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**Diálogo para la  
Inversión Social  
en Guatemala**

## POLICY BRIEF Nr. 6

# Information, Decision Making and Dialogue

Democracy needs dialogue among stakeholders that is informed, empowered and competently conducted. More than data, we need systems that use information to improve decisionmaking, accountability and policy.

## Introduction

DEMOCRACY'S DEVELOPMENT IN GUATEMALA HAS MATURED IN FITS AND starts, but one thing is clear: in a healthy democracy, public policy grows out of civic debate. The State interprets the resulting conclusions and converts them into policy decisions. Every stage in this process depends on constructive dialogue: the capacity of social agents (often with opposing agendas) to effectively communicate with each other in order to achieve their goals. This type of dialogue is only possible when all participants are well informed, empowered and properly prepared to communicate. An *informed dialogue* is one where conclusions are founded on hard evidence; *empowered dialogue* implies an equal voice for all stakeholders. Within this context, *competent communicators* are able to promote their interests while affirming their opponents' positions.

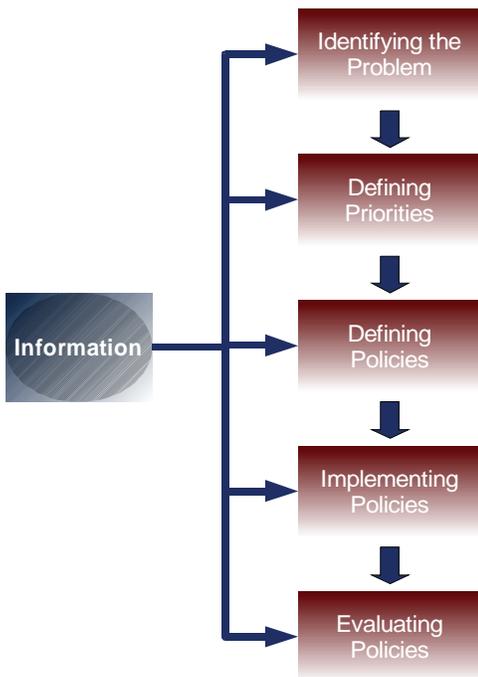
Access to information, and its effective use, helps ensure a productive dialogue. Over the last two years, the ministries of education and health in Guatemala have worked with USAID affiliates to develop the Integrated Social Information Platform. This tool relates databases from various institutions in the social services and provides a flexible interface for intuitive data visualization and management. By offering public access to the Platform over the Internet, the State allows all interested parties to enter an informed dialogue. The goals of the Platform go beyond mere technological upgrades; it seeks to improve policy, planning and communication among stakeholders. The Platform supports these goals by ensuring quick access to relevant and contextualized data. This Policy Brief examines the implications of an informed dialogue, and the integration of education and health information into public policy.

## Why do we need information for effective dialogue?

### *Information is needed for decision making and planning*

Initiatives that respond to the real world can only occur when decision makers use accurate and contextualized information. This process requires data not only of immediate problems, but of background factors as well. In the education sector, for instance, the nature and intensity of preschool and

Figure 1: Information is an element that articulates the progression of public policy: from identification of the problem to its evaluation.



primary level provision is partly determined by the adult literacy rate of a community. Having current and correct information will allow for a more appropriate intervention. Contextualized planning acknowledges that factors often cross traditional sectors and boundaries. For example, health service planning requires both epidemiological and demographic information in order to make an effective intervention. Epidemiological issues such as the type of illness and the number of people affected need to be combined with demographic indicators such as age, mobility, literacy rates and poverty levels (among others). A realistic model of supply and demand for education must examine the contribution of individual households, as well as public sector expenditure. The contemporary and future job market should influence the coursework offered in the Education market.

Comparing the outcomes of a program with the needs and demographics of the beneficiaries allow for more informed decisions. Perhaps the most powerful application of the Platform is relating data between financial databases, demographic censuses and institutional production reports. For the first time, an analyst can conduct a thorough analysis with official data, all within a single program. In the area of disease prevention, for example, the Platform can relate service provision of a necessary vaccine with the historical incidence rate of the corresponding disease (a key measure in the calculation of effectiveness). Equity issues can be addressed, to assure that all segments of the population at risk are equally covered (classified by ethnicity and income levels, for example). Relating this information to the intervention's cost provides a measure of efficiency. Approaching an intervention from various perspectives helps the State know if the results are relevant to society, as well as to the institutions themselves.

