

## Power relations in the co-creation of water policy in Bolivia: beyond the tyranny of participation

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### ABSTRACT

Integrated water management is complex and requires the participation of diverse actors to identify and implement transformative solutions. However, power relations can obstruct the more inclusive and equitable experiences of participatory approaches, hence limiting the empowerment of vulnerable groups. It is thus important to study how power relations are influenced by people's interests, socio-political structures, and knowledge in the process of (co)creation of water policies. We use a case study in a rural municipality of Bolivia to address this issue. Qualitative data were collected between 2017 and 2020 and analysed using the elements of the Power Cube of Gaventa as the analytical framework. Results confirm that different factors influence power relations in the making of a water policy such as interests, access to information, habits, and customs. Actors use different forms, spaces, and levels of power to achieve their interests. Our results show the importance and need to analyse power relations prior, during and after the (co)creation of any public policy and to step away from linear and sectoral frameworks of policy development.

**Key words:** Bolivia, Governance, Power cube, Power relations, Water policy

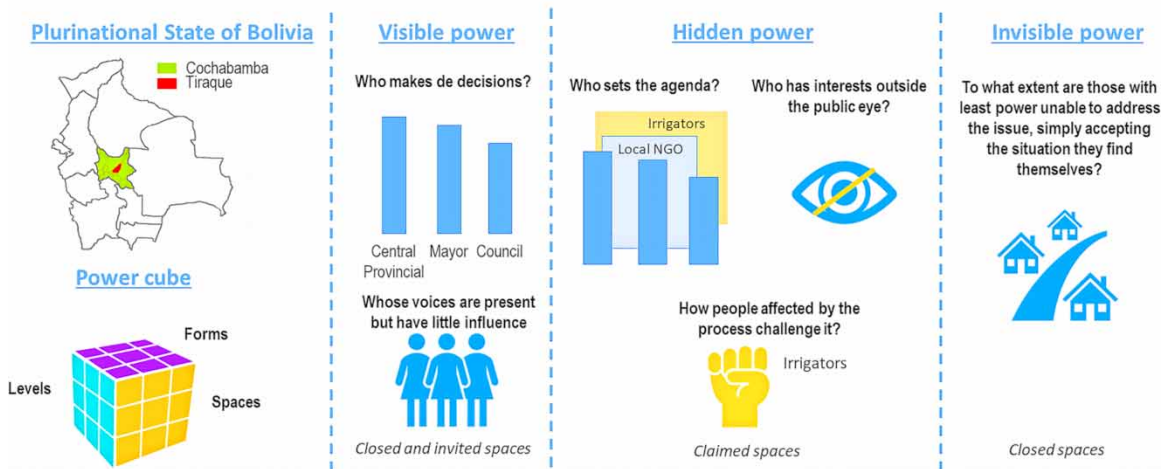
### HIGHLIGHTS

- Different forms, spaces, and levels of power are used by actors to reach their interests.
- Hidden power can be exercised by opposing actors to sabotage the process.
- Flawed and selective access to information is a form of exclusion.

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## GRAPHICAL ABSTRACT

## Power relations in the co-creation of water policy in Bolivia – beyond the tyranny of participation



## INTRODUCTION

There is a tendency to assume that the construction of a public policy is a linear and straightforward process, which follows a logical sequence of first identifying a need, then formulating a policy, implementing it, and finally concluding with its evaluation (Brock *et al.*, 2001, p. 13). However, in reality, it is a complex process influenced by power relations between different actors (Brock *et al.*, 2001). Ignoring power relations may limit reaching truly active and meaningful engagements of different stakeholders that are arguably critical in the process of (co)creation of a public policy. As a result, empowerment of vulnerable and marginalized groups does not necessarily occur (Brouwer *et al.*, 2013).

To avoid that some stakeholders dominate the process while others end up being ‘abused, overruled or excluded’ (Brouwer *et al.*, 2013, p. 13), it is crucial to recognize and deal with power imbalances from the beginning of, and throughout, the whole process of (co)creation of a public policy (Brouwer *et al.*, 2013). Neglecting power imbalances might actually support more powerful stakeholders rather than benefit the most vulnerable and marginalized (Schiffer, 2007), an outcome often referred to as the tyranny of the participative approach (Cooke & Kothari, 2001; Boelens & Hoogendam, 2002).

Also, in the formulation of public policies related to natural resources, power imbalances may be present. In reference to water rights, López *et al.* (2019) observe this issue has been analysed rather ‘narrowly’, either from a legal, technical, or an economic standpoint, even though water rights are embedded in complex socio-ecological systems. Similarly, Boelens *et al.* (2007) claim that a water policy can be improved by analysing and identifying power relations that reinforce both official and customary water rights at a local, national, and international level. Water governance is an interesting arena to explore both power and collaboration because of the complexity of the interactions between different socio-political structure (Brisbois & de Loë, 2016).

Power is defined by Brouwer *et al.* (2016, p. 73) as ‘the ability of actors to achieve their goals’. This dynamic interpretation of power allows for different expressions and forms of power, which Green (2016), building on Follet’s (1918) appreciation of power, refers to as power ‘within’, power ‘with’, power ‘to’, and power ‘over’. From these expressions of power, *power over* usually has a negative connotation of domination and/or control

exercised by one individual, group, or organization over another one (Brouwer *et al.*, 2016). This expression of power is seen as a potential 'obstacle' for agency and collective empowerment because it 'undercuts the ability of agents to actualize their own desires' (Pratt, 2011, p. 82).

