

Expanded abstract

Socio-spatial segregation and normative neutrality in community water management

Context and objectives

The rural community aqueducts demonstrate the popular initiative of water management, in search of the satisfaction of their domestic needs with a solidary and cooperative approach, constituting a solution to the difficulty in the provision of this vital liquid in contexts in which it is lacking, of the necessary infrastructure (Montoya, 2016). They operate without a regulatory protection that contemplates their differential conditions, since community aqueducts are forced to comply with the same regulations than large companies in the market, which represents a barrier between their material possibilities and legal requirements (Moncada, Pérez, & Valencia, 2013).

In this asymmetric relationship, the monitoring of the technical conditions of the service prevails and the right to water, the state responsibility to guarantee fundamental rights and, therefore, to safeguard the lives of the most vulnerable communities, is displaced to the background. To these structural weaknesses, derived from state neglect and contextless inspection and surveillance, must be added the pressures generated by the expansion of urban tourist services towards the rural area of San Bernardo, which constantly aggravates the situation due to the incremental demand for the service of aqueduct with high health risk.

There are no proposals for its solution, because no studies have been carried out to understand these rural organizational forms for community water management in the municipality of Ibagué. For this reason, the aqueduct of the San Bernardo village was selected, from whose study it is intended to generate some possibilities for the improvement of these rural associative forms that serve the defense of basic rights.

Design and methodology

To address the issue of community aqueducts, we take as the main analytical corpus the system conformed by the eight design principles of the theory of common use resources presented in *Governing the Commons* [...] by Elinor Ostrom (2000). Her eight principles allow characterizing the conditions of associativity to analyze their chances of success and determine the deficient circumstances that would tend to disarticulate communities in the appropriation of assets (Ostrom E. , 2009).

This analysis was complemented with the understanding of the socio-spatial segregation that underlies the community aqueducts, due to their location in the rural sector with important distances from the power centers, the lack of job opportunities, the absence of infrastructures and the deficiencies in the provision of services that deepen economic differences due to inequality in access to resources (Pinto da Cunha & Eichman Jakob, 2010; Aymerich, 2004).

We analyzed the characteristics of community aqueducts in Latin America, the regulatory apparatus for the provision of the water service in Colombia and local studies on the subject. The selection of the case study was based on the identification of San Bernardo as the aqueduct with the worst Risk Index for Drinking Water Quality in Ibagué. Subsequently, the field research consisted in visiting the village to identify the key actors in the management of the aqueduct and the application of semi-structured interviews. We contrasted the versions by means of the review of the follow-up file to the water concession, in charge of the regional environmental authority CORTOLIMA, in which they report the follow-ups and deficiencies of the technical evaluations of the operation of the aqueduct.

Results

The initial analysis of the Ostrom principles allowed the identification of three main structural deficiencies that could lead to the failure of adequate management for the provision of water, based on the Design principles for Common Pool Resource, applied to the aqueduct of San Bernardo. There are no clearly defined limits, the administration and operation tasks do not imply state investment in infrastructure, which manifests the segregation by default or confluence of policies of neglect by the state and generates an insurmountable vacuum in the face of the construction of the necessary infrastructure to provide an adequate service.

Regarding the gradual sanctions, there are no community penalties for non-payment or waste of consumption. There is a weakness in establishing commitments between the community and the aqueduct. Regarding the conflict resolution mechanisms, we observed a low participation of the community, which shows an indifference towards the management of the aqueduct and the weakening of the community organizational structure of the aqueduct.

In relation to the tension cores, the file shows a monotonous relationship, consisting of the request for payment of the environmental monitoring fee between 2011 and 2017. However, from the fieldwork in April 2018, Cortolima identifies infrastructure deficiencies and requests legal requirements such as technical design plans and calculation reports as prior inputs for the design of the Efficient Use and Water Saving Program of the aqueduct.

The contents of this supervision clearly indicate that the community aqueduct does not meet the basic conditions to provide a quality service. Furthermore, they lead to a scenario in which the board cannot be sanctioned because the community's water supply would be impeded, nor can fines be imposed that the board could not cover due to the precariousness of its finances. The request for technical components such as designs and calculation memories fall into the same orbit, because due to the scarcity of resources, the board lacks the capacity to hire a hydraulic or sanitary engineer. Finally, if these technical documents, the Program for Efficient Use and Saving of Water cannot be elaborated.

Conclusions/Implications

The Colombian state, from its normative configuration, does not recognize the prominence of community aqueducts for rural contexts, so it directs its legal framework towards large capital

private companies, privileging technology and infrastructure, mediated by economic capacity, without understanding the differences regarding the logics of operation and the interests that guide the action of community initiatives of a solidarity nature, which require the presence of a legal framework that addresses their special needs and characteristics.

These logics are contradictory, since community aqueducts are managed by those who are in a condition of social, economic and spatial marginalization, which includes the deficiency or absence of public services. In the absence of state action, the communities supply the water supply under models of self-organization of resources. Therefore, they are left at the mercy of the neutrality of the quality standards that are required of water service providers, where they conceal exclusionary conditions, even more so, if the community nature of the aqueduct is taken into account, not-for-profit and the low collection for the provision of the service, whose resources are scarce, so that the norm is imposed over the life.

The community aqueduct orientation is not monetary but solidary, which implies that the necessary money is raised exclusively to pay for the maintenance of the aqueduct, generating a problem of financial resources, so there is no reinvestment. A differential approach is required, so that compliance with the established requirements is easily achievable and stops putting community aqueducts in an unfavorable position. Current requirements blame community management for state administrative deficiencies and the responsibilities of environmental authorities.

The role of the environmental authority vis-à-vis community water management limits the application of the regulation without the context of the communities, so it does not have a community strengthening system. By not exercising disciplinary control against the concession, it allows the coexistence of non-compliance with the regulations, evident in the poor quality of water for human consumption, to correct the governmental vacuum, becoming a scenario of tolerance to state absenteeism.

The strengthening route that could be appropriated by the community aqueducts in Ibagué is the association of the authorized organizations for the creation of second-level organizations, which could increase their possibilities of management, visibility and political action for the demand of rights, the search for support and backup options for its operation. However, this possibility seems remote because there is no awareness of association for the management or claim of rights within the community. The aqueduct is more of a survival system than a political device.

The research provides a proposal and evaluation of the agreement between the mayor's office of Ibagué and the University of Tolima for the improvement of the conditions of spatial segregation and normative neutrality in community water management, evident in the rural aqueduct of San Bernardo of Ibagué.