

Citizen participation in the territorial management of the Utcubamba River Basin, Amazonas (Peru)

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Abstract

The objective of this research is to evaluate citizen participation in the territorial management of the Utcubamba River basin in Amazonas, Peru, with particular attention to community practices in conserving natural and cultural resources. The methodology combined thematic data collection with fieldwork, including direct observations and surveys administered to members of both urban and rural social organizations. The survey, consisting of eight questions, was analyzed through frequency distribution, which facilitated the identification of participation patterns and citizen perceptions. The findings reveal active community involvement in resource management, with notable initiatives such as reforestation in Luya Viejo and tourism management in Cruz Pata and Cochimbamba. Nonetheless, several shortcomings were identified: 67% of respondents reported insufficient access to information, and 93% indicated they had not participated in the preparation of territorial plans, highlighting a significant disconnect between authorities and the community. Despite these limitations, 93% of participants expressed a strong interest in becoming more actively engaged in management processes. The study concludes by underscoring the need to strengthen mechanisms for information dissemination and capacity building in order to foster more effective and equitable citizen participation in integrated territorial management.

Keywords

Citizen participation, Territorial management, River basin, Utcubamba River

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Highlights for public administration, management and planning:

- The citizen participation in the territorial river basin management is emphasized.
- Limited institutional capacity in rural areas restricts administrative efficiency and inclusive governance.
- Top-down planning excludes rural communities and erodes ancestral knowledge on resource management.
- Weak coordination and urban-biased decisions hinder territorial governance in rural areas, as seen in the Utcubamba basin.

1 Introduction

The territorial management of river basins has gained increasing relevance in the context of environmental and social sustainability, especially in regions such as Amazonas, Peru, where ecosystems play crucial roles in providing environmental ser-

vices and fostering economic development (Eduardo et al. 2024; Bleeker & Vos 2019). The Utcubamba River Basin, located on the north-eastern slope of the Peruvian territory, represents a paradigmatic example of a system where natural wealth, cultural diversity, and a strategic economic structure converge (Meza Mori et al. 2020).

However, environmental degradation, coupled with the lack of effective governance mechanisms, jeopardizes its stability and sustainability, emphasizing the need for participatory management involving both social actors and governmental institutions (Burch et al. 2019; Partelow et al. 2020).

The regional relevance of this study rests in the fact that the Utcubamba River basin is located in a strategic area of Peru's northeastern geosystem, characterized by remarkable natural and cultural wealth. This territory harbors not only high biodiversity and key conservation areas, but also archaeological remains of great historical significance, such as the Kuélap complex, whose preservation is currently threatened by fragmented territorial management. Moreover, the region retains important cultural traces that reflect traditional forms of social organization and environmental stewardship – elements that are vital for local sustainability, as recognized by UNESCO in its inclusion of the Chachapoyas sites of the Utcubamba Valley in Peru's Tentative List of World Heritage Sites (UNESCO 2019). In this context, the study aims to evaluate citizen participation in the territorial management of the Utcubamba River basin, emphasizing the role of ancestral knowledge and community practices in the conservation of natural and cultural resources (Fig. 1). It seeks to promote territorial governance that integrates environmental, cultural, and economic dimensions. The convergence of these aspects may support the development of sustainable tourism offerings, directly benefiting local communities through capacity-building and community-led initiatives. Therefore, this research contributes not only to academic understanding, but also to the design of public policies tailored to the regional context and focused on safeguarding the natural and cultural heritage of north-eastern Peru.

Citizen participation in the management of the Utcubamba River Basin emerges as a key element to address current challenges (Mendivil-García et al. 2020). This approach not only acknowledges the value of local communities and their ancestral knowledge in resource management but also fosters shared responsibility in decision-making (Mick et al. 2020; Trimble et al. 2020). Despite legislative efforts in Peru to institutionalize participatory mechanisms, their implementation faces significant limitations, such as lack of inter-institutional coordination and the appropriation of these processes for political interests (Ramos-Cortez & MacNeill 2022; Palhuk et al. 2024). This study seeks to analyze the level of citizen participation in the management of this basin, highlight

the role of social organizations in territorial planning, and identify opportunities and challenges to promote an inclusive and sustainable governance model.