A more equitable and empowering change may be more viable when these expressions of power and their interrelations are acknowledged (Gaventa, 2021). For the powerless to make a demand, first they need to 'develop a sense of self-confidence and a belief in their own rights' (*power within* them) to then get organized as a group and work together (*power with*) (Green, 2016, p. 33). Finally, power transforms into the *power to* act and define 'their own futures' (Gaventa, 2021, p. 5). Many scholars refer to *power with* and *power to* as the agency (Miller *et al.*, 2006; Gaventa *et al.*, 2011; Whaley & Weatherhead, 2015).

The dynamic character of power is not only reflected in space and time, but also in different levels of governance (Green, 2016). Lukes (1974) argued that power needs to be explored and studied outside of decision-making spheres, and that more attention should be paid to other aspects such as real and subjective interests, and observable and latent conflict. Building on Lukes' work, Gaventa (2006, p. 25) claims that power must be studied and understood 'in relation to how spaces for engagement are created, and to the levels of power (from local to global), in which they occur'. These forms, spaces, and levels of power have been combined in an analytical approach referred to as the *Power Cube*, which serves as the analytical framework of our research.

The *Power Cube* (Gaventa, 2005) emerged from the need to examine explicitly and graphically the interrelations of three aspects of power: *forms*, *levels*, and *spaces* (Figure 1). The model identifies three forms of power: visible, hidden, and invisible (Gaventa, 2005). These forms of power were defined by Gaventa (2005, p. 15):

- *Visible power*: Observable decision-making. This level includes the visible and definable aspects of political power – the formal rules, structures, authorities, institutions, and procedures of decision-making [...]
- *Invisible power*: Shaping meaning and what is acceptable. [...] shapes the psychological and ideological boundaries of participation. Significant problems and issues are not only kept from the decision-making table, but also from the minds and consciousness of the different players involved, even those directly affected by the problem [...]
- *Hidden power*: Setting the political agenda. Certain powerful people and institutions maintain their influence by controlling who gets to the decision-making table and what gets on the agenda. These dynamics operate on many levels to exclude and devalue the concerns and representation of other less powerful groups [...]

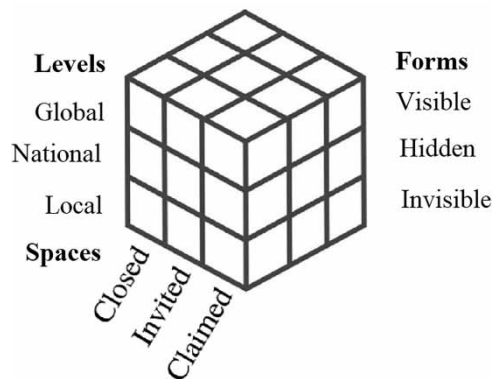
It is important to mention that hidden power also is about who is influencing the process outside the public eye because they have hidden interests (Hunjan & Pettit, 2011). Moreover, it is 'about how people affected negatively by [the process] may challenge it, to make their voices more visible' (Gaventa *et al.*, 2011, p. 11).

The *Power Cube* can be used to explore further the expressions of power mentioned above (Gaventa *et al.*, 2011). For example, *power within*, *with*, and *to* can be linked to hidden and invisible forms of power. Brouwer *et al.* (2016, p. 81) '[...] can be exercised from below in the form of resistance and as expressions of power to, power with, or power within. Some citizen's groups may be able to mobilise their own forms of hidden or invisible power as a strategy for empowerment and social change'.

The forms of power can take place in different spaces or arenas of engagement (Gaventa, 2006):

*Closed spaces*: Spaces where only certain 'elite' actors make decisions without the inclusion, consultation nor involvement of 'the people' (p. 26).

*Invited spaces*: Spaces that rise as an attempt to counteract closed spaces by inciting 'the people' to participate by state and non-state organizations (p. 26).



