 2,879,581	0.01%	1.7%
Municipalities (local)	$ 89,771,302	0.30%	52.7%
Private Expenditure	**$ ---**	**0.00%**	**0.0%**
Donor / Foreign Assistance	**$ 31,737,485**	**0.10%**	**18.6%**
Total	**$ 170,465,073**	**0.56%**	**100.0%**
TOTAL: Education, Health and Water Services			
Government Expenditure	**$ 1,791,736,008**	**5.92%**	**46.1%**
Central Government	$ 1,218,759,220	4.03%	31.4%
Decentralized Institutions	$ 438,494,417	1.45%	11.3%
Municipalities (local)	$ 134,482,371	0.44%	3.5%
Private Expenditure	**$ 1,962,303,447**	**6.49%**	**50.5%**
Donor / Foreign Assistance	**$ 131,202,023**	**0.43%**	**3.4%**
Total	**$ 3,885,241,479**	**12.84%**	**100.0%**

[5] Private expenditures for Education: **UNESCO** (www.stats.uis.unesco.org)
Private expenditures for Health: World Health Organization – **WHO** – (www.who.int/whosis/en)

TABLE 5 (2007): **Sources of Spending by Sector – Water Services and Other Sectors**

GDP (millions): $ 32,379.8

SUBJECT	Expenditures (US$)	Percentage of GDP	Percentage of SECTOR
WATER SERVICES			
Government Expenditure	**$ 152,789,529**	**0.47%**	**86.5%**
Central Government	$ 25,735,808	0.08%	14.6%
Decentralized Institutions	$ 15,765,875	0.05%	8.9%
Municipalities (local)	$ 111,287,846	0.34%	63.0%
Private Expenditure	**$ ---**	**0.00%**	**0.0%**
Donor / Foreign Assistance	**$ 23,834,255**	**0.07%**	**13.5%**
Total	**$ 176,623,784**	**0.55%**	**100.0%**
TOTAL: Education, Health and Water Services			
Government Expenditure	**$ 1,659,495,606**	**5.13%**	**46.0%**
Central Government	$ 1,163,616,174	3.59%	32.2%
Decentralized Institutions	$ 334,989,886	1.03%	9.3%
Municipalities (local)	$ 160,889,546	0.50%	4.5%
Private Expenditure	**$ 1,852,555,073**	**5.72%**	**51.3%**
Donor / Foreign Assistance	**$ 96,899,050**	**0.30%**	**2.7%**
Total	**$ 3,608,949,728**	**11.15%**	**100.0%**

TABLE 5 (2008): **Sources of Spending by Sector – Water Services and Other Sectors**

GDP (millions): $ 34,009.6

SUBJECT	Expenditures (US$)	Percentage of GDP	Percentage of SECTOR
WATER SERVICES			
Government Expenditure	**$ 176,511,451**	**0.52%**	**86.0%**
Central Government	$ 38,663,732	0.11%	18.8%
Decentralized Institutions	$ 50,152,002	0.15%	24.4%
Municipalities (local)	$ 87,695,716	0.26%	42.7%
Private Expenditure	**$ ---**	**0.00%**	**0.0%**
Donor / Foreign Assistance	**$ 28,815,224**	**0.08%**	**14.0%**
Total	**$ 205,326,675**	**0.60%**	**100.0%**
TOTAL: Education, Health and Water Services			
Government Expenditure	**$ 1,840,930,541**	**5.41%**	**47.0%**
Central Government	$ 1,292,400,122	3.80%	33.0%
Decentralized Institutions	$ 410,474,906	1.21%	10.5%
Municipalities (local)	$ 138,055,513	0.41%	3.5%
Private Expenditure	**$ 2,011,484,424**	**5.91%**	**51.4%**
Donor / Foreign Assistance	**$ 64,383,522**	**0.19%**	**1.6%**
Total	**$ 3,916,798,488**	**11.52%**	**100.0%**

TABLE 5 (2009*): **Sources of Spending by Sector – Water Services and Other Sectors**

GDP (millions): $ 32,924.2

SUBJECT	Expenditures (US$)	Percentage of GDP	Percentage of SECTOR
WATER SERVICES			
Government Expenditure	**$ 239,529,016**	**0.73%**	**82.8%**
Central Government	$ 49,974,884	0.15%	17.3%
Decentralized Institutions	$ 59,604,334	0.18%	20.6%
Municipalities (local)	$ 129,949,798	0.39%	44.9%
Private Expenditure	**$ ---**	**0.00%**	**0.0%**
Donor / Foreign Assistance	**$ 49,715,617**	**0.15%**	**17.2%**
Total	**$ 289,244,633**	**0.88%**	**100.0%**
TOTAL: Education, Health and Water Services			
Government Expenditure	**$ 2,139,830,228**	**6.50%**	**46.9%**
Central Government	$ 1,506,908,850	4.58%	33.0%
Decentralized Institutions	$ 430,575,251	1.31%	9.4%
Municipalities (local)	$ 202,346,127	0.61%	4.4%
Private Expenditure	**$ 2,307,485,519**	**7.01%**	**50.5%**
Donor / Foreign Assistance	**$ 119,751,669**	**0.36%**	**2.6%**
Total	**$ 4,567,067,416**	**13.87%**	**100.0%**

Explanatory Notes:

- 2009: effective numbers as of October 31
- **All numbers:** US Dollars, Purchasing Power Parity (PPP). Base year: 2006.

In addition to the explanatory notes, we also include the next table describing the portion that **Water Services** represents in comparison with the amount of resources allocated in Education and Water sectors.

	2006	2007	2008	2009*
Water Expenditure	4.39%	4.89%	5.69%	8.01%
Other Sectors (Education and Health)	95.61%	95.11%	94.31%	91.99%
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**

IV. PBA – DISCUSSION AND ANALYSIS

> "***Comprehensiveness*** *and* ***discipline*** *lead the list. This is because the annual budget process is the only mechanism available, at least between elections, to discipline decision making. Comprehensiveness requires a holistic approach to diagnosing problems, understanding all the links and evaluating institutional impediments to performance and then finding the most appropriate entry point to launch phased reform that will eventually expand to become comprehensive. […] Effective restraint requires comprehensive coverage, and choosing the most appropriate policy instrument to achieve a particular policy objective. […] Discipline, coupled with economy, also implies that the budget should absorb only the resources necessary to implement government policies.*"
>
> Public Expenditure Management Handbook – **World Bank** –

KEY FINDINGS

Beyond numbers, trends and percentages, some interesting findings describe how public expenditures are distributed among the three sectors of the study – **Education**, **Health** and **Water Services** –, establishing direct relations with production and population. In addition, we should not fall in the political tramp of nominal increases, because inflation and economic crises have affected negatively total results for the social investment.

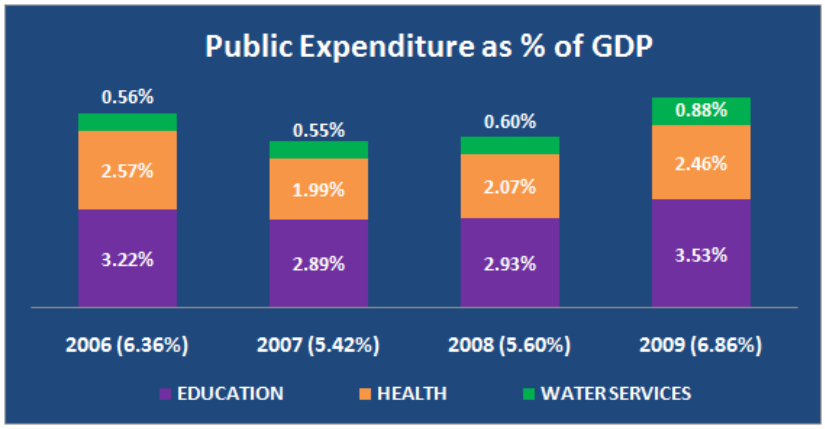
We want to present three key findings:

1. Trends in Public Expenditure as a percentage of the Gross Domestic Product – GDP –
2. Per capita Social Expenditure in each one of the analyzed sectors
3. Participation of Decentralized Institutions and Municipalities in Public Expenditure

Some considerations about these subjects are discussed below.

1. Public Expenditure as a percentage of the GDP

Relating public expenditure with production will allow us to make an in-depth analysis of the evolution in the amount of funds assigned to high-priority programs. Being an underdeveloped country, it will be necessary to invest in such themes like education, health and water services.



The previous graph shows a specific trend that contrasts with particular circumstances of the country and economic environment during time, but some comments about the numbers are useful:

a) **Total public expenditure** in 2006 rose to 6.36% of GDP. After that, there were two years of expenditure contraction, having a significant increase in 2009 (estimated), slightly higher than in 2006. In nominal numbers, every year there has been an increase in public expenditure, with the only exception of 2007; but, in real numbers (base year 2006), as much in 2007 as in 2008 there was a reduction in the budget for social sectors expenditure.