From an ecosystemic and hydrological perspective, this basin plays a vital role as a natural oxygen generator and microclimatic stabilizer, hosting a rich diversity of natural and cultural resources (Tang & Adesina 2022; Banerjee et al. 2019). Additionally, it serves as a critical economic and transportation axis for the department, with highly productive valleys along its course.

In terms of its social component, the basin's territory includes native Amazonian communities in its lower reaches, while its upper headwaters possibly host the only peasant communities on the northeastern slope of Peru (Pita 2022). Nevertheless, it is currently undergoing an alarming process of deterioration due to factors such as exploitation, increased tourism, waste disposal, inefficacy of authorities, and the absence of participatory proposals involving local social organizations (Quintero Cordero 2020; Hadassa 2024). These factors endanger its future sustainability and functionality.

Although the basin is not recognized as an official administrative unit by the Peruvian state, it spans five of the seven provinces in the department, complicating its management. This raises the debate on whether the regional government, local governments, or both should assume an integral role in its administration (Scott et al. 2021). Moreover, the conceptualization of the basin has evolved: from being considered a natural or physical unit, it is now understood as a dynamic system integrating both natural elements and social actors, recognizing humans as part of the ecosystem (Sandoval-Solis et al. 2022). This approach could facilitate the creation of decentralized institutional frameworks aimed at territorial sustainability.

The review of previous research highlights a growing awareness of the importance of sustainably managing territorial resources. Society has transitioned from a passive role to a more participatory one in governmental decision-making, enabling the identification of needs, resources, potentialities, and alternatives to address social crises (Serrano & Paola 2023). In this context, citizen participation is crucial for the transition from governmental policies to consolidated public policies (Oliveira & Ckagnazaroff 2022). Furthermore, it is recognized as an intrinsic right of individuals, linked to the environmental, cultural, and territorial organization context.

According to Guardamagna et al. (2020), participation constitutes a relationship between

the state and civil society that involves the public in decision-making through mechanisms established by the government. This approach strengthens ideals such as autonomy and political equality, fundamental pillars of the legitimacy of state power (Beramendi et al. 2024). In the Peruvian case, legislation promotes participation as a fundamental right, particularly relevant for social development in processes such as diagnosing, designing, implementing, and evaluating proposals (Díaz Aldret 2017). However, recent studies reveal limitations in its practical application, generating perceptions of ineffectiveness due to the appropriation of these mechanisms by political actors for their own interests (Palumbo Pinto et al. 2022; Martínez-Velasco et al. 2024).

In this context, the present research aims to analyze and highlight ancestral knowledge about

the management of natural and cultural resources by the basin's social organizations. It also proposes to evaluate participatory mechanisms and the role of these organizations in territorial management, as well as analyze the level of coordination among government entities and their interest in developing proposals that foster citizen participation.

2 Methods

This research was conducted in the Utcubamba River Basin, located in the Amazonas region of Peru (Fig. 2). The methodological process began with the collection of thematic information on the basin's natural and cultural resources, providing a general reference framework. Subsequently, fieldwork was carried out to validate and complement the col-



Fig. 1 Cultural and landscape heritage in the Utcubamba River basin (Amazonas, Peru). The collage illustrates key elements of the cultural and landscape heritage of this basin: (1) the Kuélap cable car, located in the district of Nuevo Tingo, province of Luya, Amazonas department; (2) panoramic view of the town of Nuevo Tingo, in the same jurisdiction; (3) the Karajía sarcophagi, also located in the district and province of Luya; and (4) local residents gathered in the district of Nuevo Tingo, reflecting community life and rural organization. Photographs by the authors.

