



## Pro-poor financing and tariffs in Medellín, Colombia

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**Type of tool:** cost recovery and sustainable financing of water services

**Issue:** cities

**Location:** Medellín, Colombia, Latin America

### Challenges and objectives

Colombia, as is the case of many Latin-American countries, has implemented different economic reforms to improve the living standards of its population. In the utilities arena, some measures have been taken in terms of tariff structure and changes in the institutional framework. However, there exist economic, social and legal entry barriers for a significant proportion of people that remain without guarantees, living in an informal world where rights depend on income.

People living in poverty face innumerable access problems related to the lack of financial capacity to afford to a minimum water service allowance, and the inability to save enough money to pay for the consumption. This has been a crucial issue in the water sector in the developing world for years. In addition, experience shows that low or no income is not the only barrier inhibiting access to water services. Other conditions associated with poverty in these areas, such as social unrest, violence, unemployment and underemployment, urban displacement, and other related factors, threaten to undermine economic efforts to guarantee service access. In many cities in the developing world, as in Medellín, the poor peri-urban population not only live under 'border' economic conditions, entering and exiting to and from the formal world, but also under border social, legal, and institutional conditions. This interception of multiple geographical, economic and social stressors constitutes a major challenge to extending water services coverage to these areas. Moreover, this population is more vulnerable to external social and economic shocks (unemployment, sickness or death of members in close social networks, etc.)

Governments in association with utilities in the developing world have a responsibility to address these challenges in services provision. The experience of Empresas Públicas de Medellín (EPM) as water services provider for Medellín and the Aburrá Valley<sup>1</sup> in Colombia, consists of joining formal public policies of local and national government with EPM's corporate social responsibility policies to create shared value in the weakest segment of the population. A portfolio of initiatives has been specifically designed with the aim of guaranteeing universal access to public services, and to prevent this vulnerable population from falling into a poverty trap that impedes the possibility of connection and consumption. Based on an understanding of

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<sup>1</sup> The Aburrá Valley (in Spanish Valle de Aburrá), is the natural basin of the Medellín River and one of the most populous valleys of Colombia in its Andean Region with more than 3 million inhabitants. The Aburrá Valley is home to ten cities: Medellín, Barbosa, Bello, Caldas, Copacabana, Envigado, Girardota, Itagüí, La Estrella and Sabaneta.





users both as households and as people that make part of a community, by considering their symbolic and social capital, EPM is addressing with success this challenge.

### **About EPM**

Empresas Públicas de Medellín is a Colombian company owned by the Municipality of Medellín. EPM is a utilities provider (water, electricity, gas, and telecommunications), and its main market is the metropolitan area of Medellín and the Department of Antioquia, comprising of 5.2 million people. It is the second largest water and sanitation utility in Colombia and currently its profits transferred to the municipality represent around the third part of the latter annual budget.

EPM is recognised nationally and internationally for its efficiency and quality operations. Some of the facts that demonstrate EPM's success are: good financial results, high quality standards of its services, high credit ratings<sup>2</sup> by national and foreign financial agents and the social acknowledgment<sup>3</sup> for its performance and commitment to improve the quality of life of the population it serves, especially the poor.

EPM projects are developed in accordance with strict financial, technical and legal principles, and all its procedures and controls for the acquisition of goods and services guarantee transparency in all contractual processes. Its management and directors are independent of any political influence. In addition, EPM's corporate governance model made of formal and informal mechanisms and its Corporate Social Responsibility Policy have become important drivers for the growth and sustainability of the company.

### **How have cost recovery and financing mechanisms helped overcome barriers?**

Understanding that the access problem is critical in Medellín, EPM has designed and implemented a variety of solutions tailored to target people with different needs.

A key issue regarding how to overcome the barriers to the poor is the institutional capacity to understand the problem and to design and implement effective solutions. EPM has the institutional capacity for managing the entire process from problem identification to the implementation and evaluation of the programs. This process requires first of all, a clear understanding of the initial situation to enable the formulation of appropriate and comprehensive strategies. At EPM a conceptual framework is first developed, based on interdisciplinary studies and an in-depth analysis of the economic, social and psychological users' behaviour that is

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<sup>2</sup> Fitch Ratings: International rating for EPM's foreign currency debt BBB<sup>-</sup>. Bonds rating: AAA. (September 2010) Moody's rating Baa3. January 2011.