   This theme should be treated carefully because, from a political viewpoint, public expenditures represent government effort to contribute with people development and life conditions, but, when data is carefully analyzed, different results appear.

b) Despite **Gross Domestic Product** – **GDP** – has been growing constantly since 2006 to 2008, due to the economic recession, in real terms, GPD growth was less than 1% in 2009. This implies that the increase in public expenditure as a portion of GDP in 2009 is not as great as it seems, not discarding that indeed there has been an increase.

c) Public expenditure in **Education** presents its particular behavior. Not only the portion of public expenditure in education in relation with GDP is bigger in 2009 than in 2006, but in real terms the amount of funds destined to this budget line has increased in 19%.

d) Concerning to public expenditure in **Health**, the situation is slightly better than in Education, presenting an increase in real terms and as a portion of GDP. Nevertheless, the total amount spent in this heading is smaller in comparison to education expenditure.

e) Finally, public expenditure in **Water Services** is the minor portion of social spending. Even though there is both a positive tendency in the portion of GDP and in the total amount of funds, the magnitude of funds assigned to this item is relatively small.

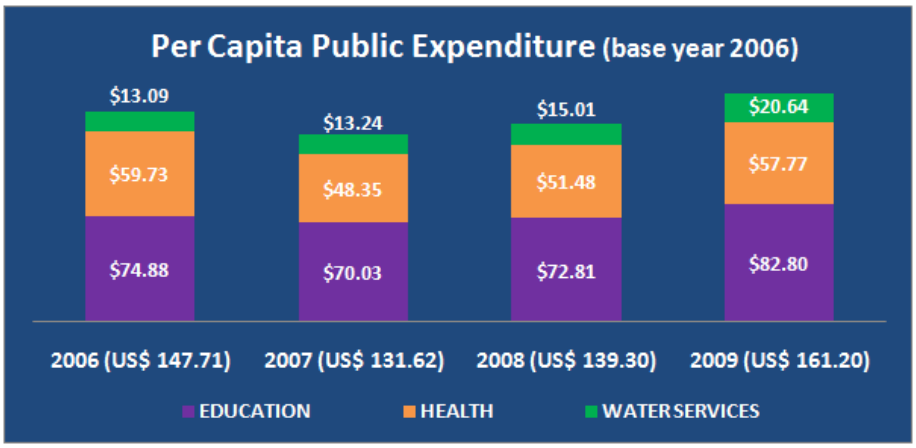
2. Per capita Social Expenditure

The main interest of the project is to discover how much beneficiaries participate from social funds in the three analyzed sectors. However, institutions in charge of providing social services do not process data about beneficiaries, arising serious criticisms about the confidence and reliability of government estimations.

Hence, trying to get as much information as possible, analysis will be directed to reveal how expenditure is distributed in all society. This assumption is not vague nor naïve, because is based on the universality principle for the provision of these services, emphasizing no discrimination and gratuity for all people.

Using the **National Statistics Institute** – INE – population estimates for 2002 to 2050[6], per capita expenditure in all the three sectors – Education, Health and Water Services – since 2006 until 2009 can be calculated.

[6] Data based on **2002 National Census of Population**, and available in www.ine.gob.gt



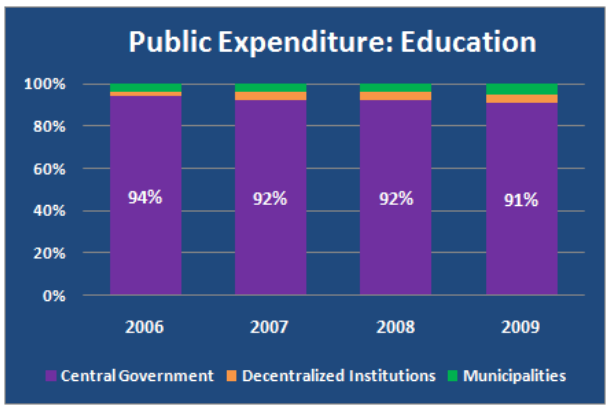
There is not much to add, because the trend is the same as in GDP analysis. The most remarkable finding is that in 2009 (estimated), expenditure will be greater than in previous years (constant prices, base year 2006), arising **US$ 161.20 per capita**. This increment is not only in the total amount, but in every one of the three sectors.

In addition, if we compare this number with 2009 GDP per capita – **US$ 2,348.87** (PPP, base year 2006) –, public expenditure represents **6.7%**.

Several consultants that have been working with **FUNDESA** on different topics, emphasize the importance of private expenditure (household) in these sectors, especially in education and health sectors (where information is available). This portion represents around **45% of total expenditure in education** and **62% of total expenditure in health**, according to UNESCO and WHO statistics. An implication of this is that people afford more or less half of social expenditures from their own pockets. More discussion about this topic could be treated in another report.

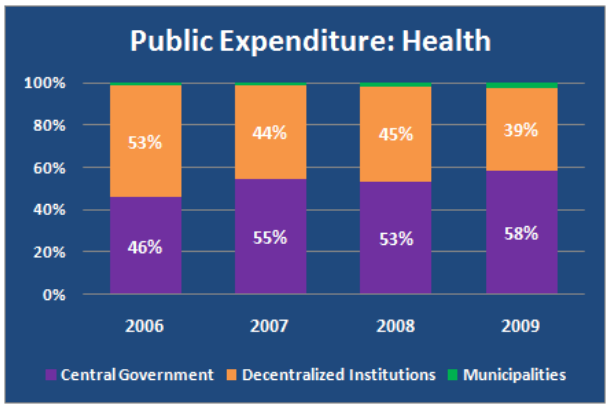
3. Participation of Decentralized Institutions and Municipalities

Getting back into the discussion of Public Expenditure in social sectors, it is important to analyze how the money is spent, describing the participation of other institutions rather than central government. In the case of Guatemala, there is no division between national and local funds referring to revenues; but the situation changes in relation to spending.



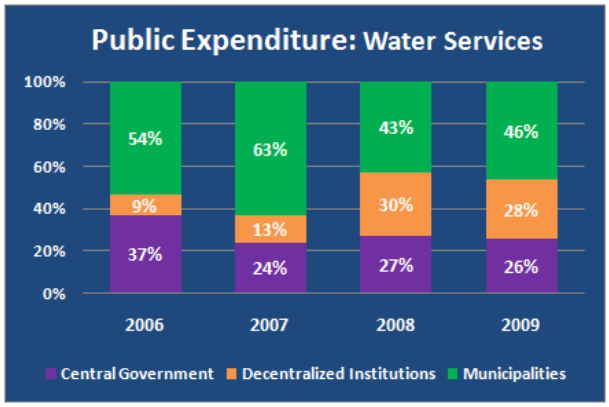
- Public expenditure in **Education** is basically executed by central government, with equal but slightly insignificant participation of decentralized institutions and municipalities. The distribution has not changed during the past four years, reflecting a tight and centralized administration of the services.

  Ministry of Education is the institution in charge of the management of education curricula, hiring teachers, distributing materials and soliciting infrastructure.



- Public expenditure in **Health** covers two areas: preventive health and curative health. Concerning to the first area, budget is administered by central government, with a little cooperation of municipalities.

  On the other side, curative health is managed mostly the same by central government (**Health Ministry**) and social security, represented by decentralized hospitals.



- Public expenditure in **Water Services** is currently administered by **Municipalities**, with irregular and non-coordinated activities from the central government and other decentralized institutions.

  It is important to point out the little relevance that this theme represents for the government, demonstrated with the imperceptible attention in the government short-term agenda.

All the comments referred to the administration of public expenditure have a very important point in common; namely, the level of centralization of the funds, depositing all the responsibility in central government, specially its ministries. Local governments, represented by municipalities, have very little importance in execution of funds and limited decision-power to determine how the money could be spent in the communities.

V. SPENDING BY PURPOSE

"Reforms aimed at improving budgetary transparency – such as the strengthening of budget procedures, integration of accrual into cash accounting, and elimination of gimmicks to escape from fiscal constraints – may generate results that are qualitatively similar to major changes of public expenditure. They may compel governments to adopt measures to reduce expenditure in an effort aimed at offsetting the impact of gimmicks on the deficit. However, they are not a substitute for fundamental expenditure reforms."

Budgetary Transparency for Public Expenditure Control – **International Monetary Fund** –

UNDERSTANDING EXPENDITURE BY PROGRAM

The last part of the analysis implicates a detailed description of how expenditure is assigned within each sector, going further than only Expenditure by Facility Level. **Spending by Purpose** will require a brief description of the whole sector, after what will be possible to pay careful attention in those programs that represent a special interest for the country.

In every public institution – Central Government, Decentralized Institutions and Municipalities – there is a by-program classification, meaning a categorization of activities according to the principal activities developed by the entity. These programs respond to a previously defined purpose, falling into the government by-objectives plan.

SECTOR: WATER SERVICES

Public expenditure in water services was not classified in sub-categories, due to the deficiency of information about this service. Nevertheless, a great contribution could be the description of the institutions that participate, directly or indirectly with the funding of activities in the sector.

Earlier in this report, a description was offered regarding how different government institutions participate in the funding of water services, having **Municipalities** the mayor portion of the budget administration. However, central government and decentralized institutions also cooperate with the execution of funds in this particular sector.

