

Water and Poverty in small rural communities of the province of Cordoba, Argentina

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Abstract

This paper examines the state of the relationship between water and poverty in some small rural communities in the province of Cordoba in Argentina. The results of fieldwork led to the selection of priority locations for further analysis and diagnosis of the problem of drinking water and sanitation, as well as the economic and social conditions of its inhabitants. This would identify specific locations for which should be the formulation and implementation of projects providing safe water and sanitation in the region. Work results showed that only three of the locations selected by drinking water from boreholes and have distribution network in other places, people sourcing the very fragile resource, its people, unaware of the physical-chemical and bacteriological state of the water consumed, in most cases there are no sanitary facilities or, the pit latrines are too close to sources of water supply for consumption. We confirm that the total sample households have no sanitary sewer and not done any type of wastewater treatment. Also, in most cases, water quality samples found bacteria, well above the maximum recommended by the World Health Organization (WHO). Among the reasons for this reality is the lack of information possessed by these social groups with regard to the characteristics of water they should drink and its treatment, which derives from the poor conditions and low socio-economical education detected. This fact highlights the need to improve living conditions and strengthen the work of instruction and education of the population.

Keywords: Millennium Development Goals – Water – Poverty – Rural Communities

Introduction

Considering the need to help achieve the Millennium Development Goals (MDGs) aimed to get at list a half of them by 2015, the proportion of people without access to safe water and basic sanitation services, under the assumption that this would help to moderate the problems of poverty and inequality of citizens, most of all in disadvantaged areas (particularly in peri-urban areas and rural) of the present study was aimed to analyze the particular relationship between the availability and quality of water resources and human destiny socioeconomic conditions of population groups studied, small rural communities of northwestern in the province of Cordoba, Argentina.

Various estimating research for Argentina show that the coverage of water services in the country does not exceed 80%, while for sanitation is less than 60%, different levels of coverage among different areas and inequality in the distribution services are concentrated in central urban areas are inadequate or absent in the marginal areas of cities and most rural areas.

Solving this problem requires the provision of infrastructure for collection of rainwater, groundwater supply facilities, water treatment plants and/or construction of distributed systems and pipelines, sewer, toilets, sewage treatment, etc. It is also important to assess available technologies, raise a proper resource management to ensure its sustainability, institutional strengthening of communities by increasing local capacity in decision-making and strengthen education for a new water culture.

Unfortunately, there is a marked drop in the national government, provincial government inefficiency and financial constraints of local governments, with high rate of corruption in all of which led on several occasions that items be allocated for these purposes to be applied to other purposes or destination is unknown. The projects seek short-term electoral goals rather than long term ones. No previous geological studies are conducted to ensure sustainability. Nor there is any water quality studies and monitoring.

Meet the MDGs would mean an improvement in the situation of around 12 million by 2015. Following Poggi (2006) means that water coverage should approach 90%, while the coverage of sewerage would be about 70% that year. The crisis in Argentina in the years 2001/2002 impact on spending and investment capacity of the economy and not allowed to present a favorable coverage in those years, hence to achieve the goals in 2015, requires more incremental effort for the following years in the amount of investment in construction (could reach more than US\$ 13,500 million). In conclusion, it is unlikely that Argentina will reach the goal set by United Nations by 2015.

From the general purpose to make a study of the state of the relationship that occurs between water and poverty in small rural communities, it was decided to centralize the analysis of this work in the area for which previous studies showed a greater problem. Fieldwork was conducted in rural and urban areas for the confluence of the departments Cruz del Eje, Minas and Pocho in the province of Cordoba.

It was proposed in a first stage–Year 2010 – select priority locations for analysis, making a diagnosis of the problem of drinking water and sanitation and socio-economic conditions of the study area in order to identify priority locations for formulation and implementation of projects providing safe water and sanitation in the region. In a second research–Year 2011 – it will try to define and calculate indicators that allow the study of the phenomenon of evolution and state of the interrelationships between water and poverty, to analyze the connections between the evolution of social exclusion and geographical regions, assess the technological and financial alternatives available, designed to moderate the negative impact of the problems of accessibility and quality of resources on the quality of life of the rural study area, assess the various technological alternatives for the provision of such services, analyse the distribution of financial burden, define the framework of institutional strengthening, identifying strategies and to encourage citizen participation associative water management and make the curriculum chart. This presentation will present the results of the first stage.