<sup>3</sup> The survey "Medellín cómo vamos", is a civil initiative created in 2006 to evaluate the quality of life changes in the city of Medellín. In 2010, EPM shows high satisfaction levels with the utilities services was of 4.5 over 5 points. For more information see [www.medellincomovamos.org/](http://www.medellincomovamos.org/)





affected by rules, regulations and institutions. The next step is the planning of the intervention, identifying the roles and responsibilities of actors involved (national government, local government, ONG's, third parties, and EPM), followed by the design of mechanisms that better respond to the main objective – *service universalisation*. Finally, during and after implementation, the development and application of permanent monitoring and evaluation techniques is essential.

In the pursuit of its goals as public services provider, and in response to the challenges faced in its service area, EPM has designed the following strategies to increase access to water and sanitation services, prevent services disconnection and to improve the quality of life of its customers:

#### *Network Connection Financing Program (NCFP)*

The NCFP is an EPM initiative designed to provide access to water services to low-income households in peri-urban areas of the Aburrá Valley. The program offers long-term credit facilities at low rates to people who have no access to credit. Beneficiaries of the program are then able to finance the construction or improvement of in-house and external water and sanitation infrastructure in order to gain access to public utilities. EPM offer this service based on household demand and credit is payable over ten years at DTF rate (average market interest rate for deposits). The credit component of the program is accompanied by infrastructure contracts that are awarded to formally organised community entities, helping to strengthen local technical and business capacity.

#### *Financing and Re-financing Consumption (RFWC)*

The purpose of this EPM initiative is to help households with low capacity to pay (strata 1,2 or 3<sup>4</sup>) and debts in their water, sanitation and energy bills, to access to low cost financing with minimum guarantees to prevent delinquent accounts and service disconnection. Before service suspension, clients have option of paying 80 percent of their debt within their current bill and the remaining 20 percent the following month without charges. Disconnected clients with over two months of bill debts are offered reconnection agreements and the financing of the debt for up to five years at DTF rate. In the case of clients that have been affected by displacement or natural disasters, the debt can be refinanced for up to ten years with no interest charged.

#### *Prepaid Program (PP)*

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<sup>4</sup> **Colombian socioeconomic classification system:** Colombian legislation has established a household classification system with six socio-economic categories (strata 1 to 6) according to location, income level and public services provision. This classification determines people's taxes, public services tariffs, modalities of access to health service, among others. Strata 1, 2 and 3 are preferential to receive subsidies and benefits from the government due to their low socio-economic conditions.





PP is an EPM initiative targeted at customers with delinquent accounts or that are at risk of having an illegal connection. The program allows reconnection of services (which are prepaid) and debt payment over 120 months charged at DTF interest. The customer purchases a PIN number from a local store and introduces the PIN in their meter at home to use the energy services purchased. Of the payment made through the PIN, 90 percent is for the purchase of energy and the remaining 10 percent contributes to repayment of the debt with EPM. Thus far, EPM has only implemented this program for energy services but offering a prepaid option for water services is being piloted.

#### *Social Financing Program (SPF)*

The Social Financing Program (SFP) / Grupo EPM card offers households in the Antioquia Region credit at competitive rates that vary according to the type of product or activity financed. Priority is given to strata 1 to 4 households which constitute 96 percent of cardholders. The credit is intended for use in financing home improvements and energy and water appliances, with the objective of improving efficiencies and the quality of life of customers. The credit is billed with the utilities and customers pay in monthly instalments incorporated into their utility bills.

#### *Community Organisation Contracts*

The objective of this social program of EPM is to contract community-based organisations and associations located in areas in the Aburrá Valley where EPM has projects on network expansion, operation and maintenance in water and sanitation services provision. EPM hires these organisations to build local infrastructure and the procurement requirements are specifically designed to enable them to enter contracts.

#### *Water services provision peri-urban areas*

This initiative is implemented by EPM in conjunction with the Municipality of Medellin and seeks to legalise and allow access to public water services for people in peri-urban areas in Medellin. The aim is to reduce risks derived from illegal or irregular use of public services and protect private and public goods. The charge is applied according to the average user's socioeconomic level without using individual meters. Although this is not ideal, it is one of the few coverage options for areas where regulations prohibit the provision of conventional public utilities.

#### *Minimum Potable Water Consumption Amount for Life*

The World Health Organization estimates that the average quantity of potable water needed per person to meet basic human needs is 2.5m<sup>3</sup> per month. 'Minimum Potable Water Consumption Amount for Life' is a Municipality of Medellin initiative launched in 2009 providing subsidies paid by the municipality to cover the cost of 2.5m<sup>3</sup> /month per person. Households targeted by





the program are those in the rural or urban jurisdiction of Medellín that have been previously identified as potential beneficiaries of social programs due to unmet basic needs, as identified by the government. EPM applies the respective discount in the customers' bills. The program also includes information campaigns to promote the rational use of water.

