

# Perception of Water Quality and Health Risks in the Rural Area of Medellín (Colombia)

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## Introduction and Methods

In Latin America and the Caribbean approximately 50 million people lack basic access to drinking water, most of them living in rural areas. Also affecting metropolitan areas, this uneven spatial distribution of drinking water supply poses a permanent public health risk. Often coinciding with a low economic productivity and poor

prosperity, uneven spatial distribution of drinking water contributes to the enforcement of regional disparities. The example cases of three rural quarters of Medellín (San Cristobal, Altavista and San Antonio de Prado) show how the perception of water quality and health risks by different social groups can influence the

implementation of drinking water systems and the success of health campaigns. A social area analysis was carried out to determine the socio-economic framework of the study. The data base consists of 125 face-to-face interviews with drinking water users and additional expert interviews.



Medellín and its rural quarters



Raw water consumption in a rural quarter of Colombia

## Results

### General Perceptions and Behaviour

### Risk Perceptions

Raw water consumers (10%)	Drinking water utilities' fees are expensive	No risk perception: Waterborne diseases are not linked to raw water consumption Environmental problems caused by contaminated raw water are ignored
	83% of respondents do not regularly boil the water before drinking or using it	
	"Drinking water" defined as "treated water" and "pure/clean water"	
	Raw water quality perceived as acceptable and consumption-related health risks as low	

Drinking water consumers (36%)	"Drinking water" defined as "treated water", "pure/clean water", "water for human consumption" and/or equated with "health"	Pollution of water streams through waste water and agriculture
	As a cultural habit due to the previous use of raw water, some respondents still boil the drinking water before drinking or food preparation	Drinking water supply seen as a factor to improve health and quality of life
		High level of trust in the drinking water utilities

Both raw water and drinking water consumers (54%)	Perceived higher costs of drinking water	The same risk perception as that of the drinking water consumers 47% of the respondents use single pipe circuits for the transport of either drinking or raw water ↓ Limited awareness of the different routes of exposure to waterborne pathogens
	Association of drinking water with human consumption ↓ drinking, food preparation	
	Association of raw water with cost savings ↓ cleaning, bathing, laundry, sanitation and gardening	
	"Drinking water" defined as "treated water", "pure/clean water", "water for human consumption" and/or equated with "health"	

## Discussion and Conclusion

### General Perceptions

### Risk perception

Organoleptic properties strongly influence perceived water quality:

- Appearance of drinking water and bottled water is assumed as drinking water standard.
- When raw water's appearance meets the drinking water standards, it is mistaken for drinking water.

Raising awareness of waterborne diseases is a key objective of health education

- Consumers have an insufficient perception of the link between raw water consumption and health risks.

Raw water consumption reflects a lack of knowledge on health risks posed by invisible microbes in raw water and on drinking water treatment

- To promote risk-conscious water consumption, the knowledge on waterborne health risks is more significant than individuals' perceptions of water quality.

The perception of water quality also seems to be influenced by the knowledge of the drinking water definition disseminated by official campaigns, as well as by the individual perception of health risks.

### Conclusion

The implementation process of drinking water systems must consider the target groups' perceptions and their socioeconomic (ex.: limited financial funds) and cultural contexts. A perception analysis prior to the implementation could contribute to integrate these requirements into the implementation process and increase its chances of success.

## References

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