The following tables show how the both groups of institutions allocate funds to the sector and later a description will be made regarding the kind of activities these funds finance.

Water Services	2006	2007	2008	2009*
Central Government				
Infrastructure	1.2%	0.9%	0.0%	5.5%
Executive Branch programs	60.5%	87.6%	9.6%	3.0%
National Fund for Peace	38.3%	11.5%	90.4%	85.0%
National Fund for Development	0.0%	0.0%	0.0%	6.4%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Despite of the great impact that Executive Branch programs had funding water services in 2006 and 2007, the responsibility has been taken by a specialized institution, mainly the **National Fund for Peace** – **FONAPAZ** –. With an increasing participation, this Fund, under the supervision of the President, contributes with the bigger portion of resources to water services improvement.

Water Services	2006	2007	2008	2009*
Decentralized Institutions				
Municipal Promotion Institute	93.5%	41.9%	19.7%	31.9%
Other Institutions	0.0%	10.9%	2.9%	0.0%
Municipal Water Enterprises	6.4%	47.2%	17.8%	21.7%
EMPAGUA	0.0%	0.0%	59.6%	46.5%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Even though Municipalities are in charge of the larger amount of funds to financing water services, this situation has a parallel replica with the decentralized institutions. The **Municipal Promotion Institute** – **INFOM** – maintains an important relevance during time, managing funds to support local programs to improve water services quality. Municipal water enterprises also contribute with the distribution of water to local communities, aggregating funds to the local administration of the budget. At the end, in the last two years **EMPAGUA**, in charge of water distribution for the capital city and some nearby areas has channeled a large portion of the funds, reinforcing the role of local administration, but evidencing a certain degree of concentration and centralization of funds.

BENEFIT INCIDENCE ANALYSIS

The second analytical component of the **Strengthening Institutions** project is a **Benefit Incidence** analysis of the education, health and water sectors. The purpose of this activity is to gain a better understanding of whether government funds in the social sectors are equitably distributed across different income/expenditure groups or if spending is in reality targeted to either worse-off or better-off individuals. BIA has been adapted by many researchers to overcome some of these changes while still providing important information about equity in spending programs.

Using the program budgets and data from household surveys in the respective country, every partner will estimate how spending is actually spread across income quintiles in health and education programs and in water overall. Benefit incidence analysis provides a clearer view of the equity or inequity of public spending; important information for policymakers and donors who may be interested in better targeting their spending to impact the lives of lower-income individuals.

"Survey-based estimates of average program participation conditional on income are often used in assessing the distributional impacts of public spending reforms. However, marginal impacts of program expansion or contraction differ greatly from average impacts. […] The results suggest early capture of these programs by the non-poor. Thus, conventional methods of assessing benefit incidence underestimate the gains to the poor from higher public outlays, and underestimate their loss from cuts."

Benefit Incidence and the Timing of Program Capture – **World Bank** –

I. BIA METHODOLOGY

"A healthy workforce is vital to a country´s competitiveness and productivity. Workers who are ill cannot function to their potential, and will be less productive. Poor health leads to significant cost to business, as sick workers are often absent or operate at lower levels of efficiency. Investment in the provision of health services is thus critical for clear economic, as well as moral, considerations."

The Global Competitiveness Report 2008-2009 – **World Economic Forum** –

PROJECT REQUIREMENTS

For the purpose of **the Strengthening Institutions** project, partners were required to complete tables that provide information on service utilization, unit costs and benefit incidence. Using consistent tables that were filled out for each country, there will be a basis for country social sector spending benchmarks that partners can utilize in the next five years and beyond.

Information requirements are the basis for the arrangement of the data, detailing every aspect that should be considered to present results and clearer analysis. This information should be obtained from public sources, making possible to any individual replicate the findings, contributing with the transparency and consistency of the project.

EVALUATION OF WATER SECTOR

Building an analytical system to evaluate social spending, the project aims to identify how resources are being oriented to the basic public services, contributing directly to improve social development and living conditions of the people, especially the poorest.

- **Water:** According to the Public Finance Ministry,[7] Water Services sector covers all the actions related with the elaboration and administration of the legal framework for water supplying, sewerage and elimination of excretes. It also includes maintenance of the infrastructure and emergency repairs.

This classification obeys the necessity to identify how the government homogenizes budget treatment of different allocations for some items. Due to the complexity of registering all the government expenditures, the use of this scheme helps to identify all the expenditures related to each one of the analyzed sectors.

PUBLIC SOURCE OF INFORMATION

Benefit incidence analysis provides a useful and systematic way to describe how beneficiaries are distributed among different consumption groups in the country, using consumption as a proxy variable for disposable income for each individual.

To obtain this kind of data, the **National Statistics Institute** – *Instituto Nacional de Estadística* (**INE**) – is the responsible entity, under the Economy Ministry administration, to conduct every five years a national survey

[7] *Ministerio de Finanzas Públicas*. *"Dirección Técnica del Presupuesto: Manual de Clasificaciones Presupuestarias para el Sector Público de Guatemala"*. Fourth Edition, Guatemala: January 2008.

covering different aspects about household consumption and the services that people inside the house enjoy. The last publicly available **National Life Conditions Survey** – *Encuesta Nacional de Condiciones de Vida* (**ENCOVI**) – compiles information for 2006, with all the data rising during 2007.

The **ENCOVI 2006** integrates information from 13,693 households, containing information for 68,739 individuals. This sample represents 0.53% of Guatemala´s population (**2006:** 13,018,759), fulfilling statistical survey requirements established by INE. [8] Due to data rearrangement and availability of data[9], information used for the **Strengthening Institutions** project analysis covers **13,027** households with a sample of **65,528** individuals, having a **95% confidence** level with **2.01%** of non-response rate.

The structure of the survey contemplates the inclusion of **17 chapters**, each one of them detailing information to a specific theme related with life conditions. The list is mentioned below:

Chapter 01: Household description
Chapter 02: Citizen Security
Chapter 03: Social aid programs
Chapter 04: Household characteristics
Chapter 05: Health
Chapter 06: Education
Chapter 07: Workforce Training
Chapter 08: Migration
Chapter 09: Time usage
Chapter 10: Employment and Productivity
Chapter 11: Other Income
Chapter 12: Fertility and Reproductive Health
Chapter 13: Expenditures and Consumption
Chapter 14: Equipment of the House
Chapter 15: Non-agricultural Business
Chapter 16: Agricultural Activities
Chapter 17: Loans and Credit

All this data is classified by region, municipality, household and individual, counting with additional information such as gender, age, ethnicity and rural/urban category. The lead variable used in the survey is the poverty level, from which all the information is ordered.

VARIABLES AND QUESTIONS

Concerning project requirements, there are some data that will be essential for the success of the analysis, referring to the usage of the services by the beneficiaries. Although the information in the survey is arranged by household, detailed and specific analysis allow us to obtain data for each individual, describing personal consumption and if the person is beneficiary or not of the social services listed below – **Education**, **Health** and **Water Services** –.

Variables for the project are referred to particular questions in the survey. For replication purposes, these variables are described as follows:

- **Individual Information:** Each one of the 65,528 individuals used in the sample has a **unique** compound code, which provides information about the household and the number that the person has in the household.

Example: **987.03** → Household No. **987** and Individual ID No. **03**

[8] For more information, visit "**Encuesta Nacional de Condiciones de Vida 2006 – ENCOVI 2006 –**" at: http://www.ine.gob.gt/index.php/demografia-y-poblacion/42-demografiaypoblacion/64-encovi2006

[9] Household survey does not present information for all the households, due to mistakes, errors in the fulfillment of the questionnaires or incomplete data for a specific household.

- **Consumption Information:** In the survey, consumption is based on the household information, not specifying the amount that corresponds to each individual. To obtain the data for individual consumption, household consumption was divided by the number of individuals. As a result, the lead variable is the per capita consumption.

- **Water Information:** this particular variable is only applicable to the household, because the usage of water services will depend if the household has or not connection to the public distribution line. The entities in charge of providing this kind of service are mostly public, being insignificant the portion of household that obtains the service from a private entity. Nevertheless, the analysis includes a description of the type of connection (public, private or community committee), and the kind of usage (communal usage or only household usage).

To obtain if the individual is a beneficiary or not of the service, it will be assumed that all the household members are beneficiaries if the household receives the service. Having clarified the kind of information that is necessary for conducting the analysis, following is the association to the specific questions in the survey:

VARIABLE FOR THE PROJECT	QUESTION IN THE SURVEY
GENERAL INFORMATION	
• **Household Number:**	General Household Information / Question No. 03
• **Individual ID:**	General Household Information / Question No. 04
• **Household Consumption:**	Chapter No. 13 / Section B: Question No. 08
WATER SERVICES	
• **Water Connection:**	Chapter No. 01 / Section A: Question No. 05
• **Usage of Water:**	Chapter No. 01 / Section D: Question No. 07
• **Water Provider:**	Chapter No. 01 / Section D: Question No. 08

Each of these questions makes a reference to the Household number and the specific **Individual ID**, making it possible to sort the data depending on the variables that are being analyzed. For the precise **Benefit Incidence** analysis, data was sorted by the criterion of **individual consumption**.