#### *National demand-side and supply-side subsidies*

The national demand-side subsidies scheme offers users with low payment capacity (strata 1, 2 and 3) subsidies financed by an overquote in the bill of users with the best payment capacity (strata 5 and 6), industrial and commercial users, and with municipality funds. The level of subsidy depends on the strata of the municipality: strata 1 receives a 50-60 percent subsidy on consumption; strata 2 receives a 30-40% subsidy on consumption; and strata 3 receives a 10-13% subsidy on consumption.

The national government also provides supply-side subsidies, investing in public services infrastructure so that public service enterprises can improve service delivery without passing on the additional cost to users.

#### **Evaluation: economic, environmental and social benefits**

Initiatives offered by EPM have resulted in significant improvements in the life conditions of the population it serves. Some verifiable impacts are:

##### *Network Connection Financing Program*

*Economic:* During 1999-2011, US\$45 million was invested in water and sanitation services through the NCFP. The program has resulted in a total of US\$5 million in interest rate savings for consumers compared to conventional financing. Indirect benefits of the program include the creation of 10,732 jobs in the water and sanitation services sector. The component on infrastructure contracts has resulted in 197 contracts with 214 community organisations in the Aburrá Valley.

*Environmental:* EPM has wastewater treatment plants that clean residual water before its flows into the Medellín River. As the river goes through the entire Aburrá Valley, the NCFP reduces environmental contamination by connecting users to the main sewage system.

*Social:* Direct impacts on water and sanitation provision during 1998-2010 include: 10,163 households connections to water services and 13,917 sewerage connections, benefitting 55,670 people. During 2008-2010, the aqueduct network was expanded by 50.7 km and the sewage network by 55.1 km. The program has also involved a total of 23,390 hours of community training and has contributed to poverty alleviation through job creation.





### *Financing and Re-financing Consumption*

*Economic:* The RFWC financed 326,128 customers a total of US\$95 million during 2008-2010 (constant 2008 prices). This has resulted in consumer savings of US\$10.58 compared to the conventional financial system.

*Social:* Of the beneficiaries reached by the program, 92% are low-income households (strata 1, 2 and 3). The scheme has therefore addresses inequities and contributes to the improvement of quality of life of its beneficiaries.

### *Prepaid Program (PP)*

As the PP initiative is only currently being trialled for water services, only the energy program has been fully evaluated, with the following results:

*Economic:* During 2008-2010, the program saw investments of US\$9.3 million. Importantly, the program allows customers to consume public services according to their economic capacity without incurring any payment risk and preventing disconnection.

*Environmental:* The program includes education in rational energy use, which has resulted in a reduction in consumption of 60kW-h per family as compared to a representative sample of post paid families in 2010.

*Social:* A total of 70,930 network connections have been made in the last three years, benefitting 201,779 people (with 7% from strata 1, 2 and 3). The program will enable 88,000 disconnected clients to regain access to energy services by 2014. The program contributes to the improvement of quality of life and provides a mechanism to avoid illegal connection to public services.

### *Social Financing Program*

*Economic:* US\$28 million has been financed in three years through the SPF, representing savings of US\$13 million for consumers. The program promotes credit channels for people who otherwise would not be eligible for financial services, with low interest rates and repayment flexibility. The program stimulates local, regional and national economies.

*Environment:* The SFP has facilitated the adoption of a new generation of efficient appliances, contributing to significant energy, water and gas savings, with corresponding environmental benefits from reduced resource use.

*Social:* As of August 2011, the Grupo EPM Card has financed 63,000 households in 17 municipalities. The scheme has issued 39,276 cards in three years. Participants benefit from reductions in bills due to the use of more efficient appliances.





### *Community Organisation Contracts*

*Economic:* During 2008-2010, 31 contracts with organisations in Aburrá Valley were made, totalling US\$10 million. The initiative has generating 376 jobs in the water and sanitation services sector. This has enhanced the income of communities and contributed to the distribution of wealth, stimulating local, regional and national economies.

*Environmental:* The community organisation contracts include environmental protection clauses complemented with auditor procedures to verify compliance.

*Social:* The initiative has contributed to poverty reduction as a result of job generation; strengthened skills in management, operation and procurement; and successfully promoted community-based schemes.

### *Water services provision in peri-urban areas*

*Economic:* During 2008-2010 US\$126,000 was invested in water services provision for peri-urban areas.

*Environmental:* EPM has wastewater treatment plants that clean residual water before its flows into the Medellin River. As the river goes through the entire Aburrá Valley, the NCFP reduces environmental contamination by connecting users to the main sewage system.