A public administration that has access to current, accurate and trustworthy information can provide more efficient services, plan more effectively and better allocate resources to achieve its goals. Having good information in a timely manner also leads to more relevant policies, which are more closely linked to the issues they attempt to address (see a simplified representation of this idea in Figure 1).

**Information is needed for accountability**

The State is accountable to society for its actions. This accountability is much more than a financial revision (even though this is important). Citizens also have the right to be in-

**Box 1:** Including information in systematic processes within institutions: planning as an example

Planning serves a “linchpin” function between public policies and institutional operations. On the one hand, planning starts from a detailed understanding of policies, goals, and realistic methods of achievement. Understanding this, planners translate policies into instructions for action: what to do, where to do it, how to do it, when to do it, what to do it with. Additionally, planning uses information about the issues and circumstances to be affected, about institutional operations (such as data on service provision and administration) and about the efficacy of these activities in changing social conditions. Using and interpreting data about social needs, institutional operations and resources used, planners integrate information for policy decision makers. Figure 1 suggests that information intervenes in all aspects of policy planning, implementation and assessment.

formed about what goods or services were provided, who was responsible, who received them and what their quality was. As the complexity and variety of public services increases, and as social change accelerates, data collection and provision must keep pace. This requires frequent collection of data, as well as their efficient management and ease of access for stakeholders.

The State is a prodigious collector of data. By definition, its sources of information are publicly available. In Guatemala, the recently sanctioned Access to Public Information Act undergirds and defines the right to obtain public records: Articles 10 to 13 of the Act define a set of public information that institutions must have readily available at all times, while Article 39 normalizes acceptable formats and information access through electronic storage and retrieval (see Box 2).

To fulfill these responsibilities, institutions need to proactively address the management and integration of information (see Box 3, page 5). This requires converting data into useful information. This goes beyond mere access provision to administrative records. Instead, indicators and targets must be developed and clearly presented to allow citizens a logical interpretation of public policies, service provision and responses to social needs.

Considering that the Access to Public Information Act requires public institutions to establish public information units, it is in the institutions' interest to proactively prepare information on common concerns. This could minimize the volume of demands that need to be addressed at short notice<sup>1</sup>.

### **Information is needed to build democracy and citizenship**

As underscored at the beginning of this Brief, one of the key components of effective dialogue is an empowered citizenry. This implies a level playing field among stakeholders: with equal voice and access to data. Needless to say, this is not yet a reality in Guatemala. Not only are citizens at a disadvantage to public officials, but within the civil society itself there exists inequality in awareness of data, sources, access and capacity to use them. Citizens need to know how to access data, how to convert these into useful arguments and how to dialogue with others.

Over the years a variety of initiatives have been developed to collect information and exercise citizen oversight in Guatemala. Examples of this include the legislative monito-

#### **Box 2: Electronic information systems: tools for transparency and accountability**

The Access to Public Information Act was passed by the Guatemalan Congress on September 23, 2008. This act recognizes that electronic information systems are not only management tools, but also resources to ensure access and transparency in information. They are a means for the State to be accountable to society.

*Article 39. Electronic Information Systems.* Obligated subjects will establish, as a means of access to public information, among others, electronic information systems.

The highest authority is responsible of guaranteeing that the information published is trustworthy and legitimate.

Information published in electronic information systems, among others, must coincide exactly with the financial, accounting and auditing systems and must be updated within the terms established by this law.

(Translation: USAID/Dialogue for Social Investment)

*Public institutions must prepare proactively to respond with information and minimize the volume of demands that they must address specifically at short notice.*

<sup>1</sup>Article 42 of the Access to Public Information Act sets a 10-day term to respond to citizens' requests for information.



Informed citizens are legitimate participants in public policy

ring activities of Acción Ciudadana<sup>2</sup> (the local chapter of Transparency International), the Social Expenditure Observatory set up by Colectivo de Organizaciones Sociales<sup>3</sup> (a local NGO Alliance), and the Social Audit of Education Support Systems conducted yearly by Gran Campaña Nacional por la Educación<sup>4</sup> (a broad Alliance of private for profit and non profit organizations led by four local universities). Many initiatives collect data already available in public records. Though citizens are free to do so, investing limited human and capital resources to duplicate information is inefficient. Not only can the State conduct and provide information at a lower cost (through economies of scale), it is legally obligated to do so. Private efforts could better be focused on the substantive activities of oversight, interpretation, communication and policy incidence.