CATEGORIES FOR CLASSIFICATION

Benefit Incidence Analysis makes a direct reference to the concept of distribution of beneficiaries in the society, classifying every individual by a specific criterion. The criterion used for this project is the individual consumption, ordering the sample from the lower consumption till the highest consumption, as a comparative scale for **"Poorest to Richest"** classification.

For international comparisons, the categories included in this classification should contain the same portion of the sample, that is to say, to have a standard measure for the arrangement of the data, based on the consumption level.

According to this, the project established the utilization of **Quintiles** as measure for benefit incidence analysis. With a previous ordering of the individuals from the lowest to the highest level of consumption, separation in quintiles will be done by dividing the sample in five equal portions, each of them containing the exactly one fifth of the total number of individuals. After this, the only remaining aspect is to count how many beneficiaries of the services are in each portion.

Lower Consumption Level → **Higher Consumption Level**

Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Individuals: 1 to 13,105	**Individuals:** 13,106 to 26,210	**Individuals:** 26,211 to 39,315	**Individuals:** 39,316 to 52,420	**Individuals:** 52,421 to 65,528
Accumulated %: **20%**	Accumulated %: **40%**	Accumulated %: **60%**	Accumulated %: **80%**	Accumulated %: **100%**

With this arrangement, it is also possible to determine the range of consumption in each quintile, giving an idea of the level of consumption included in each one of the five quintiles:

	ANNUAL CONSUMPTION RANGE					Difference	
• **Quintile No. 1**	**US$**	0.00	to	**US$**	103.61	**US$**	**103.61**
• **Quintile No. 2**	**US$**	103.74	to	**US$**	198.78	**US$**	**95.05**
• **Quintile No. 3**	**US$**	198.92	to	**US$**	355.44	**US$**	**156.53**
• **Quintile No. 4**	**US$**	355.57	to	**US$**	714.18	**US$**	**358.60**
• **Quintile No. 5**	**US$**	714.31	to	**US$**	49,775.22	**US$**	**49,060.91**

All numbers: US Dollars, Purchasing Power Parity (PPP). Base year: 2006.

At first sight, distribution is very equitable among quintiles, with the exception of the fifth quintile, which refers to the segment of the population with the highest consumption level. Wherever it will be possible, a special description of the data will be included referring to this aspect.

II. ASSUMPTIONS MADE IN THE REPORT

"What role should redistribution through government play in our lives? While the issue is eternal, the facts are recent. More than two millennia ago, Aristotle foresaw that the poor could use their political voice to get transfers from the rich, yet through most of history the poor never gained either the voice or the transfers. Only in the past 200 years has government social spending grown large. Only in the past two decades have scholars and government agencies put together the information needed to explain why the growth of social spending has been so recent and to judge what impact is has had on economic growth."

Social Spending and Economic Growth since Eighteenth Century – **Peter H. Lindert** –

BASIC ASSUMPTIONS

Guatemala´s particular context presents some peculiarities that require making assumptions to standardize the analysis and allow reproduction of results. This specific requirement contributes to the transparency of the process and confidence of the results.

Although benefit incidence can be a useful and informative exercise, it is also important to recognize the limitations of this type of analysis. Average benefit incidence analysis makes major assumptions concerning the allocation of spending, including that the government subsidy for one unit of a social sector service is the same for all individuals, regardless of income/expenditure level and geographic location within the population area. It is important for partners to not only recognize these limitations, but also take them into consideration when interpreting the results of this analysis.

Benefit incidence analysis has been adapted by many researchers to overcome some of these changes while still providing important information about equity in spending programs. While these methods are outside of the scope of this project, **GDN**, and specifically **R4D**, have developed a detailed methodology that could be consulted as interested people solicit it.

Basic assumptions will contribute to understand accurately the process of achieving some results, indicating how the research team conducted the analysis to get specific data for international comparisons. These assumptions are listed below:

1. **National Expenditure:**

   The first assumption made in this report was the comprehension of what we refer as National Expenditure. Basically, there are three sources for budget information: **Central Government**, **Decentralized Institutions** and **Municipalities**. Emphasizing that the project aims to compile public information, data were obtained of the **Public Finance Ministry**, the entity in charge of the administration of the national budget.

   We have to recognize that some sources are not taken into account, such as private expenditure, international donations and remittances, but the numbers used coincide with the ones obtained in the phase 1 of the **Strengthening Institutions** project. Even so, information provided by **Program Budgeting Analysis** allows us to maintain a clear and transparent line of analysis, using products as inputs for subsequent stages of the project.

2. Household Survey Year:

Analysis derives from the availability of data, using as much information as possible. Hence, the investigation will be restrained by the recurrence and updating of the information provided by the most recent household survey conducted in the country.

Legal framework has established in Guatemala that official information only can be provided by the National Statistics Institute – ***Instituto Nacional de Estadística*** (**INE**) –. Taking this into account, the analysis must be referred to the national household survey conducted by this institution. The most recent survey contains data for **2006** (data were published in 2008), and has as central objective the description of poverty in the country.

To complete the analysis, data for 2006 program budget will be obtained from the previous study for the Strengthening Institutions project: **Program Budgeting Analysis**.

3. Number of Beneficiaries:

One of the principal issues of the project is the number of beneficiaries for each facility level listed in the three analyzed sectors – **Education**, **Health** and **Water Services** –. However, this kind of information is not available, because ministries do not have an updated record of beneficiaries for each one of their services. This lag in the information diminishes the confidence of any estimate, provoking disagreement about the bias in the numbers.

To avoid this kind of problem, it will be assumed that the sample represents accurately the behavior in the population. Based on this, the number of beneficiaries for each facility level will be estimated from data in the sample, as follows:

$$Beneficiaries = Sample\ Beneficiaries * \frac{Population\ "N"}{Sample\ "n"}$$

Where:

Sample Beneficiaries	=	number of beneficiaries by facility level
Sample “n”	=	number of subjects in the sample
Population “N”	=	size of the population

This formula will provide an **estimate** of possible beneficiaries, allowing later to determine how much expenditure is assigned for each beneficiary in every facility level for the three analyzed sectors. It is important to mention the possible margin of error for the estimation, but the number tries to represent a well founded estimate of the total number of beneficiaries in the population.

4. Facility Levels:

Maybe the more important assumptions are related to what items should be included in every facility level stipulated by the project. This classification depends on the country specific context and how we can classify the data provided by the household survey.

Because this subject needs a very detailed explanation, the assumptions made in each one of the three sectors are listed below:

WATER SERVICES	Description of beneficiaries by Facility Level
• **Water Connection:**	In this category a *dummy* variable is included, taking the value of **1** if the household has a water connection and the value of **0** if the household has not.

5. **Public and Private Institutions:**

Finally, the last assumption made in this analysis is the administrative division of the institutions that provides the service to the people. This dichotomy will reflect to which sector of the population are the funds being directed and which type of institution is taking care of the beneficiaries.

- **Public Institutions:** all the institutions that manage, fully or partially, public funds. In this category government institutions and mixed funded institutions will be included.

- **Private Institutions:** in this category are included all the institutions that are completely financed by private funds. This separation corresponds to determine whether or not the beneficiaries receive a subsidy from the government.

III. RESULTS FOR BENEFIT INCIDENCE ANALYSIS

"Survey-based estimates of average program participation conditional on income are often used in assessing the distributional impacts of public spending reforms. However, marginal impacts of program expansion or contraction differ greatly from average impacts. […] The results suggest early capture of these programs by the non-poor. Thus, conventional methods of assessing benefit incidence underestimate the gains to the poor from higher public outlays, and underestimate their loss from cuts."

Benefit Incidence and the Timing of Program Capture – **World Bank** –

PROJECT REQUIREMENTS

For the purpose of the **Strengthening Institutions** project, partners were required to complete tables that provide information on **Beneficiaries by Facility Level** in each of the three analyzed sectors. The reason for these requirements, as was described in the phase 1 of the project, is two-fold. First, the tables that are required provide an important overview of spending in the social sectors that every institution should consider a starting point for more detailed program budgeting analyses and for the other project´s analytical activities. Second, consistent tables that will be filled out by all partners will provide a basis for country social sector spending benchmarks that partners can utilize in the next five years and beyond.

The required tables are presented below. Despite of this, the following should be noted about the data:

- Year refer to fiscal years (January to December)
- Budget numbers correspond to 2006, fitting the analysis with the year of the household survey. Numbers were taken from the report for the phase 1 of the project.
- All numbers are expressed with Purchasing Power Parity – **PPP** – conditions (US$ base year 2006)
- Complementary variables are mentioned as they were used in calculations.
- Exchange rate is based on monetary policy, as stipulated on legal framework: ***Resolución Junta Monetaria: 126-2006***. The terminology used by Central Bank is Reference Exchange Rate – ***Tipo de Cambio de Referencia*** –.