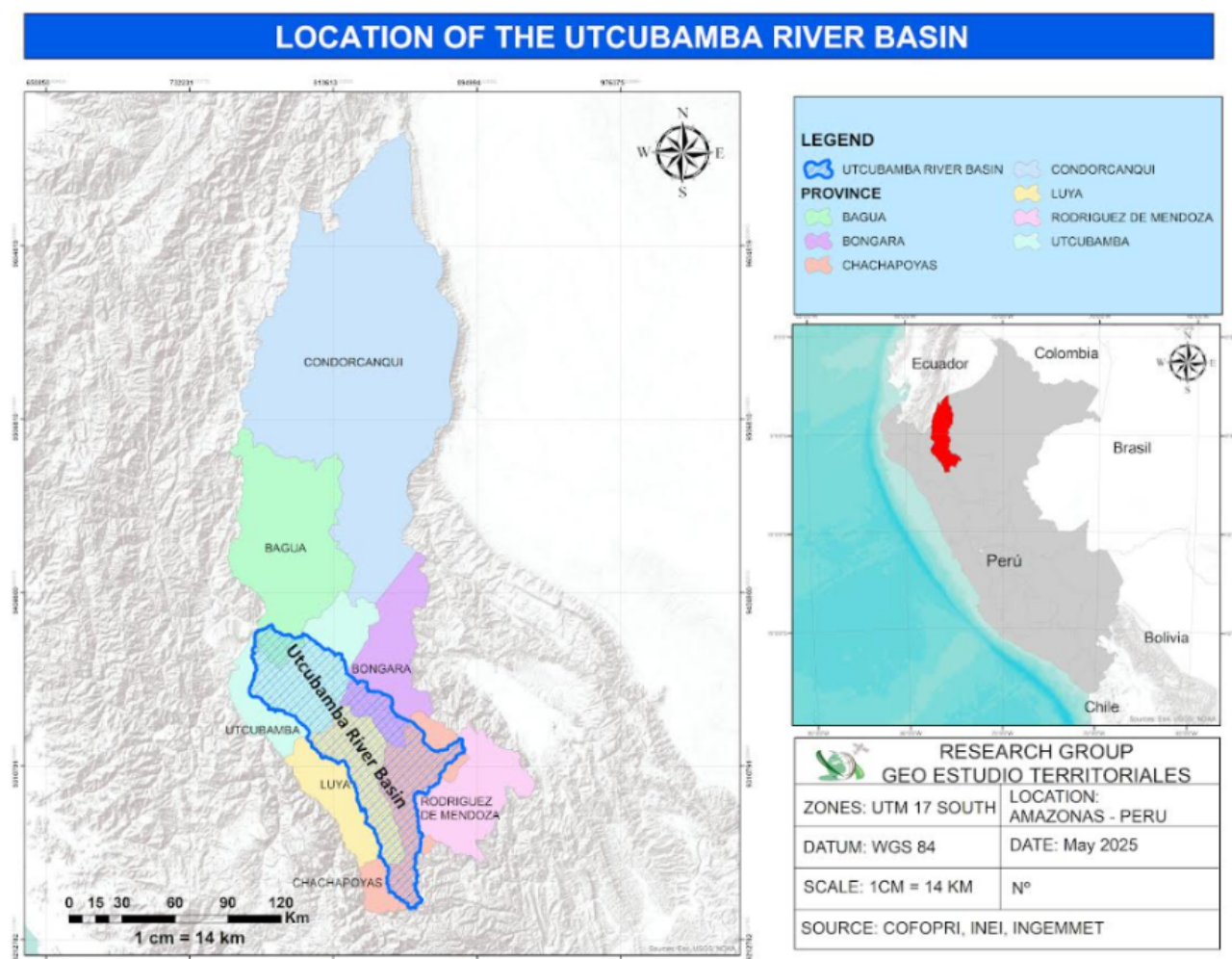


Fig. 2 Utcubamba Watershed, Reference Study Area.

lected information. During these visits, direct on-site observations were made, and surveys were administered to members of local social organizations, both urban and rural.

