

Challenges and solutions for water security in an Andean region: insights from Azuay district



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Motivation

To highlight the factors affecting water security, both in terms of quantity and quality, in a government-managed area within the tropical Andes Mountains. This access to information empowers stakeholders to develop strategies that effectively ensure water security.

Objectives

- To review the existing literature on the impacts of human activities on water security in a local government situated in the tropical Andes.
- To identify strategies that could be adapted to solve those impacts (next step!).

Methods

Study site: Azuay

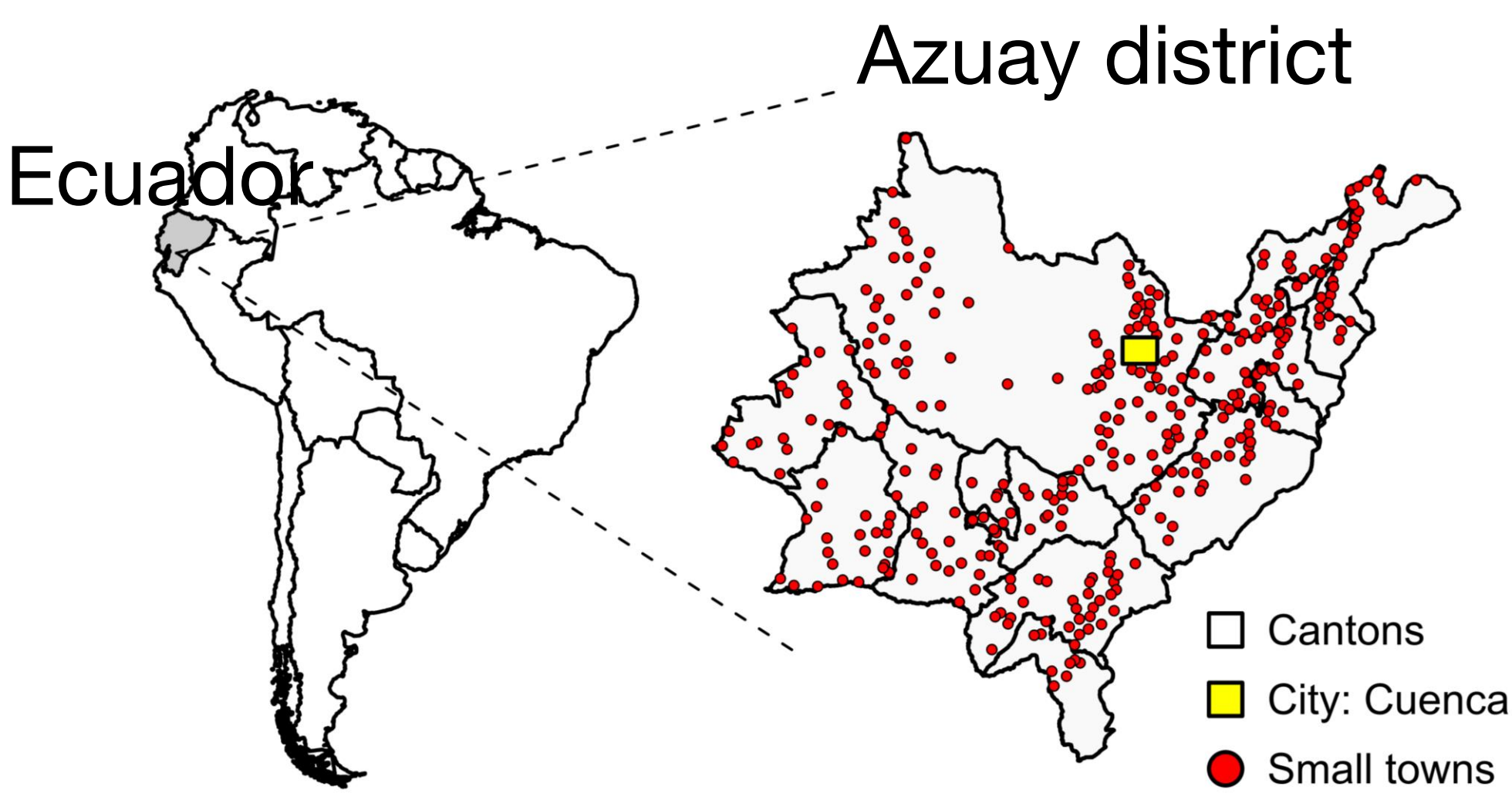


Fig 1: Map of Azuay with land uses communities, towns, and main city. It is a district representative of the Andes Mountains, in terms of landscapes and human activities.