Finally, it is valuable to recognize that project requirements were considered as minimum requirements. If more information was available, it was included in the report. We should remember that the **Strengthening Institutions** project required that partners gain access to a wealth of budget data, and the recommendation was to utilize the data to explore further issues in spending and budgeting in the social sectors that each country can use to better inform policymakers.

CONSUMPTION DISTRIBUTION

Before describing how expenditure is distributed among beneficiaries in every facility level within the analyzed sectors, it is important to comprehend the particular situation about the consumption distribution in Guatemala, pointing out the relation between each population quintile and its respective consumption portion for a specific year.

Basing the analysis on the **2006 Household Survey**, data reveals the portion of the total consumption that is *captured* by a specific quintile in the distribution. This situation will determine a starting point from which the situation of poverty in Guatemala can be evidenced.

Lower Consumption Level → **Higher Consumption Level**

Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Accumulated % of the Population: **20%**	Accumulated % of the Population: **40%**	Accumulated % of the Population: **60%**	Accumulated % of the Population: **80%**	Accumulated % of the Population: **100%**
Accumulated Share of the Total Consumption: **1.62%**	Accumulated Share of the Total Consumption: **6.39%**	Accumulated Share of the Total Consumption: **15.08%**	Accumulated Share of the Total Consumption: **31.02%**	Accumulated Share of the Total Consumption: **100.0%**

The picture reflects a concentration of the total consumption in the fifth quintile, capturing the **68.98%** of the consumption only by the higher-consumption quintile. Only **1.62%** of the total consumption is associated to the lower consumption quintile.

As a preliminary conclusion, social expenditure programs should be directed to fight against this situation, covering those sectors with the lower consumption capacity. One of the goals of the **Strengthening Institutions** project is to determine whether or not this is the situation in Guatemala.

TABLES FOR BENEFIT INCIDENCE ANALYSIS

Several tables that cover the number of beneficiaries in each facility level as described in the methodology follow. In addition, there are tables reflecting total estimates about the segments of the society that are being favored with subsidies and how these benefits are distributed among different consumption quintiles.

TABLE 1W: Per-connection Government Subsidy for Water Services – Water Services

	2006 BUDGET	Water Connections	Per-user Subsidy
Private Connection [1]	$ ----	542,382	$ ----
Public Connection	$ 170,465,073	8,822,748	$ 19.32
	$ 170,465,073	**9,365,130**	**$ 19.32** [2]

[1]: Private connections do not register a specific amount of expenditure. The 2006 survey only provides information about the distinction between private and public connections.
[2]: The subsidy represents only the share perceived by public users of the service

TABLE 2: **Estimated Beneficiaries, by Expenditure Quintile – Explanation**

Numbers included in **Table No. 2** refer to different kinds of beneficiaries, depending on what institution is the provider of the services. Sources include **Public Sector** (central government, decentralized institutions and municipalities) and **Private Sector** (household and private entities).

One more issue to describe is how assumptions for total number of beneficiaries were made. Parallel to other assumptions used to obtain benefit incidence data, it is important to mention that household survey only presents data for a specific sample, in this case, **65,528 individuals** associated to **13,027 households**. To obtain the number of total beneficiaries, the amount of beneficiaries in each facility level was multiplied by a ratio, which describes the times that the size of the sample is included in the population. The final result will be a lineal extrapolation of the number of beneficiaries.

TABLE 2W: **Estimated Water Services, by Expenditure Quintile and Facility Level – Water Services**

	Lowest Consumption → Highest Consumption					
WATER CONNECTIONS	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**TOTAL**
Without Connection	904,169	849,533	799,467	628,607	471,853	3,653,629
With Connection	1,699,464	1,754,099	1,804,165	1,975,026	2,132,376	9,365,130
Total	**2,603,633**	**2,603,633**	**2,603,633**	**2,603,633**	**2,604,229**	**13,018,759**

	Lowest Consumption → Highest Consumption					
WATER USAGE	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**TOTAL**
Household	1,412,379	1,507,544	1,599,133	1,721,914	1,908,867	8,149,837
Public Usage	287,085	246,555	205,032	253,112	223,509	1,215,293
Total	**1,699,464**	**1,754,099**	**1,804,165**	**1,975,026**	**2,132,376**	**9,365,130**

	Lowest Consumption → Highest Consumption					
WATER PROVIDERS	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**TOTAL**
Public	903,771	886,487	881,917	1,032,910	1,289,995	4,995,081
Private	79,669	81,059	89,602	115,033	177,019	542,382
Communal Committee	716,024	786,553	832,646	827,083	665,362	3,827,668
Total	**1,699,464**	**1,754,099**	**1,804,165**	**1,975,026**	**2,132,376**	**9,365,130**

TABLE 3: **Distribution of Beneficiaries (%), by Expenditure Quintile – Explanation**

Numbers included in **Table No. 3** refer to the distribution of beneficiaries among the five quintiles of analysis. This table represents the portion of the beneficiaries that corresponds to each quintile, indicating if the government is beneficiating equally or not the different segments of the population. We could expect an equally distributed table if 20% of the beneficiaries is allocated in each quintile.

It is important to mention that an additional row was included in the table. Instead of a **Total column** that indicates the 100% of the beneficiaries in each facility level, there is described a **Share column**, which indicates the portion of beneficiaries that are located in each one of the facility levels. Finally, at the end, there was included a **Total row** calculated as a weighted average of the facilities.

TABLE 3W: Distribution of Beneficiaries (%), by Expenditure Quintile and Facility Level – Water Services

	Lowest Consumption → Highest Consumption					
WATER CONNECTIONS	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**SHARE**
Without Connection	24.7%	23.3%	21.9%	17.2%	12.9%	28.1%
With Connection	18.1%	18.7%	19.3%	21.1%	22.8%	71.9%
Total	**20.0%**	**20.0%**	**20.0%**	**20.0%**	**20.0%**	**100%**

	Lowest Consumption → Highest Consumption					
WATER USAGE	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**SHARE**
Household	17.3%	18.5%	19.6%	21.1%	23.4%	87.0%
Public Usage	23.6%	20.3%	16.9%	20.8%	18.4%	13.0%
Total	**18.1%**	**18.7%**	**19.3%**	**21.1%**	**22.8%**	**100%**

	Lowest Consumption → Highest Consumption					
WATER PROVIDERS	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**SHARE**
Public	18.1%	17.7%	17.7%	20.7%	25.8%	53.3%
Private	14.7%	14.9%	16.5%	21.2%	32.6%	5.8%
Communal Committee	18.7%	20.5%	21.8%	21.6%	17.4%	40.9%
Total	**18.1%**	**18.7%**	**19.3%**	**21.1%**	**22.8%**	**100%**

TABLE 4: Distribution of Benefits (%), by Expenditure Quintile – Explanation

Numbers included in **Table No. 4** refer to the distribution of benefits among the five quintiles of analysis. This table represents the portion of the benefits that corresponds to each quintile, indicating if the government is allocating equally or not the funds among the different segments of the population. We could expect an equally distributed table if 20% of the benefits is allocated in each quintile.

Because this analysis could be done only with the public sector, we only present a single table, including an additional column to indicate the **subside per-beneficiary** that the government assigns to each facility level. The rest of the numbers refer to the portion of the funds that is distributed in the quintile.

TABLE 4W: **Distribution of Benefits (%), by Expenditure Quintile and Facility Level – Water Services**

	Lowest Consumption →				Highest Consumption	
PUBLIC HEALTH	**Quintile 1**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**	**SUBSIDE**
Without Connection	0.0%	0.0%	0.0%	0.0%	0.0%	$ 0.00
With Connection	18.1%	18.7%	19.3%	21.1%	22.8%	$ 19.32
Total	**18.1%**	**18.7%**	**19.3%**	**21.1%**	**22.8%**	

All the previous tables present a very detailed picture of how the distribution of water services appears among the different consumption quintiles. In each one of the tables there was significant information that could be analyzed and used to define strategies to improve social welfare. Descriptive analysis and some remarkable findings will be presented in the next chapter.

IV. BIA – DISCUSSION AND ANALYSIS

> *"In very poor countries, economic growth rather than income redistribution is the key for long-term poverty reduction. Evaluating programs and policies according to their impact on distribution alone may lead to the rejection of interventions that may not be highly redistributive yet have strong growth potential. This may be detrimental not only to poverty reduction but also to the overall level of well-being in society."*
>
> Inequality and Social Welfare – **Poverty Net (World Bank)** –

KEY FINDINGS

Beyond numbers, trends and percentages and some interesting findings describe how public expenditures are distributed among the three sectors of the study – **Education**, **Health** and **Water Services** –, establishing the portion of beneficiaries in each consumption quintile. In addition, we should not fall in the tramp of nominal increases in the expenditure, because the objective of social services is to contribute with the reduction of poverty in those lower income quintiles.

Three remarkable findings we want to present:

1. Distribution of beneficiaries between each facility level (public sector)
2. Comparison between public and private coverage of beneficiaries
3. Amount of beneficiaries contrasted with total population

Some considerations about these subjects are discussed below.