The surveys were designed to assess participants' perceptions regarding their level of involvement in the management of natural resources and their experience in community organization processes. A questionnaire consisting of eight questions was developed, and the data obtained were analyzed using frequency distribution as the statistical tool. This analysis made it possible to identify the frequency of each response, the shape of the distribution, and data variability, providing key insights into citizen participation. The survey questions are presented in [Table 1](#).

The collected data were processed and tabulated for analysis, which involved the organization, characterization, and discussion of both secondary and field information. Comparative methods

were applied to contrast the findings with results from previous research and secondary sources. This process allowed for establishing relationships between citizen participation, community organization, and territorial resource management in the Utcubamba River basin.

The survey design was justified by the need to collect direct and structured information on the perception and level of citizen participation in territorial management within the Utcubamba River basin. An eight-item closed-ended questionnaire was chosen, enabling quantitative analysis of community involvement experiences and interactions with social organizations. The sample size consisted of 30 individuals selected from active members of both urban and rural social organizations. Although this provides an initial approximation of participatory realities in the basin, it represents a limitation in terms of generalizability. Logistical and geographical constraints of the territory, as well as par-

Table 1 Survey questions

A. Participation in the Management of Natural and Cultural Resources
1. How often do you participate in community-organized activities related to the conservation of natural and cultural resources (such as reforestation, tourism, heritage management)?
2. Through what type of organization do you participate in the management of your community's resources?
3. Do you consider that the traditional knowledge of your community is taken into account for the management of natural and cultural resources?
4. To what extent do you believe that community management activities (such as tourism, conservation, reforestation) have contributed to the sustainable development of your locality?
B. Degree of Citizen Participation in Territorial Management
5. How would you rate the level of communication and coordination between your community and the local government regarding territorial management?
6. Have you ever participated in the development or consultation of a territorial development plan or resource use plan in your community?
7. Do you receive clear and timely information about investment projects or local government activities in your community?
8. Would you like to participate in decision-making about the management of natural and cultural resources in your territory if accessible and transparent mechanisms existed?

ticipant availability, constituted additional limitations of the study. Nevertheless, the results offer valuable insights into participation patterns and challenges in local territorial governance. The role of social organizations in territorial management was evaluated, considering their capacity to promote conservation and sustainable use of natural resources. The results identified patterns of citizen participation, as well as the main limitations and strengths of implemented strategies. This integrative approach was fundamental to understanding the interaction between social and territorial dynamics in the context of watershed management. From a descriptive statistical perspective, the results obtained in this research exhibit a high degree of representativeness, as 30 out of 45 existing local authorities in the Utcubamba River basin were surveyed, accounting for 66.7% coverage of the sampling universe. This proportion allows a reliable approximation of the perceptions and experiences of key actors involved in territorial management and local decision-making. Frequency analysis and response variability provide a solid basis for identifying significant patterns of citizen participation, organizational strengths, and governance limitations. Therefore, the results can be considered representative of the authority group in the study area and constitute relevant input for designing strategies to strengthen institutional capacity and community participation.

3 Results and discussion

3.1 Participation in the Management of Natural and Cultural Resources

The inhabitants of the Utcubamba River Basin actively participate in managing their natural and cultural resources through various social organizations, both urban and rural. In cities such as Chachapoyas, Bagua Grande, and other provincial and district capitals, collective management efforts are evident through agricultural producer organizations, neighborhood committees, cultural and sports associations, as well as educational and religious centers. These organizations contribute to the preservation and sustainable use of local resources, facilitating product commercialization, environmental education, and tourism promotion, reflecting a community commitment to integrated territorial management. Additionally, traditional and sustainable use of these resources highlights a profound ancestral and empirical knowledge that influences territorial management. Rural communities, both native and peasant, actively and responsibly manage their surroundings, particularly in the areas of water, soil, and flora management, as well as in protecting cultural and historical heritage. Protected natural areas, such as the Private Conservation Areas (PCA) Los Chichos, Monte Puyo, Huiquilla, Talacancha, and San Antonio, demonstrate a commitment to preserving the landscape and biodiversity while adhering to current regulations. Furthermore, the involvement of some communities in tourism activities underscores their capacity for self-management,