Fig 2: Activities in Azuay that pressure on water security, in terms of quantity and quality.

Literature review:

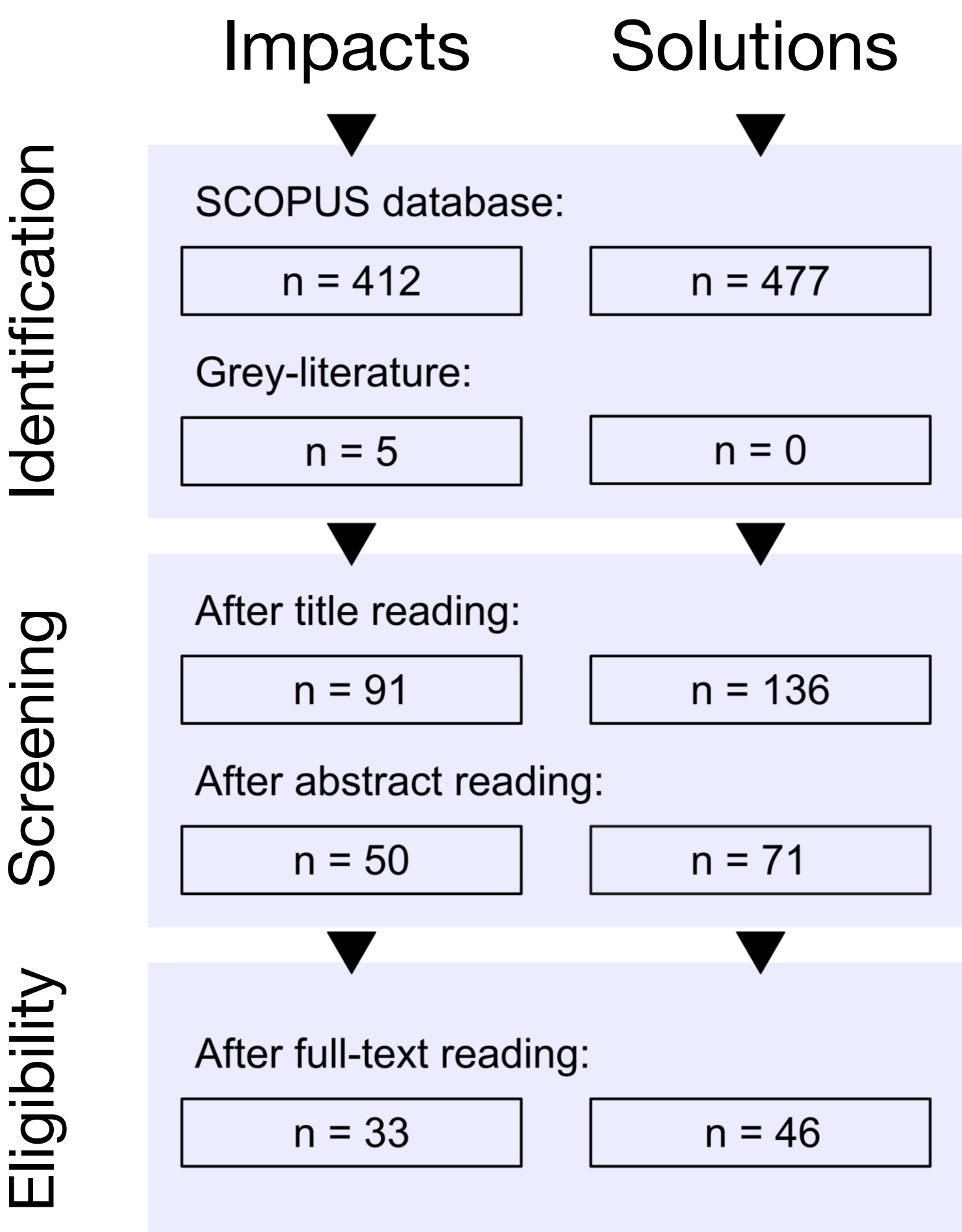


Fig 3: Literature reviews: To identify impacts on water security in Azuay and propose solutions based on a global review.