The continued use of public information in dialogue hinges on the credibility and legitimacy of the data. This credibility is influenced by the overall opinion of the Government. If citizens distrust the State, they will doubt the veracity of public data. Such distrust is not without merit. The lack of access, reticence of public officials to divulge information and instances of inaccuracies justify and reproduce this distrust. How can this vicious circle be broken? Improving data quality is a complex, expensive and protracted task. Surprisingly, the first step is to expand access to the data, especially when data quality is poor. Its success depends on the willingness and ability of the institution to improve the database, based on citizens' feedback. In this dynamic, there is a two-way communication between producers and users of public data. The sustainability and long term benefit of this system requires the permanent institutionalization of mechanisms of user-initiated improvements.

## Addressing the need for information for dialogue: integrated information platforms

### *Progress and limitations in access to information*

Technology has revolutionized conditions under which information is collected, processed, stored and analyzed. For over a decade, many public institutions have recorded their administrative and output activities in electronic format. In Guatemala, the Ministry of Education has maintained detailed educational statistics on digital records since 1992, while the Integrated Financial Administration System (SIAF) in the Ministry of Finance has kept electronic data of all public financial operations of the central government since 1998. The National Institute of Statistics stores and distributes census and survey data electronically.

Electronic formats may have simplified work for analysts within institutions and universities, but this does not guarantee access for the rest of society, nor necessarily affect policy decisions in the institutions themselves. This disparity is compounded by the limited access to technologies in some parts of the country: computers and the Internet continue to be an aspiration rather than a reality for many people, especially in rural communities. However, access is expanding rapidly. According to studies reported in Prensa Libre, Internet users in Guatemala increased from 400,000 to a million between 2002 and 2007, and are expected to reach 2,5 million by 2010<sup>5</sup>. In addition, NGOs and other organizations may provide access in marginalized areas. It is likely that access will cease to be a major barrier to data.

<sup>2</sup> <http://www.accionciudadana.org.gt>

<sup>3</sup> See: <http://www.congcoop.org.gt>

<sup>4</sup> <http://www.asies.org.gt/grancampaña>

<sup>5</sup> Prensa Libre - electronic edition - National News. Available at: <http://www.prensalibre.com/pl/2008/enero/20/212420.html> [Accessed December 1, 2008].

Obtaining hardware does not signify access to information. Recently, several institutions have developed online applications that disseminate and organize information for the general public. The Ministry of Finance of Guatemala has developed a “Transparency Portal” (<http://transparencia.minfin.gob.gt>) and a user friendly interface for easy investigation of the National Budget (<http://consultaciudadana.minfin.gob.gt>). In the same vein, the National Institute of Statistics publishes statistical data on its website (<http://www.ine.gob.gt>) in manipulable (spreadsheets), and non-manipulable (such as .pdf ) formats. However, users are limited in their ability to conduct searches outside of the default parameters set by the portals. These limitations affect researchers, managers and common citizens wishing to make investigations based on their needs. Such an investigation still requires jumping through bureaucratic hoops to obtain the information.

### ***The Guatemalan experience: the Integrated Social Information Platform***

#### **What is the Integrated Social Information Platform?**

Since the 1980's, institutions have sought to modernize in order to take advantage of progress in information technologies. Unfortunately, improved technology does not ensure that users are able to fully use these new tools. This has led to systems, platforms and data formats that don't respond to needs, and are mutually incompatible. The lack of standards for data collection, storage, organization and processing creates serious difficulties for social policy planning. Throughout the public sector, analysts use a significant amount of their time collecting data in different formats, interpreting data, standardizing codes, relating tables and querying databases. This leaves little time for decision making and increases the chance of mistakes from data entry.

In Guatemala, the ministries of education and health, with support from the United Sta-

*Technology has also implied the rise of online applications that permit rapid and easy access to specific, current information. However, users are limited in their ability to conduct searches outside of the default parameters set by the portals. These limitations affect researchers, as well as common citizens, wishing to make investigations based on their needs.*

#### **Box 3: Data, information, knowledge and understanding – four key definitions**

The terms “data” and “information” are frequently used without distinction. What is the difference between them, and how do they relate to knowledge and understanding? Although this discussion may seem academic, it is increasingly important to understand how modern technological systems can help decision making and relations in a democratic society. According to Alesso and Smith<sup>6</sup>:

- *Data* are the fundamental elements that represent evidence in a simple manner. They may exist in any format, useable or not, and have no meaning by themselves;
- *Information* is the explicit association between data. Information refers to data that have been given meaning through mutual linkages. This meaning may be useful, but that is not necessarily so;
- *Knowledge* is the collection of information in a manner that is useful, in other words, that can be used in other applications in social and institutional life;
- *Understanding* is the cognitive and analytic process whereby existing knowledge is taken, combined and synthesized to produce new knowledge.