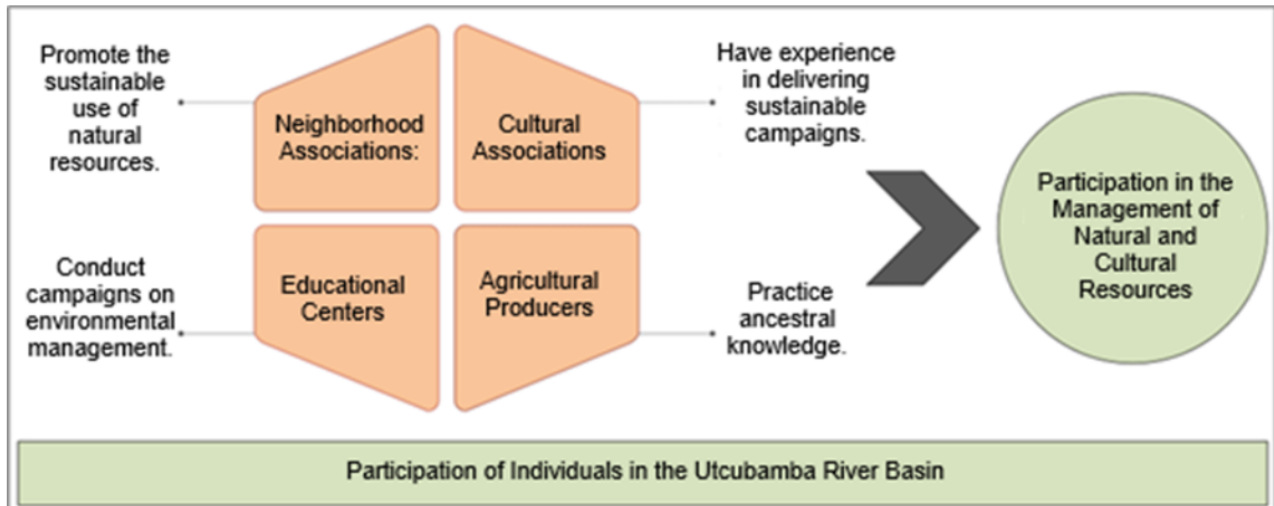


Fig. 3 Community Participation in the Management of Natural and Cultural Resources in the Utcubamba River Basin

promoting sustainable practices that balance economic development with environmental conservation. This active participation by rural communities is essential to ensuring comprehensive and sustainable management of the basin's resources.

Community experiences also reflect participation in promoting sustainable development and environmental preservation. In Luya Viejo, the community has spearheaded a successful pine reforestation program since 2000, in collaboration with Agro Rural, establishing 750 hectares of plantations that have improved agricultural production and climate regulation. In Cruz Pata, community management of the Karajia archaeological site has enabled economic diversification through tourism, with locals organizing guiding and transportation services. In Cocachimba, with the Gocta Waterfall as its main tourist attraction, the local economy has been transformed through active involvement in tourism services, although there is a noted need to strengthen citizen participation mechanisms. In Leymebamba, community and private organizations have led the conservation of native forests through the protection and management of natural reserves, emphasizing the importance of collective effort in the face of limited state presence. These cases demonstrate how self-management and community organization are key to the integrated and sustainable management of natural and cultural resources (Fig. 3).

This participation aligns with the proposals of Eduardo et al. (2024) and Bleeker & Vos (2019), who emphasize the importance of territorial management in river basins as an essential component for environmental and social sustainability. In this context, local organizations such as agricul-

tural producers' associations, neighborhood committees, and educational centers not only contribute to the sustainable use of resources but also promote environmental education and economic revitalization through activities like tourism. However, as noted by Meza et al. (2020), such management faces structural challenges due to the lack of effective governance and progressive environmental degradation, requiring greater integration of public policies and community efforts.