1. Distribution of Beneficiaries in the Public Sector

The main objective of the **Strengthening Institutions** project is to determine how fair is the distribution of the public funds among the society, describing the link between social investment and reduction of poverty, directing funds to the lower income groups.

Phase 1 of the project helped to determine the total amount of funds that are destined to three important sectors for social expenditure: **Education**, **Health** and **Water Services**. These sectors comprehend only a part of the total public budget, but are referred as priorities – at least the first two – in the Guatemala´s government agenda.

Increases in the amount of funds assigned to these sectors are not enough to understand in a better way the contribution of the programs to fight against poverty. That is the reason why a complementary analysis about the **benefit incidence** will contribute to better describe which segments of the society are receiving the benefits.

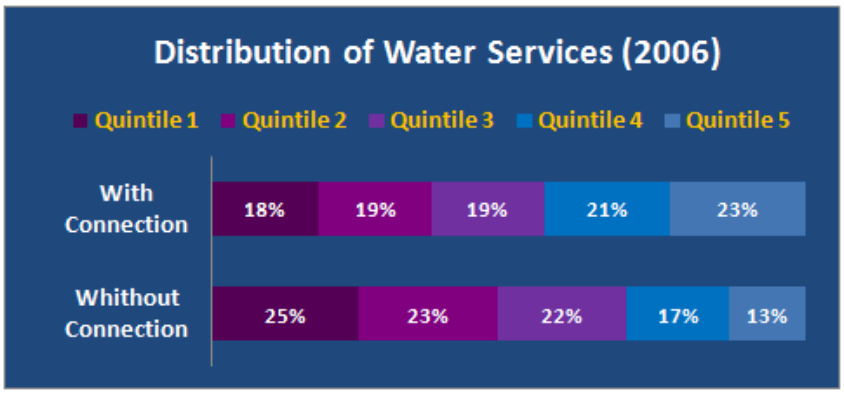
For this purpose, using the most recent household survey – ***Encuesta Nacional de Condiciones de Vida* 2006** – we will discuss the most remarkable findings about the distribution of the beneficiaries of the social expenditures, taking consumption quintiles as reference.

Disaggregating information for facility level, next we present the results for **Water** sector:

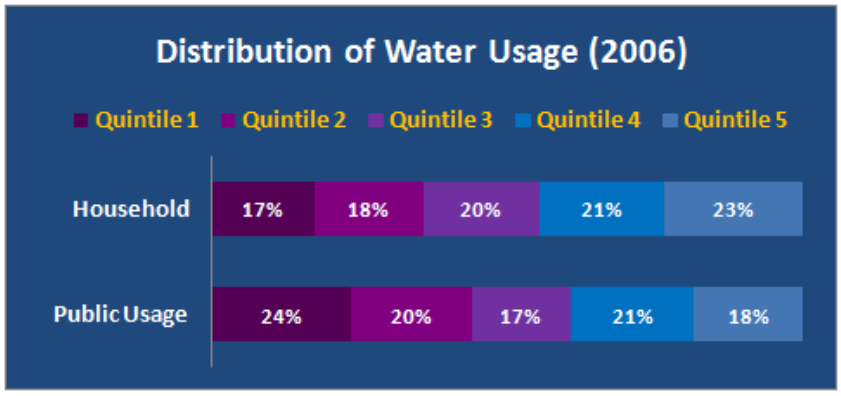
SECTOR: WATER SERVICES

Water services do not cover all the population in the country. This is the reason why the first step is to describe how are the beneficiaries distributed among different consumption quintiles and compare this situation with those sector that are not beneficiaries of the service. Further, the analysis will focus on how the water is used and who are the providers.

- The distribution of water services between different consumption-level groups seems not equitable. The biggest amount of beneficiaries is concentrated in the higher consumption quintiles, with an increasing tendency. As the consumption level decreases, the number of beneficiaries also decreases. Analyzing the distribution of those who do not have access to water services, the situation is exactly the opposite, with the not-beneficiaries concentrated in the lower consumption level.

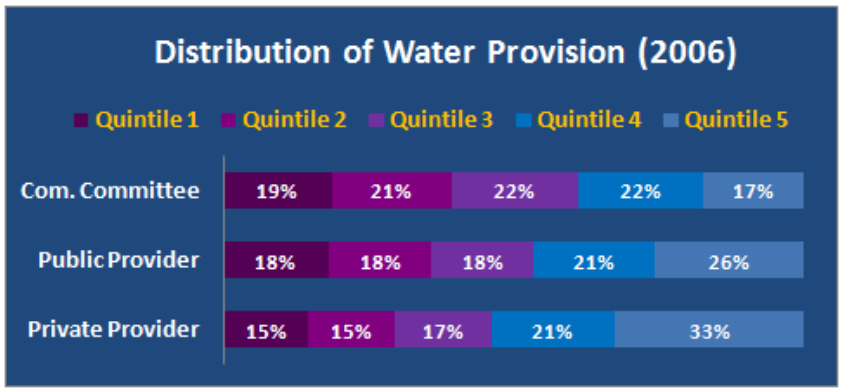


- Taking into account only the households that have water connection, it will be important to identify what kind of usage is assigned to the provision of water. Basically, there are two possible cases in Guatemala: 1) The connection is used only inside the house, and 2) The connection is publicly available. In the first situation (87% of the cases), the distribution of beneficiaries is regressive, with the biggest portion concentrated in the highest consumption level. Comparatively, in the second situation (13% of the cases), the distribution presents the greater portion concentrated in the lowest consumption level. The poorest households are which ones that, in most of the cases, share the water connection.



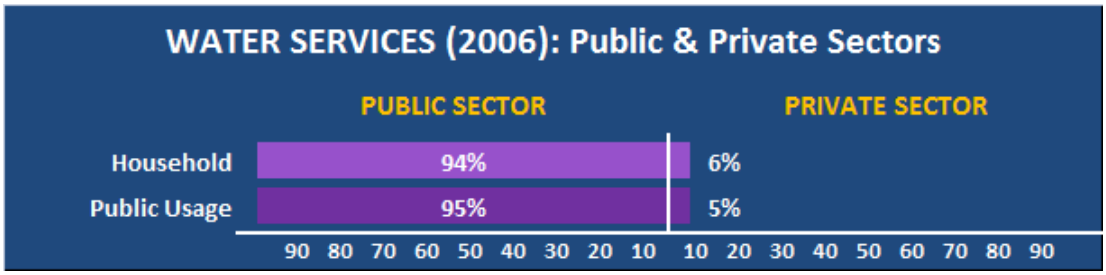
- The last theme to analyze is the water provision. There are three types of providers: **private providers**, **public providers** (dependencies from municipalities) and **communal committees** (constituted by civil society to provide a public service). The first aspect to identify is that communal

committees are the most equitable at the moment to provide the service among different consumption level beneficiaries. The other two providers are most likely regressive, because the beneficiaries they provide the service are concentrated in the highest consumption quintiles.



2. Public and Private Coverage of Beneficiaries

The two other sectors (Education and Health) describe how the beneficiaries are divided between public and private sector depending on the provider of the service. In the same way, following we present the division of the beneficiaries according who provides the water service. And because there is not a division by facility level, instead, the other variable analyzed is the usage of the service (public or private consumption).



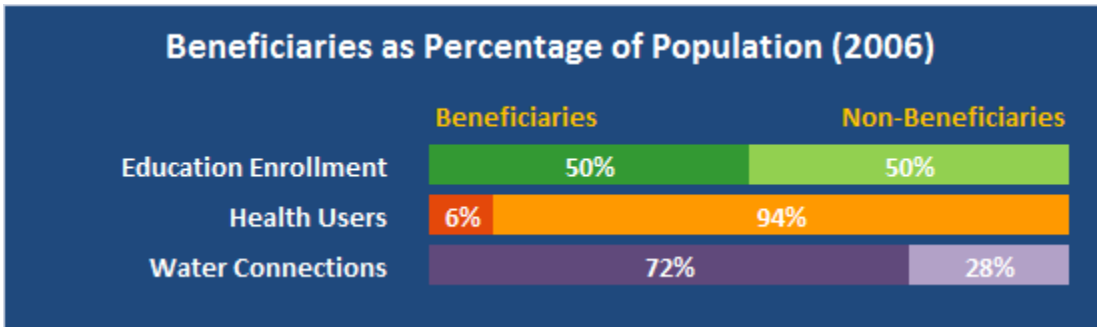
The pattern in the usage of the water services is the same for both household and public consumption, with the more significant share provided by the public sector (public providers and communal committees). The private sector only provides around 5% to 6% of the connections to the households in the country.

3. Amount of Beneficiaries

Beyond the analysis that can be obtained directly from the numbers, there are relevant implications from the distribution of beneficiaries and the portion that is still being ignored by the society. These conclusions will be very useful at the moment we want to define specific programs or suggestions for the policymakers about social investment and reduction of poverty.

With more than thirteen million of people in 2006, the government confronts the challenge of providing services to a considerable amount of beneficiaries, growing every year.