Methods

In the initial stage of the project, whose results will be presented in Section 3, we performed a descriptive analysis from standard statistical analysis is complemented with field work in the area of study to determine the status socio-economic population and its association with drinking water and sanitation availability. In the field there were two types of activities: first of all a recognition of display area and general problems, of which ten were selected locations to perform the following activities, and subsequently, a sample survey with design of a stratified sample dispersed rural population and rural-urban, which resulted in the collection of data from a survey of 100 families of the ten selected locations. At these points of study is also carried out the collection of water samples to evaluate quality in specialized laboratories, in 10% of cases were performed in other laboratories rebuttal to validate the results. Finally we proceeded to the statistical processing of information obtained through specific software for this type of study.

Results and Discussion

In recognition of the viewing area and general problems allowed the selection of the following locations for work sample and analyse water quality: Cañada Larga, El Chacho, Iglesia Vieja, La Batea, Los Escalones, Paso Viejo, Pichanas, Santa Ana, Serrezuela and Tuclame.

On the other hand, the diagnosis of the problem of drinking water and sanitation found that in rural areas there is a marked lack of access to drinking water in vast areas with endemic issues in the health of the inhabitants, the water supply is by small deep pits or holes, without determining the quality of water extracted, water tables are at a low depth, distribution networks do not exist (except in Serrezuela, Tuclame and Paso Viejo), water used makeshift dams of earth embankments, where they also drink and defecate animals. In cases of lack of resources, the inhabitants are supplied with water carried in carts pulled by mules to a small town or dam, in some cases the action moves from nearby towns in exchange for a fee. In urban areas, meanwhile, has a limited distribution of water resources in many cases without purification treatment, with a daily supply of a few hours weekly or on certain days.

Laboratory tests on water samples determined that 90% of the bacteria were detected, far above the maximum recommended by the WHO and one of them elevated arsenic content (recognized and required in Argentina in the National Food Code).

The inhabitants are rural workers or small producers at a subsistence level, with low-income and schooling. There are not common practices associative or participation. They have little or no information about the risks associated with health and water quality or the absence of appropriate treatment and unaware of many human rights, which are recognised internationally, also access to potable water.

Conclusions

The study in the first stage of labor can infer the following conclusions:

- Except the town which can take water from boreholes and have distribution network in other places, people get water in a very precarious way, without knowing the physical-chemical and biological characteristics of the water.
- In many cases there are no sanitary facilities and other, the pit latrines are near sources of water supply for consumption.
- The 100% of households have no sanitary sewer and are not treated sewage.
- In most of the samples were found at high levels of bacteria.
- The population is primarily the business of agriculture, with low income and schooling. No associative practices or participation.
- They have little or no information about the risks involved in water issues and ignore the universally recognised rights

In general, we can conclude that it is essential to improve the living conditions of the population and strengthen the work of instruction and education, in particular, reports on good practices on the use of water resources, strengthen their individual capacities for joint work allows the resolution of the problems and allow them to exercise their universal rights they enjoy. The analysis of these proposals will carry to the second stage of this project.

References

- Regulators Association of Water and Sanitation of America (ADERASA). (2006 and 2008). Current status of regulation of tariffs for water services, sewage and wastewater treatment in Latin America. Group rates and subsidies. Washington, DC: World Bank. Inter-American Development Bank (IDB).
- Economic Commission for Latin America and the Caribbean (ECLAC). (2007). Social Panorama of Latin America 2007. Santiago de Chile: CEPAL.
- Corporación Andina de Fomento (CAF). (2008). Survey on access, quality and satisfaction with public services in Latin America. Unpublished.
- Lentini, E. (2009) Drinking water supply and sanitation. ECLAC, in editing.
- Maceira, D., Kremer, P. and Finucane, H. (2007). The unequal access to piped water and sewage in Argentina. Public Policy Paper No. 39. Buenos Aires.
- Poggi, L., (2006) "APS: A Retrospective Overview," Presentation at the meeting on Infrastructure in Argentina, World Bank, Buenos Aires, United Nations Program for Development (2002) "Competitiveness of the provinces "Contributions to human development in Argentina / 2002, UNDP.
- Tafani, R. Gaspio, N. (2009) Poverty, disease and death. Poverty, Disease and Death in Argentina. Journal of Public Health, (XIII) 1:18-32, June. 2009.
- Zorrilla, S. (2008). Diagnosis of drinking water and sanitation sector of Argentina. Buenos Aires.