From a territorial approach, the experience of the Utcubamba River basin highlights the relevance of local knowledge and traditional practices in ecosystem conservation, aligning with studies by Burch et al. (2019) and Partelow et al. (2020), which argue that participatory management is key to ensuring the sustainability of territories. The articulation between urban and rural communities through platforms such as cultural and sports associations strengthens social cohesion and promotes more equitable resource management. Nonetheless, advancing the implementation of formal governance mechanisms that allow better coordination between local authorities and communities remains crucial, ensuring more effective and resilient territorial management in the face of environmental and social challenges.

The traditional and sustainable use of natural and cultural resources in the Utcubamba River basin underscores the importance of ancestral and empirical knowledge in territorial management, aligning with the assertions of Mendiivil-García et al. (2020). Rural communities, both indigenous and campesino, have not only preserved responsible management practices for resources such as water, soil, and flora but also contributed to the protec-

tion of cultural heritage. This reinforces the idea of shared responsibility in decision-making, as highlighted by [Mick et al. \(2020\)](#) and [Trimble et al. \(2020\)](#). The creation of Private Conservation Areas (PCAs) such as Los Chichos, Monte Puyo, Huiquilla, Talacancha, and San Antonio exemplifies a successful model of community self-management that promotes the preservation of landscapes and biodiversity while adhering to environmental regulations. However, as [Ramos-Cortez & MacNeill \(2022\)](#) point out, these participatory processes still face limitations, particularly regarding interinstitutional coordination and the influence of political interests on resource management.

The involvement of rural communities in sustainable tourism activities, such as those developed around the PCAs and other natural attractions, demonstrates a self-management capacity that not only protects the environment but also generates local economic benefits, as proposed by [Palhuk et al. \(2024\)](#). Nevertheless, to maintain effective participation, it is essential to strengthen formal spaces for citizen participation and improve the articulation between communities and local governments. Although legislative efforts exist to institutionalize participatory management, the lack of coordination and the co-option of these processes by external interests limit their effectiveness ([Ramos-Cortez & MacNeill 2022](#)). Thus, inclusive and sustainable territorial management in the Utcubamba River basin must focus on valuing local knowledge, implementing effective governance policies, and promoting greater transparency and equity in decision-making.

The diverse community experiences in the Utcubamba River basin, such as reforestation projects in Luya Viejo, tourism management in Cruz Pata and Co-cachimba, and forest conservation in Leymebamba, reflect a collective commitment to sustainability and self-management of local resources. These efforts align with the ecosystemic perspective of [Tang & Adesina \(2022\)](#) and [Banerjee et al. \(2019\)](#), who highlight the value of river basins not only as micro-climatic regulators and oxygen generators but also as key spaces for biodiversity conservation and environmental stability. The combination of community management with sustainable economic activities such as tourism and reforestation demonstrates a viable development model that preserves the ecological functionality of the territory while improving the economic conditions of its inhabitants. However, the limited state presence in some cases, such as in Leymebamba, and the need to strengthen mechanisms for citizen participation underscore the importance of greater institutional support

to ensure the continuity and expansion of these sustainable practices in the long term.

Citizen Participation in Territorial Management

The degree of citizen participation in territorial management in the Utcubamba River basin reveals insufficient coordination and limited interaction among local actors. Approximately 53% of respondents indicated that their relationship with local government is "regular," suggesting that, while a communication channel exists, it is neither fully effective nor conducive to optimal citizen involvement in key decision-making processes. Similarly, the same percentage of participants perceive poor coordination among communal organizations, highlighting the lack of effective communication mechanisms that hinder joint decision-making and integrated resource management in the territory.