**Fig. 1** | Power Cube: Levels, spaces, and forms of power. *Source:* Based on Gaventa (2006).

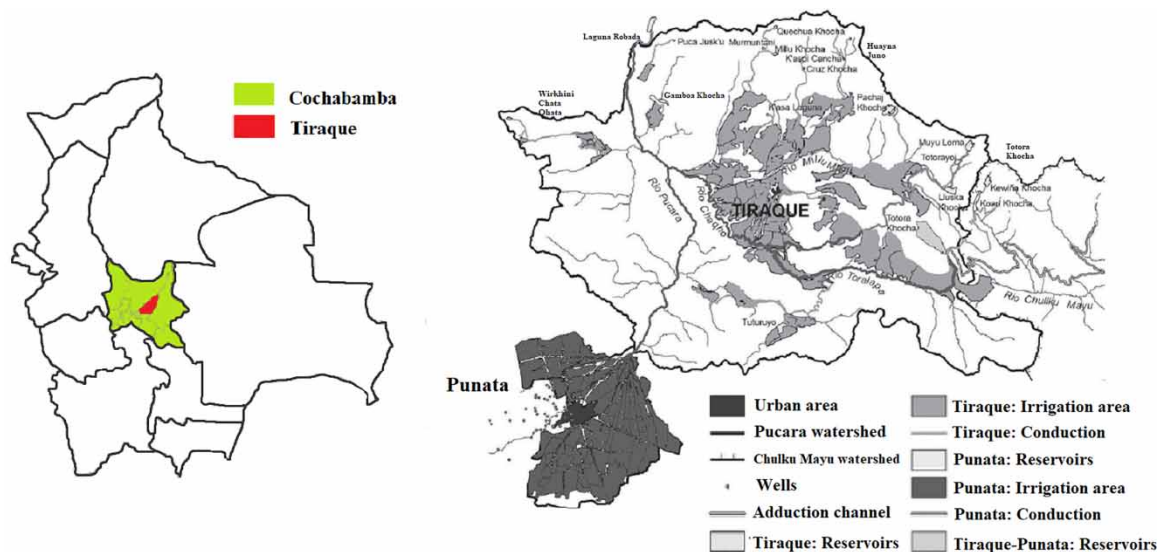
*Claimed or created spaces:* Spaces created by ‘less powerful actors for or against the power holders or created more autonomously by them’ to deal with common needs or concerns (p. 27). Gaventa (2021, p. 11) adds that in claimed spaces these actors ‘can shape their own agenda or express their own voices more autonomously’.

Finally, power takes place at different levels of power, usually pre-defined as local (sub-national governments, councils, and associations), national (governments, political parties, and other nation/state authorities) or global levels (formal and informal decision-making beyond nation state) (Gaventa, 2020). However, other levels of power can be defined according to the context and scale of each individual case.

Although the *Power Cube* has been used in natural resources and water analysis, most studies focus on only one form of power (Brisbois & de Loë, 2016; Mehta, 2016; Roth *et al.*, 2017; Wamuchiru, 2017; Karpouzoglou *et al.*, 2019; Etiegni *et al.*, 2020; Tantoh *et al.*, 2020; Thompson *et al.*, 2020) or do not explore other dimensions of the model (Rodríguez de Francisco & Boelens, 2014). Although Whaley & Weatherhead (2015) fully implement the Power Cube in a study of water governance in England, they do not study the influence of complex interrelations of various aspects such as interests, socio-political structures, and knowledge in power relations. While in the Bolivian context, Jacobi & Llanque (2018) did include all forms of power in their analysis, their study focused on agro-industrial and indigenous food systems. It seems that the *Power Cube* has not yet been fully implemented in Bolivia in the context of natural resources and water analysis. Therefore, studying the making of a water rights policy from a broader perspective unveils insights for the (co)creation of more inclusive, legitimate, and empowering public policies. This paper tackles this need by analysing how power relations are influenced by interests, socio-political structures, and knowledge in the context of the (co)creation process of a water policy. Moreover, this paper aims at evaluating if the *Power Cube* in all its aspects allows for such an integrated analysis of water policy, using a case study from Bolivia.

## Background

The rural municipality of Tiraque, located in Cochabamba – Bolivia, is rich in water resources, with more than 20 lagoons, rivers, and springs belonging to two basins whose flows remain constant throughout the year (Figure 2) (PTDI, 2016). Tiraque is a suitable arena to study power relations in the construction of a public water policy because it is known in Bolivia for external and internal conflicts about access to and control of water (Cossio *et al.*, 2010). Besides these, there are other problems related to water (*i.e.*, distribution, pollution, over-exploitation of groundwater, and limited access to irrigation water) (Rodríguez, 2020). Because of these problems, the need to protect water sources and water recharge areas was identified and included in a municipal planning tool as a measure to secure access to sufficient quantity and quality of water, triggering the need for a specific municipal



**Fig. 2** | Left: Municipality of Tiraque, Bolivia. Right: Hydrosocial territories formed around reservoirs in the Pucara watershed. Adapted from Tiraque (2003) and Rocha *et al.* (2016).

policy. The design of this water policy was led by a local non-governmental organization (NGO), who followed a consultation process established by local social organizations. A draft of the policy was presented to the Municipal Council in October 2019 and the final decision was communicated at the beginning of 2020. The main purpose of this policy is:

*‘[...] to regulate the protection and conservation of water recharge areas and water sources of the municipality of Tiraque, to guarantee and conserve water in quantity and quality destined for its different uses in a sustainable way, considering water as a fundamental human right that guarantees the “good living” of the present and future generations of this municipality. (Art. 1Protección y conservación de zonas de recarga hídrica y fuentes de agua del municipio de Tiraque. Draft, 2019)’*

The policy was presented to the Municipal Council for its approval. However, it was contested by some sectors who were afraid of losing not only their water rights but also their land management rights, resulting in the rejection of the policy. The Tiraque irrigators, through their social organizations, wanted proof that the policy would not affect their current rights and asked for the development of pilot projects. Currently, the NGO is implementing one pilot project to fulfil this requirement.

Different power relations, socio-political structures, interests, and knowledge systems interplay throughout the process of water policy-making, culminating in the social rejection of the policy, and the setting of a new agenda in 2020. Given this context, the development of a municipal policy for the protection of water sources and water recharge areas is an arena for internal/external struggles and conflicts, in response to new arrangements of the territory and water management and uses, and for the inclusion and exclusion of actors related to water control (Boelens & Hoogendam, 2002). It can also be a space for confrontation and rejection of external stakeholders, such as NGOs or international cooperation.