*Social:* The peri-urban scheme contributes to the universalisation of public services, risk reduction and life quality improvement for peri-urban populations. A total of 67 meters have been connected during 2008-2010, benefitting 6,417 people. Customer education programs have been implemented to encourage sustainable and rational water use.

### *Minimum Potable Water Consumption Amount for Life*

*Economic:* The Municipality of Medellin has invested a total of US\$1.21 million in 2010. In that year, the total savings achieved were US\$269,444, equivalent to a 12 percent in monthly savings per family which represents approximately US\$5 – resources that vulnerable families can invest in meeting other needs.

*Environmental:* 92 percent of beneficiary households practice rational water consumption, with corresponding environmental benefits.

*Social:* The program provides a definite quantity of potable water at no cost to vulnerable families in Medellín. It has brought positive results and proven improvements in social conditions. In 2010, 26,079 households benefitted from the program and for 2011, this is expected to rise by 72 percent (reaching 45,000 households). By guaranteeing vulnerable families' access to water, the municipality is improving economic, social and health conditions of





Medellin's population. The incidence of illness is reduced as a result of the increased availability of potable water.

#### *National demand-side and supply-side subsidies*

*Economic:* During 2008-2010, US\$140.53 million in water and sanitation subsidies were provided to lower income population (strata 1, 2, 3) of 17 municipalities (where EPM provides water services). This has reduced the cost of water and sanitation services for users. On the supply side, EPM has received US\$19.82 million in public investment for water service provision, lowering the cost of water and sanitation services infrastructure.

*Social:* The initiative has benefitted 699,000 users (strata 1,2,3) in Aburrá Valley and addressed social inequities in the region.

#### **Scaling up and relevance for developing and transition countries**

To address the access problem, most developing countries have copied models from elsewhere in the pursuit of higher standards of living. But experience shows that due to varying social, economic, legal and cultural conditions between countries, models cannot simply be transferred with success guaranteed. It is therefore necessary to identify shared factors from which the transferability of an approach can be inferred.

After a long learning process of more than 50 years, EPM pro-poor initiatives have played an important role in the characterisation of the population it serves in terms of their life conditions and motivations (including neuropsychological factors that influence their decision making). In this respect, EPM is eager to share its experience about how its initiatives have been designed to meet the needs of its population and its permanent efforts to improve its operations.

#### **Opportunities for the future**

Recently (2011), EPM hired a consulting service to assess delinquent accounts and effectiveness of EPM tools in improving public services universalisation. The main conclusion of the study was that current initiatives offered by EPM to vulnerable users are achieving good results, but in order to help people living under border conditions (less than 5% of EPM target population) move up in the social scale, the following changes were recommended: i) restructuring existing initiatives and creating new and complementary tools (such as insurance mechanisms against shocks like death, illness or accident); ii) focalisation strategies leading to the development of differentiated options according to users' vulnerability levels (measured by poverty level and delinquent account risk); and, iii) collaboration in efforts with other actors concerned with situation of vulnerable populations. In addition to local and national governments who bring support on legislation and public policies, there are international organisations, NGOs and private entities that allocate resources and are interested in implementing programs to improve





social welfare. Furthermore, more efforts must be made to link EPM actions to local and national policies for poverty reduction in order to concentrate focalisation strategies in the same population and improve effectiveness.

### **Lessons learnt from implementation**

- Know your target population well. Programs addressed to the poor must be built on a thorough analysis of the target beneficiaries' conditions and their local particularities in order to structure flexible and custom-made options for social improvement. This requires interdisciplinary study of economic, social and psychology behaviour, as well as the rules, regulations and institutions that affect social behaviour.
- A successful program in one particular context does not necessarily guarantee success when the practice is transferred to a similar context. As initiatives are designed to solve a specific situation, what can be transferred is not the practice itself but the building and conceptualising processes involved in its design and initiation.
- Do not think the target has been already met. Constant monitoring and evaluation is essential to identify changes or deviations from the expected outcomes or to introduce improvements leading to increased efficiency and effectiveness of measures.
- Investment in social capital in the community contributes to economic development and generates positive externalities.
- Credit is not the solution when it does not contribute to income generation or savings for consumers. Thus, credit options for delinquent accounts must be considered just as temporary measures in order to avoid consumers' dependency or poverty traps.
- Joint efforts generate high impact. Collaboration and cooperation between governments (both municipal and national), private and public entities is the best way to support the expansion of water and sanitation services and invest in social welfare, through joint commitment to the achievement of a common target. The responsibilities and roles of each actor should be identified.