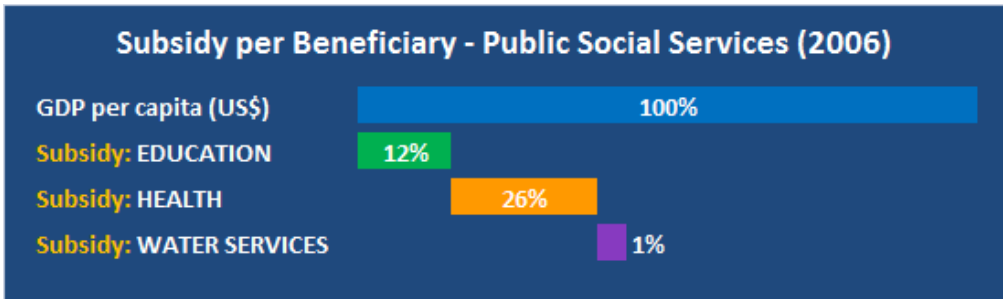
A simple analysis can show us the contrast between beneficiaries and non-beneficiaries in the three sectors analyzed:



The prior graph shows that on two of the government priorities (namely, Education and Health) there are still pending efforts to increase the coverage, especially in health services**,** where the target group is the whole population and only around 6% is attended by the public sector.

Concerning to **education**, a complete coverage of the population is not the objective; instead, the analysis focuses on the population is in the range of "**education age**", between 5 and 24 years.[10] The results show us that public sector provides the service to the half of target population, while the private sector only covers 6% of the beneficiaries. In contrast, **water connections** present a more favorable scenario, with almost three fourths of the population covered; the pending issue is to work for improving quality.

Finally, subsidies represent nearly 40% of the individual income, and the greatest portion is allocated to health services, followed by education. **Water services** represent not even 1% of the GDP per capita. Results are presented next:



The three sectors present a very different scenario, being difficult to make generalizations or comparisons. Hence, it will be helpful to treat the sectors separately in the further reports, describing the general framework before making suggestions for public policies.

[10] **National Statistics Institute**. Data based on **2002 National Census of Population**, and available at www.ine.gob.gt

PLAN FOR DISSEMINATION AND COMMUNICATION

"Starting in the 1980's, anti-poverty programs proliferated throughout Latin America, as governments tried to buffer the social and political costs of structural adjustment. Since these programs were originally thought of as temporary measures, their institutional and legal frameworks were weak and did not impede the discretionary distribution of resources. […]The debate has centered on how access to public information could act as a deterrent to the use of public resources for political ends. At the same time, however, the question of how opening these programs to public scrutiny might encourage a more informed public debate about governmental priorities in social policy has been put on the back burner."

Budget Transparency and Accountability in the Social Development Ministry's Anti-Poverty Programs – **FUNDAR (México)** –

GUATEMALA´s TRANSPARENCY PROGRAM FOR SOCIAL INVESTMENT

The major activities of the project include a detailed budget analysis of public expenditures in health, education and water services, and a dissemination and communication strategy. This strategy consists in the provision of policy alternatives for improving the results of the expenditures based on the findings of the research, making a significant effort and continued communication with stakeholders and policymakers aimed to enact positive change.

All the dissemination strategy has been done under the name **"Guatemala´s Transparency Program for Social Investment"**, counting with the support of Congresswoman **Rosa María de Frade**, President of the Transparency Commission of the Congress of Guatemala.

After the signature of the contract on June 13th (2009), several activities have taken place by **FUNDESA**´s team, trying to summon leaders of all the society, focusing in the public sector and civil society in charge of the accountability and monitoring of the social funds.

A brief description of these activities follows:

- As part of the general strategy, we began to prepare POP materials, in support for conferences, thematic rollups and supplies. Logo´s approval and design considerations have been treated in a timely fashion.

- An important activity has been the renovation of **FUNDESA**´s website, containing a general description of the project, downloadable archives and the announcements related with GDN worldwide activities.

- During the month of August 2009, **FUNDESA** carried-out a **Press Conference** for the launching of the project. About 30 reporters from different channels and media covered the event. It must be underscored that Congresswoman **Rosa María de Frade**, addressed the participants and insisted on the relevance of the project. She pointed out how the project contributes with the generation of information going beyond simple data, making more efficient the decision-making process for the government and stakeholders involved in the social sector investment.

- Several activities were realized in the following months. These headings corresponded to the **Dissemination Group of Activities**, oriented to communicate important findings to stakeholders, government officials and policymakers. These activities included communications and meetings with:

  a) **Eduardo Pesquera**, Director of the Integrated Accountability System (Public Finance Ministry)
  b) **Daniel Otzoy**, Team member of the Social Investment Platform (USAID)
  c) **María Castro**, Researcher of the Central-American Institute for Fiscal Studies
  d) **Horacio Alvarez**, Coordinator for Education Sector (Inter-American Development Bank)

- Finally, to validate and disseminate preliminary results and according to project´s workplan, **FUNDESA** continually convokes to focalized groups´ meetings to present advances of the project and disseminate a series of documents containing valuable information about the findings of the analyses.

It is also important to mention that, during these months **FUNDESA** has maintained close contact with the list of the 30 stakeholders selected for the project. Feedback has been received from them, underscoring the innovation the project brings to the public discussion of government expenditures in key social sectors.

CHALLENGES AND POSSIBLE EXTENSIONS

"The conceptual issues of targeting are well understood. Whether, how and how much to target social services or subsidies to the poor, depends on balancing the benefits and costs in a given set of circumstances. The benefit of targeting is that it can concentrate expenditures allocated to poverty alleviation or social programs on those who need them most. This saves money and improves program efficiency. The costs are the administrative costs of identifying potential beneficiaries, possible economic losses due to disincentive effects and any loss of political support for the program. It is often assumed that, as the accuracy of targeting and hence the benefits increase, the associated costs will increase as well."

Administering targeted social programs in Latin America – **Margaret Grosh (World Bank)** –

CHALLENGES FACED AND RISK MITIGATION

After getting involved in the project, some challenges have been identified related to the availability of information and data, especially in those areas where the spending is made but it is not clear the reason of the payment. The specific issues that have been identified are listed below:

1. **Program Budgeting Analysis:**

- Seminars and scholarships to public administration officers.
- Transfers to local associations and NGOs with no specific destination.
- Transfers to Multilateral Institutions (e. g., IADB, World Bank, etc.)
- Security services
- Research and Development investments
- Items assigned to Education, Health or Water Services, but with no specific objective (The term used is like "budget line not assigned to specific program")

Independently of the data collection, there are three other reservations that we consider that should be approached accurately.

1. The main issue of the project is Public Spending, which means expenditure from central and local administration. Even though, the **Table No. 5** makes a reference to "Household" as source of spending, implying private expenditure. We have the data, but this information is not accurately shared by public institutions and has a significant delay.

2. Local expenditures are referred to general activities, with very little information about it. We consider that some explanations should be pointed out, clarifying that the disaggregation of data could not be done with the specified requirements.

3. Social expenditure public presentations emphasize the constant increase in the funds over the years, having political positive considerations. Even though, arrangements to avoid inflation impact and to reflect purchasing power parity produce different results, most of the times with evidence that contradicts government arguments. Dissemination of those results should be done carefully and with enough time to explain detailed methodology.

2. **Benefit Incidence Analysis:**

- In some cases, there was no separation between public and private provision of the services.
- Facility levels do not exactly correspond to the ones defined in the phase 1 of the project, so few arrangements should be done to fit beneficiaries and expenditures.
- There was no confidence on beneficiaries' estimation from central government. This is because official sources do not have a consensus about the numbers, and there is no unified public information about beneficiaries.
- Instead of income as variable to define quintiles, consumption was used as proxy.
- There was no data in seven cases of the list of households provided by the survey: Households No. 253, 806, 3127, 3424, 4283, 4305 and 10,232.

Independently of the data collection, there are three other comments that we consider that should be approached accurately.

1. Where possible, a special note was added explaining how private firms also act as suppliers of social services, more specifically on education and health sectors. The consideration helped a lot to contrast the share of beneficiaries covered by either public or private sector.

2. Estimates concerning total amount of beneficiaries are based on the data presented in the household survey. For this reason, it is important to mention that a margin of error is assumed and results could slightly differ from official sources.

3. To determine the exact amount of per beneficiary subsidy, a lot of assumptions are implicit, because the survey does not exactly match the way the government defines facility levels and how the questions were made in the questionnaire. The analysis assumes, recognizing an acceptable degree of bias, that beneficiaries are directly linked to specific budget allocations.

The mitigation of all these problems is explained in the assumptions section, trying to direct the analysis in the most transparent way, giving all the necessary information to allow the replication of the study.

POSSIBLE EXTENSIONS

The project will imply further considerations rather than the ones treated in this report, such as the updating of data, including **2010 approved budget**, **2011 household survey** and any changes in the methodology used by the Public Finance Ministry to administer the budget.

Government announces the inclusion of **International Monetary Fund** methodology to register social expenditure in 2010, with a higher degree of data disaggregation. A suggestion made by some of the policymakers consists in a rearrangement of the data (2006 to 2009) using this new methodology, so more in-depth, comparative analysis could be made in future projects.