Prior to the Land Reform in 1953, most of the land and water resources were in control of wealthy landowners (mostly Spanish descendants) (Antequera, 2018). In return for shelter and food, estates were cultivated by *colonos* (indigenous workers). Outside the estates, small surfaces of land were owned by *piqueros* (mestizo and free indigenous families) (Antequera, 2018). To maintain the water supply for food production, indigenous *colonos* working for estates owners had to build intakes, canals, and dams (Gerbrandy & Hoogendam, 2002). As a result, until 1953, water rights were distributed among all estates' owners who invested in the construction of hydraulic infrastructure, which could also be located outside their estates (López et al., 2019).

After the Land Reform, estates disappeared and were transformed into peasant communities, and peasant unions started to emerge (Bustamante et al., 2019). López et al. (2019) define the period of 1950–1978 as a transition to community control of irrigation water. Through this period, *colonos* and newly established communities claimed the water rights that belonged to their former estate owners, even though such resources could be located outside the community's boundaries (López et al., 2019). A new set of 'habits and customs' ('*usos y costumbres*' in Spanish) was established regarding water management and uses (López et al., 2019). Water demand for agricultural production increased after the intensification and expansion of agricultural land by *colonos*. Water rights demands were raised by the *piqueros*. As a result, new hydraulic infrastructure was built and water rights were given according to families' investments (economic and labour) in these constructions (López et al., 2019, p. 206). Therefore, families who did not participate in this process were not granted water rights.

The period between 1978 and the early 1990s was marked by a major presence of the State with the re-organization of the peasant irrigation systems (López et al., 2019). In the late 1970s, the agrarian unionism gained strength with the creation of the National Confederation of Peasant Workers of Bolivia (CSUTCB for its acronym in Spanish) and the National Federation of Peasant Women of Bolivia 'Bartolina Sisa' (Costas et al., 2005). These peasant organizations have developed a great capacity to mobilize their grassroot members and/or to physically blockade the country to pressure the government to attend to their demands or to manifest their opposition to certain policies.

The CSUTCB, the largest organization in the country, counts over 3 million agricultural affiliates (CSUTCB, 2019). It has a hierarchical structure, whose base units are the communities represented by agricultural unions. Associated unions form *sub-centrals*, which in turn are grouped into *cantonales*, which grouped together make up *central provincial* representations, in turn grouped into nine *departmental federations*. Finally, the latter group collectively makes up the *National Confederation*.

The *Central Provincials* level is relevant for the real mobilization of grassroots members since at this level it is possible to coordinate with the smallest and lowest levels of organization (cantonal, sub-central, and agricultural unions) (Costas et al., 2005). For example, if a *Central Provincial* disagrees with a mobilization or blockade defined at a national level, it is difficult for the sub-centrales (the next level of organization) to act against the Central Provincial's decision. Therefore, the *Central Provincials* are the 'fundamental organic nucleus', since no decision to mobilize by the Confederation will be executed without the endorsement of the *Central Provincial* (Costas et al., 2005, p. 141). Once this endorsement is given, mobilizations will begin from the community level.

The organizational structure of Tiraque's peasants is well developed. The highest level of social organization is the Central Provincial Peasant Workers Union of Tiraque. From this level down to the agricultural unions, organizations are legally established and have organized and consolidated structures. According to a municipal planning tool, a total of 147 rural communities and seven neighbourhood councils are organized in sub-centrals (PTDI, 2016). At the same time, the Central of Indigenous Peasant Women 'Bartolina Sisa' has 1,200 affiliates (PTDI, 2016). Specifically in relation to water management, there are the Federation of Indigenous Agricultural Irrigators of Cochabamba (FRIAC for its acronym in Spanish), the Tiraque Drinking Water Committees, and the

Tiraque Irrigation and Services Association (ARST for its acronym in Spanish). The FRIAC, composed of eight irrigation associations, was created in 2008 as a strategic instrument during a water conflict with a neighbouring municipality (Rocha-López, 2020).

Currently, Tiraque's development is oriented mainly towards agricultural production (potatoes, grains, and fava beans). Agriculture is responsible for nearly 88% of the livelihoods (PTDI, 2016). Families may have access to multiple sources of water and irrigation systems (López *et al.*, 2019). Natural springs are the main sources of the daily water supply to the communities (PTDI, 2016). They are also used for animals and to irrigate different crops. In total, 34 irrigation systems were identified in Tiraque (Viceministerio de Recursos Hídricos y Riego, 2013). Therefore, water control is crucially important in (partly) irrigation-based agricultural systems, and is subject to manifestation of power because of struggles, demands, conflicts, organizational entities, rules, and norms related to water management and use. Throughout history, rural communities have developed *usos y costumbres* regarding water use, dealing with power relations, and water conflicts over water rights.

## METHODOLOGY: A QUALITATIVE APPROACH TO THE POWER CUBE

In recent years, several qualitative tools were designed and tested successfully to conduct power relations analysis throughout the world (Gaventa *et al.*, 2011; Hunjan & Pettit, 2011; Pettit, 2013). This paper follows a critical qualitative research approach (Merriam & Tisdell, 2015, p. 61) to explore power relations during water policy-making. Different forms (visible, hidden, and invisible), spaces (closed, invited, and created), and levels of power (community, municipal, regional), and their interactions, were analysed using the *Power Cube* (Gaventa, 2006) as an analytical framework.