Traditional information systems collect and present data and eventually build institutional information. Examples of this might be a yearly statistical report. Meanwhile, the integration of information systems lets users build sectoral information (focused on objects of public policy and society, rather than on institutional operations). When this information is used in decision making it leads to sectoral knowledge. When open to discussion and dialogue (within and between sectors, academic, political), it can lead to better understanding and addressing social processes.

<sup>6</sup> Paraphrase: Alesso, H. Peter y Craig F. Smith (2006). *Thinking on the web: Berners-Lee, Gödel, and Turing*. Wiley-Interscience, Hoboken, New Jersey. Pages 32-33.

tes Agency for International Development (USAID), the Academy for Educational Development (AED), the World Bank, the Interamerican Development Bank (IDB), the Japan International Cooperation Agency (JICA) and the Pan-American Health Organization (PAHO), have adopted network-based technologies to integrate databases across the social sector. The resulting network incorporates data from the respective ministries of education and health, demographic data from the National Institute of Statistics, and financial data from the Ministry of Finance on the ministries of health and education. The resulting platform has the following advantages:

**Figure 2:** The Integrated Social Information Platform offers access to data from a variety of institutions



- Each unit of data is standardized and synthesized into a reliable network;
- Data formats are clarified for users, data manipulation becomes intuitive;
- Information technicians are not required to retrieve and interpret results;
- Direct access to data servers is provided throughout the world, via the Internet or an intranet;
- Data can be stored in a central location (though this is not required);
- Users are empowered to directly relate all available data.

A unified, accessible and inter-operable platform is ideal for analysis. Focus is placed on the analyst's and the decision maker's inquiries, rather than on the characteristics and format of the data. This approach contributes to organizing, managing, accessing, manipulating and visualizing the data.

### How has the Integrated Social Information Platform been implemented?

The Integrated Social Information Platform combines advanced Web technologies with social policy, training, hardware and software tools, through the following steps:

1. *Identification of the data:* The platform began by identifying sources of information from relevant institutions. This required the identification of physical servers, database servers, data formats, modes of storage and organization. All stakeholders involved in data production, not just tools and systems, participated in this process;
2. *Integrating data:* Data from the various sources and programming languages were integrated through a common technology;
3. *Creation of a single data universe:* A new and unified data "universe" was created, comprising all possible relationships among the databases, under a single master catalogue, ensuring common labels and data among the databases;
4. *Development of a user interface:* A user interface was prepared that included search and report tools required by analysts and decision makers;
5. *Building staff capacities:* To ensure Platform's relevance, maintenance and use, planning staff in institutions involved in updating and maintaining the platform received special training, while users within and outside public institutions received basic training.

These steps were implemented through the deployment of modern "Web Intelligence"<sup>7</sup> software tools that facilitate the integration and linkage of data across databases in multiple formats, and the implementation of accessible online user interfaces.

<sup>7</sup> Recent years have witnessed an explosion in options in "business intelligence" software tools integrating information through networks. Some examples are *Business Objects* by SAP (<http://www.sap.com/solutions/sapbusinessobjects/index.epx>), *ProClarity* (now *Performance Point Server*) by Microsoft (<http://www.microsoft.com/business/performancepoint/>), *Cognos* by IBM (<http://www.cognos.com/>), and *Panorama* by Panorama Software Systems (<http://www.panorama.com>).

## How has the Integrated Social Information Platform been used?

The Integrated Social Information Platform has resulted in increased analysis of complex social dynamics, and has had an impact on decision making:

- Available data shaped the analysis of needs and availability of education resources as part of the planning stage of “Mi Familia Progresá,” a new conditional cash transfer program.
- Data across sectors were used to prepare the “Municipal Education Progress Index” showing progress in basic education enrollment and termination at the municipal level throughout the country<sup>8</sup>.
- The platform was used by the Ministry of Education to publish information about the status of each school through a “school report card”, available online<sup>9</sup>.

### Box 3: Integration is both an institutional task and a change in attitudes: the “data club”

It is important not to confuse the availability of technologies with their use. “Web intelligence” is helpful to flexibly overcome problems in technological access, but requires a change in the way data are valued and information is built. Traditionally, producers and collectors of data concentrated resources into a few sites with restricted access. This is based on the rationale, undoubtedly valuable, that resources are fragile and can be manipulated in the wrong hands. In effect, preservation of information was valued above its use. However, it reflects a faulty equivalence between electronic media and more traditional hard media, such as printed documents.

