



Analyzing networks of influence and information exchange in water governance system; case study of Zayandeh-Rud river basin in Isfahan province

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Extended Abstract

Introduction

Water scarcity is one of the most pressing challenges of the 21st century, and the Zayandeh-Rud Basin, a closed and low-precipitation basin, faces significant water resource management challenges. Over time, these challenges have deepened and extended into other social domains. This study aims to identify the causes of the water crisis in the Zayandeh-Rud Basin, focusing on the geography of Isfahan Province from the perspective of water governance networks. By examining the dimensions of the crisis, the research seeks to understand the role of stakeholders in the governance of water resources. The study employs a network analysis approach to explore the exchange of information and influence among stakeholders, highlighting the dysfunctionality of these networks in addressing the crisis.

Materials and Method

The research adopts a mixed-method approach, combining qualitative and quantitative techniques. A total of 76 stakeholders from 21 identified groups within the Zayandeh-Rud Basin were surveyed using a researcher-designed questionnaire. The data collected were analyzed using UCINET software, focusing on two key indicators: value components and structural position. The value components indicator categorizes stakeholders based on their behavior in information exchange, while the structural position indicator assesses the influence and interdependence of stakeholders within the network. The study aims to map the networks of information exchange and influence to understand their impact on water governance in the basin.

Results and Discussion

The findings reveal significant dysfunctionality in the information exchange and influence networks within the Zayandeh-Rud Basin. The information exchange network is characterized by a lack of central coordination, with stakeholders operating in isolation and failing to share information effectively. This has led to a fragmented and inefficient decision-making process. The influence network, on the other hand, shows that stakeholders' ability to impact water governance is unevenly distributed, with certain actors, such as the Ministry of Energy, holding disproportionate influence. The study identifies a lack of transparency and

coordination among stakeholders as key factors contributing to the crisis. The results also highlight the limited role of civil society organizations and academic experts in shaping water governance policies, further exacerbating the problem.

Conclusion

The study concludes that the current governance structure in the Zayandeh-Rud Basin is ineffective in addressing the water crisis. The lack of a cohesive information exchange network and the unequal distribution of influence among stakeholders have led to poor decision-making and policy implementation. To improve water governance, the study recommends the establishment of a more inclusive and transparent network that involves all stakeholders, including civil society organizations and academic experts. Strengthening the role of local communities and ensuring that their voices are heard in the decision-making process is crucial. Additionally, the study calls for a more balanced distribution of influence among stakeholders to prevent the dominance of certain actors. By addressing these issues, the Zayandeh-Rud Basin can move towards a more sustainable and equitable water governance system.

Keywords: Policy making, Water governance, Network analysis, Zayandeh-Rud river basin

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