Data were collected through a qualitative methods approach in an intensive field work between 2017 and 2020. Primary information was gathered through semi-structured in-depth interviews with key informants, participatory observations, workshops, and transects during and after the construction of the water policy. Information from secondary sources was obtained from an exhaustive bibliographic review.

- Semi-structured interviews ( $n = 34$ ) revolved around a set of questions across the *Power Cube*, as defined by Hunjan & Pettit (2011). Some actors were interviewed several times at different stages of the process.
- Field notes ( $n = 10$ ), field videos ( $n = 31$ ), and workshop audios ( $n = 4$ ) were made through participatory observation at meetings with social organization and municipality's staff members, water policy workshops and transects to identify water sources and recharge areas. Likewise, meeting audios ( $n = 30$ ) with different stakeholders were collected during coordination, analysis, and/or reflection meetings of the process of construction of the water policy.
- Secondary information about the case was reviewed such as state planning tools, maps, scientific papers, policy drafts, technical reports from NGOs and from a university among others.

The variety of methods and sources of information was used to gain a deeper understanding of the research questions and corroboration through data triangulation. On the one hand, data source triangulation allowed to gather multiple perspectives on power relations in the construction of the water policy. On the other hand, methods triangulation allowed to explore the same issue through in-depth interviews, participatory observations, workshops, and literature review.

All data collected were transcribed and a content analysis was developed following Erlingsson & Brysiewicz (2017). The *Power Cube* analysis was complemented with an exploration of the interrelations with knowledge, interest, and socio-political structures. These categories were chosen in advance based on the set of guiding questions presented by Hunjan & Pettit (2011). Quotes were translated from Spanish to English by the first author and are given in italics. The respondent (R) is given between brackets.

## RESULTS

To unravel the interrelations between power, interests, knowledge, and socio-political structures in the process of construction of a public policy in the municipality of Tiraque, we first present a summary of the process of the making of the public policy, including the main events and actors involved. Next, the different forms of power and their relations with interests and organizational structure are analysed. This analysis considers different spaces and levels of power. Results provide important lessons for future initiatives for more inclusive and equitable processes of public policy formulation and research.

### Process towards a water policy: a summary

Since the early 2000s an international NGO supported local communities with irrigation projects in Tiraque. The need to have a policy for the protection of water sources and water recharge areas was evidenced by the NGO's personnel because water sources were polluted, eroded, and forested with exotic species. This urgency was also identified in a government planification tool. As a result, in 2018, the international NGO hired a local NGO as a consultant to lead the overall process of constructing a public water policy (Figure 3). The local NGO started the process through a series of meetings and workshops with different sectors and social organizations. By February 2019, the local NGO facilitated the creation of an Advocacy Group, and the construction of the policy was included in the agenda of the municipality and that of the *Central Provincial*. Members of the Advocacy Group were two executives of the *Central Provincial* of Tiraque, one from the FRIAC, one executive from the ARST, two Municipal Councillors, and one community communicator. This group was to help set the agenda for the construction of the policy.

Between April and August 2019, a series of theoretical and practical workshops resulted in the presentation of a draft in Spanish of the public policy, developed by a legal consultant hired by the local NGO. Next, a series of meetings with municipal technicians as leaders of social organizations was held at the Municipal Council to review the draft and to present it for its approval. The presidential campaign of 2019 played a key role in the process because stakeholders did not want to generate conflicts during this period (as detailed below). Later, in October 2019, the country was paralyzed for 21 days because of the outcomes of the presidential elections. At the beginning of 2020, the public policy was rejected.

In addition to the Advocacy Group, different social and institutional actors were involved throughout the process (Table 1).

Tiraque has a long history of internal and external conflicts related to water access, management, and control. Thus, the making of this policy was practically carried out in a minefield of conflicts and power relations. It is in



**Fig. 3** | Timeline of the (co)creation of the public policy for the protection of water sources and recharge areas.



**Table 1** | Actors involved in the (co)creation of the public policy.

Level	Social actors	Institutional actors
Departmental	Departmental Federation of Peasant Workers of Cochabamba	Departmental Irrigation Service
Provincial	Central Union of Peasant Workers of the Tiraque province Central Union of Rural Women of the Tiraque Province 'Bartolina Sisa'	Tiraque's Municipality (Mayor, directors, and technicians)
Municipal	Federation of Indigenous Agricultural Irrigators of Cochabamba (FRIAC) Tiraque Irrigation and Services Association (ARST) Drinking water committees (CAPYS) Agroecological Committee of Tiraque	Municipal Council of Tiraque Drinking Water and Sanitary Sewer Service Association (ASOAPAL for its acronym in Spanish) Education councils Local NGOs
Communal	Micro-irrigation systems Neighbourhood councils Community communicators	Municipality technical staff
External	Irrigators from Punata	Private and public universities International NGO Legal consultant

this context that the actors promoting the formulation of the public policy had to move cautiously to avoid unintentionally stepping on someone's toes. A misunderstood word or technical concept could have unleashed a new water conflict. For example, when reflecting about a water conflict between Tiraque and a neighbouring municipality (Punata), an interviewee mentioned that *'it's like a time bomb ready to explode'* (R1).