When data and information are recorded on physical media, replication and distribution are difficult and costly. Managers could best use and value information if it was concentrated, for example, in large libraries and document centers. These problems, together with a culture that relates knowledge acquisition as a zero sum power game (“the more you know, the less power I have over you”), have hampered distribution of electronic media. However, digital technologies, especially the Internet, make replication and dissemination almost cost-free and instantaneous. In consequence, the source of the value of information passes from its concentration to its distribution: *data are more valuable when they are known and used by more people*<sup>10</sup>.

Furthermore, a new form of using and valuing information arises from the network itself. The value of knowing more than others has been superseded by the benefits of a common knowledge base. These include improved communication, more objective dialogue and the ability to make better relationships between data. Use and value accrue as a consequence of a common and more profound understanding of our world. With the Internet, resources on every subject are freely available. This does not mean that information-based power disappears, but rather that its basis changes. While power in the past belonged to those who controlled and concentrated information, today power belongs to those who distribute it: especially to those who can link it in ways that add value. This also means a shift from *power based on control* to *power based on influence* through information.

This change leads to a powerful concept: the “data club.” In order to benefit from the data and take part in the power of information, people and institutions must change their attitudes concerning the data they possess. As with social clubs, in order to benefit from others’ data, each party must be willing to pay a “subscription” (in the form of providing access to their own data). This means giving up “sovereignty” over one’s own data, but the advantages of association are much greater than the losses.

<sup>8</sup> This document is available at: <http://www.proyectodialogo.org/documents/educacion/IAEM.pdf> (in Spanish).

<sup>9</sup> School information is available at: <http://www.mineduc.gob.gt/ie>.

<sup>10</sup> About this key concept, see: *Kevin Kelly on the next 5,000 days of the web*. Video on TED.com. Available at: [http://www.ted.com/index.php/talks/kevin\\_kelly\\_on\\_the\\_next\\_5000\\_days\\_of\\_the\\_web.html](http://www.ted.com/index.php/talks/kevin_kelly_on_the_next_5000_days_of_the_web.html) [accessed January 13, 2009].

The POLICY BRIEF series seeks to disseminate information and analyses about public policy in health and education that may help decision makers, analysts and citizens develop informed opinions about critical aspects for development in Guatemala.

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<sup>11</sup> Weitzner, Daniel J., Harold Abelson, Tim Berners-Lee, Joan Feigenbaum, James Hendler and Gerald Jay Sussman (2007). *Information accountability*. Computer Science and Artificial Intelligence Laboratory Technical Report MIT-CSAIL-TR-2007-034. June 13, 2007.

## The remaining challenge: access to data does not guarantee use and improvement

Although this Policy Analysis shows significant progress in the development of social information systems, the challenges still overshadow achievements.

*The Platform's final objective is not a society with universal access to public records, but a community of stakeholders that make informed decisions.* Although access to data has improved, its effect remains limited. Few people have the analytic skills needed to build appropriate information and useful knowledge from the data. Achieving these capacities on a large scale will require changes throughout the education system and the adoption of policies in public institutions and political dialogues that require decisions to be based on evidence.

*Data quality is improved through use.* People often assume that data quality needs to be improved before products are distributed, yet this correction never occurs. When producers are separated from users, there is a lack of incentive to upgrade the product, since they often don't use the data they create. In this situation, most users have an interest in bettering a database, but don't have the means nor the time to make improvements themselves. However, expanded access exposes these quality problems to a much larger audience and makes producers accountable to a larger group of observers. Establishing means for feedback and improvement will prevent unresolved frustrations.

*Expand links to information.* Though much progress has been made in linking social data, many useful resources remain outside the Platform. This includes records of employment, housing, water, sanitation, domestic and international commerce; factors that need to be integrated for more relevant policy analyses and design processes.

*Address access and data security globally.* The integrated data systems pose new challenges to data security and the maintenance of personal security. These issues cannot be solved through denying access, as in the past. It is increasingly important to establish a system that secures the data, defines acceptable use and protects privacy<sup>11</sup>.

This document is available online at:

[http://www.proyectodialogo.org/documents/informacion\\_democracia/policy\\_information\\_06.pdf](http://www.proyectodialogo.org/documents/informacion_democracia/policy_information_06.pdf)

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