Results

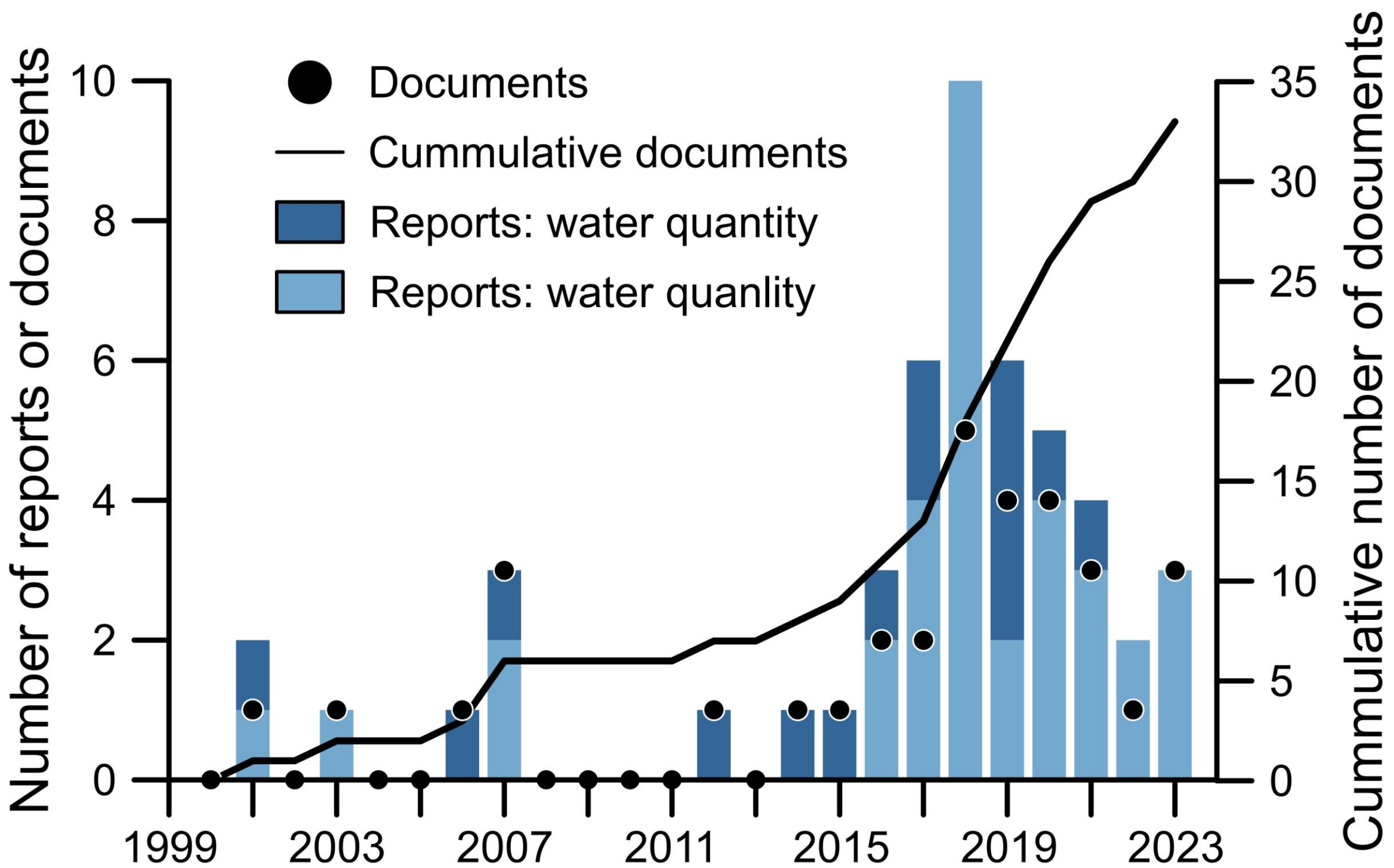


Fig 4: Studied impacts on water security in the Azuay. Black dots are the published documents. Black line shows the temporal evolution of the publications. Bars represent the reports in water quantity and quality inside each document.