### Visible power, knowledge, and participation

Visible power is about observable decision-making regarding the construction of public policy. It is mainly in the hands of decision-makers whose interests are to be maintained, hence reducing participation. An objective of social organizations is to influence the construction of public policies in favour of the peasantry, granting them legitimate decision-making power in the country. Although their leaders make decisions in favour of the peasantry at the grass roots, power itself is managed in a hierarchical and vertical manner. In Tiraque, the main decision-makers are the *Central Provincial*, the Mayor, and the Municipal Council.

The *Central Provincial* is identified as the most powerful social organization in Tiraque. For example, the candidates running for Mayor of Tiraque are chosen from the *Central Provincial*. Hence, political decisions at this level of the organization might allow or block processes. If the *Central Provincial* asks the Municipal Council to approve a public policy, it is highly likely that it will be approved. As a municipal authority mentions: *'Mostly social organizations exercise power, through the Municipal Council, to ensure that policies are accepted'* (R6).

The legal consultant, hired by the local NGO, developed a draft in Spanish of the public policy, which was made public at the social organizations' meetings between May and August 2019. At these meetings, the inclusion and exclusion of actors were based on their decision-making power, resulting in the presence of high-ranking leading figures from social organizations, NGO's staff, Municipal Council representatives, and municipal technicians. Although these meetings are supposed to be *invited spaces* where public and non-government organizations can freely participate, the invitation of specific actors turned them into *closed spaces*, characterized

by four forms of exclusion: (1) rotating and supplanting leadership, (2) a culture of gendered decision-making, (3) avoiding conflict by not inviting, and (4) flawed transmission of information.

The drafting of the policy was hindered by the inconstancy in the attendance of leaders, due to a 2-yearly rotating leadership. As a result, some leaders did not fully understand the content of the draft and felt that they were being pressured to approve a policy that in their eyes was being imposed on them. This was amplified by leaders being often supplanted by other members of the organization without decision-making power. In this regard, an interviewee who was present throughout the process mentions: *'I think that the challenge in our context is that all those who participate, [should have the power to] decide, right? But that really did not happen'* (R5).

Likewise, although female leaders were present in these meetings, their voices were not heard, hence not *visible*. Women participation was considered important as exemplified by the invitation and participation of the Bartolina Sisa Women's Peasant Unions to the meetings. However, although they presented their policy proposal, it was not even considered by the *Central Provincial*, because water is thought to be a masculine theme. This can be illustrated by the following comment: *'It seems to me that women have had almost no participation in this regard, as Bartolinas have only received a very brief report that the NGO has given them'* (R2). Therefore, mere attendance did not guarantee effective and legitimate participation.

Interviews also revealed how communities and landholders with water sources in their properties, were strategically excluded from the process, to avoid conflict. This group is vulnerable because it is not part of the irrigation organizations. In this regard, a farmer mentioned that *'many families were not part [of the process]. In the Jatunchiniya community alone, there are 174 unaffiliated [families]'* (R8). However, organizers of these meetings explained that because these communities were unaffiliated, they could not be identified in time to be invited.

Flawed transmission of information was the fourth form of exclusion. Information was not transmitted to the grassroots because *'leaders themselves did not understand the message properly'* (R2). Information was not passed to the sub-centrals nor to the communities. Reaching the 147 communities individually, considering the large number and the restriction to work during office hours only, was an impossible task for the local NGO. Therefore, transmission of information from higher to lower levels of governance was difficult.

Information transmission was also limited due to language barriers. Tiraque's population is mostly *Quechua*-speaking. Men commonly speak Spanish as well, while women mostly speak only *Quechua*. Dealing with quite technical aspects of the conservation of water sources and water recharge, and using Spanish as the main language, the lack of understandable information as input for discussion and debate resulted in confusion, doubts, and distrust about the impacts of the water policy on the management and control of the water supply and recharge areas. In this regard, the following testimony shows how some communities were excluded due to language gaps and legal technicalities:

*'The dynamic was that the [local] NGO proposed [the public policy], then the leaders that were present took [the information] to their grassroots and returned with some corrections. Of course, we understand that the grassroots do not have sufficient preparation to understand the methodology to generate a public policy. I have witnessed how community grassroots were not aware and did not understand at all. Hence, their participation was not ideal. It made me feel that the opinion of many of them was not considered because it was not an opinion that was expressed in an equitable and balanced way regarding the conditions that each of these people had'* (R7).

This case shows that visible power is about who the decision-makers are. But it also shows that it is about who are present in the process but have little influence, such as women. Finally, it is also about those excluded for

example because of language gaps. The following section presents how excluded or opposing actors contested the process and how interests influenced it.

