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# Territorial Engineering (IST,

Supervisor Jorge Gonçalves (CiTUA, IST,

### Co-supervisor

Diogo Ferreira (CERIS, IST,

Period



## PhD student Ingrid Graziele Reis do Nascimento

# PhD program

University of Lisbon)

University of Lisbon)

University of Lisbon)

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## Sanitation and water supply services in Brazil: guidelines to support universalization

## Summary

The research work now presented aims at identifying and understanding the required frameworks for the universalization of water and sanitation access in Brazil, from a multisectoral perspective and taking into account the evolutionary path of the system. This contribution is justified by the persistence of the objective of universalizing these services in Brazil without being capable of anticipating their future implementation. This research uses both qualitative and quantitative research methods. The choice for their combined use results from the complexity of the addressed object. On the one hand, uneven access to water and sanitation services can be empirically observable and quantitatively verified.

On the other hand, understanding their formative mechanisms, involving different and complex dimensions of objective and subjective reality, requires a deep qualitative approach. The problem of access to water and sanitation services is recurring because, even universally, the actions aimed at solving the problem have not been able to reach the underprivileged countries, such as the ones of the Global South. Brazil is a country with a legitimate and consolidated legal framework in the sector. However, an approximation to the micro-scale aspects of urban-environmental planning is crucial. This certainty has been gained through the experience of trying to overcome daily challenges to meet the real and immediate needs of water and utility users. This thesis showed that the lack of sanitation and drinking water supply explains most of the health problems linked to water transmission, with in financial (treatment and hospitalization costs), social (days of illness) and economic (work absenteeism) implications. Through this research,

I verified that, in principle, there are no universal solutions applicable to all social and territorial contexts exhibiting deficits in the supply of drinking water and sanitation services. Finally, it was evident the relevance of going beyond the occasional discussion of thematic issues seeking the universalization of drinking water and sanitation services - pointing out the multisectoral pillars as the basis of support - a scenario that results in ineffective and/or inefficient interventions given the less positive effects at some points.

## **Keywords**

Universalization, water supply, sanitation services, Brazil, regulation.