Regarding access to information, 67% of respondents reported it as highly deficient, creating a gap between the established participatory regulations and their practical implementation at the local level. This lack of information obstructs the possibility of active and well-informed citizen participation, limiting the population's ability to engage in decision-making about the management of their natural and cultural resources. Furthermore, 93% of respondents stated they had not participated in the development of territorial plans, indicating a significant disconnect between authorities and citizens, compounded by limited training and information dissemination.

Support from local government is also perceived as insufficient. About 63% of respondents consider the support for their demands and projects inadequate, reflecting a widespread perception of neglect regarding community needs. This perception is reinforced by the fact that 83% of respondents reported a lack of information about investment projects in their communities, suggesting either a scarcity of such projects or the absence of accountability from local authorities.

Nevertheless, there is significant interest among citizens in actively participating in territorial management. A substantial 93% of respondents expressed a desire to be involved in management plans promoted by local and regional authorities. However, 90% indicated they had not received financial support or training from public, private, or non-governmental institutions, revealing the limited initiatives aimed at strengthening community capacities for effective participation in decision-making related to the management and utilization of territorial resources ([Fig. 4](#)).

The degree of citizen participation in territorial management in the Utcubamba River Basin re-

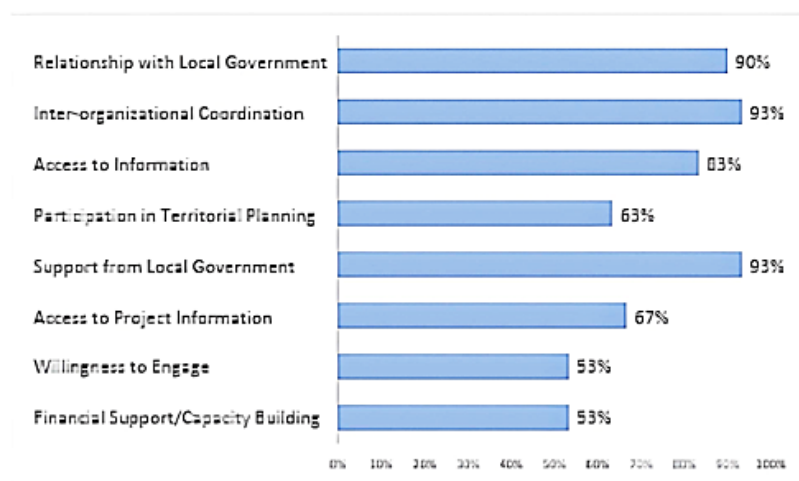


Fig. 4 Limitations in Citizen Participation in Territorial Management

flects insufficient coordination between local actors and authorities, which limits joint decision-making and affects the effectiveness of management actions. According to [Guardamagna et al. \(2020\)](#), citizen participation implies an active relationship between the state and civil society, enabling public intervention in decisive processes through institutional mechanisms. However, the fact that 53% of respondents perceive the relationship with the local government as average, alongside the same proportion identifying poor coordination among communal organizations, highlights a gap between policy frameworks and their practical application. This disconnection between legislation and lived experience in the basin suggests that while formal frameworks for participation exist, their implementation continues to face structural and organizational barriers.

Moreover, this context aligns with the limitations highlighted by [Díaz Aldret \(2017\)](#) and [Beramendi et al. \(2024\)](#), who argue that effective participation should strengthen autonomy and political equality as essential pillars of state legitimacy. However, in the Peruvian context, participatory mechanisms, although legally recognized, fail to be effective due to incomplete implementation and appropriation by political actors with vested interests, as indicated by [Palumbo Pinto et al. \(2022\)](#) and [Martínez-Velasco et al. \(2024\)](#). In this sense, the case of the Utcubamba River Basin underscores the need to reformulate and strengthen communication channels between local actors and authorities, ensuring more equitable and functional participation capable of promoting integrated and sustainable territorial management.

The inadequate access to information in the Utcubamba River Basin, noted by 67% of respondents, reveals a critical gap between participatory regula-

tions and their practical implementation at the local level. This lack of information, combined with the fact that 93% of respondents did not participate in the development of territorial plans, reflects a significant disconnect between authorities and citizens, limiting the population's ability to actively influence decision-making. According to [Scott et al. \(2021\)](#), the complexity of managing this basin is exacerbated by its geographic scope, as it spans five of the seven provinces in the department without being officially recognized as an administrative unit.