### Hidden power, agenda, and interests

Hidden power is concerned with who sets the agenda and how those affected manage to challenge it. Moreover, it focuses on hidden interests that different actors may have and on how decisions are being influenced outside the public eye. Although the construction of this water policy in Tiraque aimed to address a common need identified and prioritized by multiple local actors, its 3-year development process was mainly led by a local NGO. The NGO managed to put the construction of this policy on the agendas of social organizations and the municipality, through a linear and straightforward advocacy strategy. Therefore, by setting the agenda, the local NGO exercised hidden power. This is further supported by a municipal authority who mentioned: *'the NGO presented the request [for the policy], from there we started'* (R6). The municipal authority related to the pressure felt as follows: *'[municipal authorities] feel pressured, compelled'* (R6). Along the same lines, an academic mentioned that the *'The agenda is established directly by the NGO. It has been generating the process. It is the driving force behind the public policy process. They are setting the agenda'* (R2).

To prepare the ground and to show the importance of the policy, a series of initial meetings, including theoretical and practical workshops, was organized by the local NGO. Each workshop lasted *'one day with the participation of various local actors, irrigators, peasant organization, municipal authorities'* (R3). Due to its content and the used 'farmer to farmer' approach, the first workshop was well rated by the attendees. In this event, technical aspects of water dynamics were covered, and a local peasant from the area gave legitimacy to the conservation of water sources as he explained how their community changed their *usos y costumbres* to be able to protect water sources.

To *'continue motivating local actors'* (R3), in another workshop an authority from a municipality in a lower region was invited to explain his region's experience with the Reciprocal Water Agreements for 'water planting' (*siembra de agua*), a commonly used term to refer to groundwater recharge fostered by human interventions for infiltration, retention, and regulation of runoff waters (*i.e.*, conservation of recharge areas, reforestation, artificial lakes, etc.). As we will see later, this workshop had a major impact on the approval of the policy. Due to the cultural differences with higher located lands, regarding water rights, confusion was generated with the concept of 'water planting'. From the point of view of the attendees, those who 'plant water' would have complete ownership of the water harvested. Because these events were open and included the participation of different actors, they were identified as *invited spaces*, where *'social institutions took a leading role'* (R5). A university supported this process with a communication campaign that included a *'micro-documentary and booklets designed to sensitize organizations'*, which according to some researchers helped to *'open the field'* for the policy construction (R2).

Although the draft of the public policy was written, the Municipal Council did not grant its approval. This can be explained by several forms of hidden power such as the distancing of the leaders, questioning the legitimacy of the process, the deliberate obstruction of the process, information transmission flaws, and actors avoiding being involved. While initially the meetings and workshops were well-attended (up to 40 attendees), the attendance declined gradually. By the end of the process, barely seven people were present. In addition, some leaders had distanced themselves from the process. This context of a weakening leadership, a reduced willingness to participate, and an increasing pressure to conclude the processes urged the local NGO and social organization leaders to take it to the next level (Municipal Council). Although they were aware of the lack of empowerment, understanding or open dialogue, the legitimacy derived from the successful start of entire process and from the mere authority of the local NGO itself allowed for this move. Second, several actors questioned the legitimacy of

the process and condemned the pressure exerted by the local NGO to carry out the process without the effective participation of key actors: *'There has been participation, yes, but it seems to me that it has not been very legitimate'* (R7). Another informant links the weakening of the process with the lack of coordination, the unclear division of roles and a resulting lack of responsibility with the actors involved (R2).

Others actively and consciously obstructed the process in several ways. For instance, several leaders expressed that they could not participate in the decision-making since they first had to consult their communities. Such a process usually takes a month, and did not happen:

*'It was not a fully participatory process of what should be a public policy because it has been largely developed by the NGO. That has been a very repetitive criticism in the meetings by the representatives of the unions. These unions were, in addition to that, putting obstacles in the matter so as, logically, to lower the proposal directly to the grassroots, and that takes about 1 month.'* (R7)

A third example of conscious obstruction is provided by the actions of the irrigators, the group most affected by water policies. The FRIAC is an important actor because although its members do not manage all the water sources of Tiraque, they do have the biggest ones. They were not against the idea of the water policy as such, but they were afraid of its content, as it might affect their control over and management of water as well as land sources. Therefore, they took a series of actions that ended in the rejection of the policy. For example, identifying water sources is a key factor in developing water policy. Therefore, a technical advisor attempted to make an inventory of water sources in support of the policy. The irrigation organizations *'have not endorsed this information, they have not accepted that it is valid information'* (R2).

Three forms of hidden power triggered the fears of the FRIAC for the new policy, urging them to act against it. The first form relates to the specific context of the gatherings. There is the issue of language, combining Spanish with a technical-legal jargon, and the deliberate choice by the *Central Provincial* to organize the meetings in their own venues, hence giving the irrigators a secondary position in the room. The second form relates to the misinterpretation of the 'water planting' concept and 'water harvesting' rights explained before. An informant explained *'that the concept has been misinterpreted because harvesting water is about collecting water: when it rains, you harvest it, store it and that's it and it's for your consumption and they can't claim rainwater'* (R2). Therefore, irrigators were afraid that by 'planting water' other people would gain access and control of water resources. Third, historical conflicts with the municipality of Punata created the fear that this policy of conservation of water sources and recharge areas would be beneficial for Punata as well, a perspective that was not appealing, as detailed later.