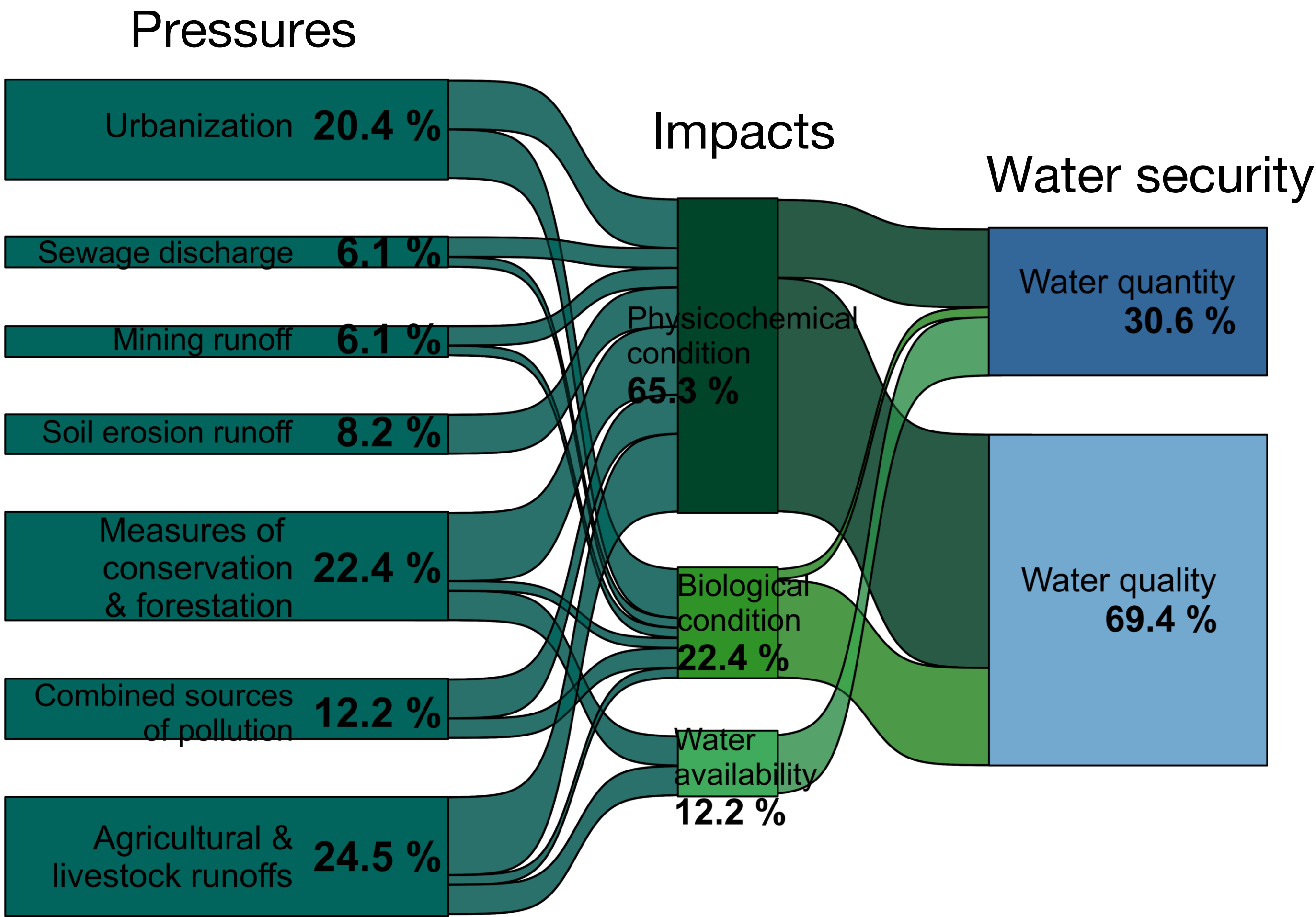


Fig 5: Pressures impacting water security in Azuay. In the documents, the studied pressures impacted mostly on the physicochemical and biological conditions of water, as well as water availability.

Conclusions

Measures of conservation and forestation and runoffs from agricultural and livestock production were studied the most. The most studied impacts were on the water physicochemical condition. Strategies selected from the second review should focus on ensuring water in terms of quality.... Next step

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