In this context, it is essential to rethink basin management from an integrated perspective that considers not only the physical dimension of the territory but also the active presence of local communities as part of the ecosystem, as proposed by [Sandoval-Solis et al. \(2022\)](#). Viewing the basin as a dynamic system where both natural resources and social actors interact would pave the way for a more decentralized and sustainable governance model.

The perception of insufficient support from the local government, evidenced by 63% of respondents who consider the response to their demands and projects as poor, reflects a structural problem affecting territorial management in the Utcubamba River Basin. This scenario is further exacerbated by the lack of information on investment projects, reported by 83% of participants, suggesting limited accountability and transparency in public management. This situation aligns with findings by [Quintero Cordero \(2020\)](#) and [Hadassa \(2024\)](#), who highlight how the inefficiency of authorities and the absence of effective participatory mechanisms have compromised its sustainability and functionality in the long term. Pita (2022) further emphasizes

the social complexity of the territory, encompassing both Amazonian native communities and highland peasant populations, which demands differentiated attention and more inclusive policies.

The significant interest of the Utcubamba River Basin's residents in actively participating in territorial management, as evidenced by 93% of respondents, reflects a growing awareness of the importance of being involved in decision-making processes, consistent with observations by [Serrano & Paola \(2023\)](#). However, the lack of economic support and training reported by 90% of participants indicates the absence of institutional strategies aimed at strengthening community capacities, limiting their ability to engage effectively. This aligns with [Oliveira & Ckagnazaroff \(2022\)](#), who emphasize that citizen participation is key to transitioning from government policies to consolidated public policies, as it enables the identification of needs and resources from a local perspective.

It is recommended to strengthen the coordination and communication mechanisms among local stakeholders in the Utcubamba River basin through permanent dialogue spaces, timely access to information, and technical and organizational training programs. This will enable leveraging the commitment demonstrated by the population in managing their natural and cultural resources, enhancing existing good practices—such as those developed in Luya Viejo, Cruz Pata, Cocachimba, and Leymebamba—and promoting more inclusive, transparent, and effective governance. Furthermore, it is essential to integrate ancestral knowledge with modern territorial planning approaches, ensuring that citizen participation is not only consultative but also decisive in sustainable development processes.

4 Conclusions

The participation of the communities of the Utcubamba River Basin in managing their natural and cultural resources demonstrates a significant commitment to sustainability and conservation. This is evidenced by active involvement in local initiatives—such as reforestation in Luya Viejo, community tourism in Cruz Pata and Cocachimba, and forest conservation in Leymebamba—as well as the existence of traditional management practices maintained by rural and indigenous organizations. Although 67% of surveyed leaders reported limited access to information, and 93% had not been involved in territorial planning processes, an overwhelming 93% expressed a strong interest in par-

ticipating in future management efforts, highlighting both the current engagement and the potential for expanded, inclusive governance. These findings reflect a community-driven model of territorial stewardship that balances economic development with environmental and cultural preservation.

On the other hand, our findings reveal that the level of citizen participation in territorial management in the Utcubamba River Basin also suffers from limited coordination and communication among local actors, restricting the capacity for joint decision-making and effective resource management. The widespread perception of deficiencies in access to information and lack of training hinders meaningful and effective citizen involvement in the planning and execution of territorial plans. Despite these limitations, the population shows significant interest in participating in territorial management, representing an opportunity to strengthen local governance through the implementation of more inclusive and transparent mechanisms.

To improve citizen participation and territorial management in the Utcubamba River Basin, it is essential to strengthen communication and coordination among local actors, provide better access to information and training, and implement more inclusive and transparent governance mechanisms. Future research should evaluate the impact of these interventions and further explore barriers to effective community involvement.

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