Finally, one more possible extension is to include in the analysis other sectors rather than education, health and water services. **FUNDESA**´s interest is additionally directed to nutrition and infrastructure, being part of the key elements pointed by World Bank and the World Economic Forum to improved life conditions in Guatemala in the next years.

ANNEX SECTION

COMPLEMENTARY VARIABLES

For purposes of international comparison, some variables will complement the analysis, allowing to understand how spending evolves in each country. This basic analysis includes references to amount in dollars (power purchase parity), use of actual rather than budgeted numbers; and real expenditure rather than nominal (2006 as the base year). In addition, to eliminate the influence of the country´s production as a determinant of budget capacity, **Gross Domestic Product** – **GDP** – will permit to illustrate what portion of the production is orientated to social spending. In the same way, spending per capita will allow to fix the amount of expenditure in relation with the population of each country.

The list of variables and its sources are shown below:

a) **Gross Domestic Product:** To obtain expenditure as a portion of national production
b) **Population:** To calculate expenditure per capita
c) **Consumer Price Index:** To adjust nominal expenditure to real expenditure
d) **Consumer Price Index (USA):** To make the equivalence to Purchasing Power Parity
e) **Country´s Exchange Rate:** To convert national numbers to US Dollars

	2006	2007	2008	2009*
COMPLEMENTARY VARIABLES				
Gross Domestic Product (GTQ millions)	**Q 229,836**	**Q 261,129**	**Q 294,664**	**Q 307,577**
Population	**13,018,759**	**13,344,770**	**13,677,815**	**14,017,057**
Consumer Price Index (Guatemala)	100.0	108.7	119.0	123.6
Consumer Price Index (USA)	100.0	102.9	106.9	107.2 [1]
CPI Ratio (CPI Guatemala / CPI USA)	**1.00**	**1.06**	**1.11**	**1.15**
Reference Exchange Rate	$ 7.60	$ 7.63	$ 7.78	$ 8.10 [2]
Exchange Rate (PPP) [3]	**$ 7.60**	**$ 8.06**	**$ 8.66**	**$ 9.34**

[1]: Consumer Price Index for the Third Semester of 2009 (September)
[2]: Average of the Reference Exchange Rate (January 1st 2009 to September 30th 2009)
[3]: Exchange Rate (PPP) = Reference Exchange Rate * CPI Ratio

* 2009: effective numbers as of October 31
All numbers: US Dollars, Purchasing Power Parity (PPP). Base year: 2006.

PURCHASING POWER PARITIES (World Bank)

http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/EXTDECSTAMAN/0,,contentMDK:20877958~isCURL:Y~menuPK:2648194~pagePK:64168445~piPK:64168309~theSitePK:2077967,00.html

An alternative approach to convert measures of income from national currencies into a common currency is by using conversion factors that reflect the purchasing power of currencies - **Purchasing Power Parities** -.

Purchasing Power Parities – PPP – eliminates the inconsistencies inherent in exchange rate conversions, which are sometimes volatile and fail to reflect properly the differences in price levels between countries - particularly with respect to non-traded items. (Devaluation of a country's currency will reduce its GDP in US$ over night, but it does not make the citizens less well off unless they buy imported goods. The exchange rate is the price on foreign currency, and is relevant for actual transfers across the border, but it is not too relevant for the part of GDP that does not enter international trade.)

The PPP rate is defined as the number of units of a country's currency that is required to buy the same amount of goods and services in the country as one US$ would buy in the US. **PPP as a rate of conversion ensures that money exchanged for a dollar buys the same volume of goods and services in every country**. By equalizing prices, PPP rates deliver a measure of relative GDP which is based on what constitutes "real" income, the volume of goods and services embodied in GDP. The method of using PPP is analogous to measuring GDP in different years at fixed base year prices.

As to actual PPP data, there are concerns related to coverage, continuity and timeliness of surveys, quality of results and aggregation procedures.

The World Bank does not use PPP converted data for administrative purposes. For setting the terms for lending at the World Bank, the atlas method is used to convert income from local currencies to a common currency (US$). However, the World Bank uses available PPP-based numbers for analytical and poverty reduction policy purposes, as demonstrated in recent editions of the World Development Report and the World Development Indicators.

PPP rates can be derived using several methods, each yielding different estimates. PPP rates are estimated on the basis of data from special price surveys. Price ratios of comparable items between countries are computed, and aggregated using corresponding weights based on GDP expenditure data. Several methods of aggregation exist, and there is no universal agreement as to which is superior - it depends on the purpose.

PPPs can be used either for binary comparisons, or for comparison of a group of countries. Binary comparisons between pairs of countries are obtained by computing the "ideal" index, the Fisher index. However, the Fisher index is not transitive, thus, other methods are (should be) used for multilateral comparisons. (Transitivity means that comparing country A with C directly should give the same result as comparing country A with B and C with B -- making the comparison of A and C indirectly.)

The two most commonly used methods of aggregation in multilateral comparisons are (i) the Geary-Khamis and (ii) the Elteto, Koves and Szulc, which both produce transitive and base-country invariant results.

- The Geary-Khamis method involves using observed price and expenditure data to obtain implicit quantity estimates, and evaluate these quantities at a single set of average "international prices" denominated in a common currency, like the "international dollar". (An "international dollar" has the same purchasing power as an US$ for total GDP in the US, but the purchasing power of the components are determined by the average international price structure, not the US price relatives.)

- The Elteto, Koves and Szulc, involves a two-step process. First step is to get a set of binary Fisher indexes for all pairs of countries, and step two is to make these comparisons transitive by computing geometric means of all the direct and indirect indexes.

The results using the Geary-Khamis method will generally differ both in ranking and level compared to the results using the Elteto, Koves and Szulc method. The Geary-Khamis method has one advantage over the Elteto, Koves and Szulc method: it is additive. This means that components can be added to reach a total, making it possible to add expenditure at "international prices" to reach GDP at international prices. Thus, the use of the Geary-Khamis method makes it possible to put up an internally consistent set of national accounts data at "international prices". However, the Geary-Khamis method tends to result in inflated quantity estimates for poorer countries.

International Comparison Programme

The United Nations International Comparison Programme (ICP) was launched in 1968 as a worldwide effort to compare country income levels on a purchasing power adjusted basis. The initiative has been developed under the guidance of a group from the University of Pennsylvania in cooperation with international agencies, including the United Nations Statistical Office, the Statistical Office of the European Union, the Statistical Office of the Organization of Economic Cooperation and Development and the World Bank. The work of the ICP has been carried out in several faces over a long time, with compilation of data for various benchmark years.

Furthermore, effort has been made to develop shortcut and reduced information methods to extend real income comparisons to countries which may not be able to participate in the benchmark work and to obtain annual estimates for inter-benchmark years.

The ICP-methods

In ICP, GDP by expenditure is divided into 150 (or more) groups/basic headings, in which all items selected for pricing are classified. Out of a list of specifications containing approximately 2000 items, each country collects the prices on 3 or more items per basic heading. An average price for each group / basic heading is estimated, in order to derive price ratios for each of these groups (un-weighted parities). These price ratios are then aggregated, a procedure which involves weighting and summing up, to arrive at PPPs and "real" expenditures for each category of expenditure up to the level of GDP. For the purpose of aggregation, two alternative methods of aggregation can be / are used in the ICP programme, the Geary-Khamis and the Elteto, Koves and Szulc. As mentioned earlier, both methods produce multilateral, rather than binary comparisons, and both methods lead to transitive and base-country invariant results.

Special price surveys are conducted at about five year intervals, and have so far covered about 90 countries at one point of time. However, while surveys have been regular and more or less complete in the industrialized countries, surveys for developing countries and countries in transition have been less regular and of more uncertain quality. Since not all countries have participated in all years, it has been necessary to extrapolate to construct an array for a given year for all the 90 countries. Furthermore, recourse has been taken to shortcut procedures for the estimation of numbers for countries that have not participated in the ICP.

As PPP numbers are available every fifth year, **PPP converted data like GDP and private consumption expenditure are extrapolated using real growth of the respective countries adjusted for US inflation**. However, using this method, the estimates never match data based on a new benchmark year (new price

survey), and there is no reason they should. This method allows prices only to change, while PPP-estimates include the effect of changes in quantities as well. This extrapolation method is also used whenever figures for a country are not available for a new benchmark year. Using this method means that data are less reliable the further away from the last benchmark year.

In addition to extrapolation over time, it has also been necessary to come up with ICP or PPP numbers for countries not participating in the ICP program. The usual method has been to use **regression techniques to establish a structural relationship between ICP-type estimates on the one hand and a set of easily observable explanatory variables** on the other. The World Bank has in World Development Indicators, World Development Report and World Bank Atlas published PPP-estimates derived on the basis of two independent variables; **Atlas estimates of per capita GDP and secondary school enrollment. Such short-cut estimates are useful for analytical purposes, even though the estimates can have large residual errors**.

Despite limitations, the ICP-database constitutes the largest single source of data on international comparisons of price and expenditure patterns.