As a result, the FRIAC preferred not to enact the policy. Other irrigation organizations and the *Central Provincial*, decided to reject it as well for political interests (see below). As an alternative, the FRIAC successfully requested a pilot case to be developed to show them the real impacts of the policy, which is currently being implemented through a Declaration of Protected Area in a community that supports the policy. In this way, irrigators have successfully managed to obstruct the approval of this water policy and negotiated an alternative, setting a new agenda as a true representation of their *power with* and *power to*. This contestation was organized at *claimed spaces* at the FRIAC's own meetings. Then, the FRIAC's representatives met with different social leaders in *closed spaces* to express their concern, which was finally taken to the Municipal Council where the policy has been evaluated.

Actors used different spaces and levels of power to reach their interests: neighbouring municipal water interests, political interest related to presidential elections, NGOs' institutional interests, and the Mayor's office interests. The institutional regulation of water in Tiraque is a common interest among surrounding municipalities

that benefit from Tiraque's water. They have a long history of municipal conflicts around water access with Tiraque. A particular conflict arose when the municipality of Punata tried to expand a water catchment in Tiraque (Totora Khocha) only to benefit its own communities (Figure 2). After several years of negotiations, an agreement was reached giving Punata 60% of the rights and 40% to Tiraque (Saldías, 2009). Since then, irrigators from Tiraque are very suspicious and cautious regarding any water policy that could also benefit Punata. Currently, *'Punata and Tiraque do not get along, although water belongs to everybody. They understand that it does, but it does not suit their interests'* (R4). The surrounding municipalities' interests in the water policy are part of the hidden power since they are shaping the process outside of the public eye.

Evidently, political interests have influenced the process in Tiraque because during the final period of construction of public policy, there were many interests related to the presidential elections. During this period the priorities of the social organizations were influenced by political interests of Morales' Movimiento al Socialismo (MAS) campaign. On the one hand, social organization leaders were busy campaigning for MAS and did not spare time to lobby for new projects<sup>1</sup>. On the other hand, leaders aimed to avoid any conflict that could jeopardize the political campaign such as losing the support of a highly influential sector such as the irrigators. The elections were followed by a period of great political unrest where social organizations did not want to trigger any conflict. Therefore, when the FRIAC opposed the water policy, social organizations and the Municipal Council rejected it to avoid any conflict.

Institutional interests also affected the process of construction of the policy. For example, the local NGO was interested in reaching the goals established by the international NGO and in its institutional planning. Usually, these interests generate pressure on the NGO's personnel since they must meet the established deadlines and outcomes of their funding organizations. However, in the process of policy construction they must also consider local dynamics and power relations, which can prolong the time needed to reach the expected goals. This clearly affected the local NGO promoting the water policy construction: *'I believe that the NGO has also felt this pressure, because it has not been able to show many results of their project'* is mentioned by a country officer of the International NGO (R3). Hence, the interests of the international NGO influenced the interests of the local NGO and directed its course of action in the overall process. This is a representation of hidden power.

On their side, the Mayor's office is also interested in the policy because it could open doors to develop new sectors. For example, an interviewee mentioned that *'this would lead to training in management of irrigation systems, opening new doors for production development'* (R1). This shows that although pursuing the achievement of institutional interests may open possibilities to develop a policy, it may also generate unfavourable pressure in different actors.

### Invisible power and socio-political structures

Invisible power concerns social norms and values that shape what is accepted as normal by society (Brouwer et al., 2016). Therefore, invisible power, represented by *usos y costumbres* in Tiraque, shape the process of decision-making by defining spaces, protocols, leaders, and participation. *Usos y costumbres* were respected by the NGO and the municipality, by the Mayor and the Municipal Council. It is the *usos y costumbres* that can make decisions accepted as legitimate when they are made by authorities. *Usos y costumbres* were used to establish the NGO's strategy to set the agenda, the meetings at the *Central Provincial*, only leaders' participation and top-down flow of information.

The NGO abided by the local *usos y costumbres* to define its strategy to include the construction of the public policy in the agendas of the municipality and social organizations. For example, the *Central Provincial* asked to

<sup>1</sup> During this period, meetings for interviews with the researchers were constantly cancelled because leaders were campaigning.



have the meetings and workshops as part of their own meetings. Likewise, at the beginning of the process the NGO identified the need to engage strategically and separately with irrigator's organizations to avoid conflict. However, the *Central Provincial* asked to have general joint meetings, a request that was accepted by the NGO following the authority level:

*'The Central Provincial is the one that defines these issues. So, we followed what they say, and the order established in the municipality, which is through the Central Provincial. We do what they tell us' (R1).*

Although according to the *usos y costumbres*, the information shared and generated at the *Central Provincial* meeting should flow down to the grassroots, this transmission of information was limited. A municipal authority mentioned that *'it is not possible to reach the totality of the grassroots and there may be a dissatisfied minority, but they abide by what has been decided'* (R6). This shows that communities will usually abide to the decisions made even if they do not agree with them. Therefore, the NGO initially tried to show in a workshop how some *usos y costumbres* can be changed to protect water sources and water recharge areas. In fact, to implement this water policy, some social structures would have needed to be adapted. Although this case shows how actors challenged the water policy through their *power with* and *power to*, it also shows how socio-political structures affect the process of decision-making and how certain groups will abide by the decisions made by their leaders. Moreover, as mentioned, some communities were afraid that their *usos y costumbres* were challenged by the new policy, opening space to the State to access and control their resources.

## DISCUSSION

This case study illustrates that the *Power Cube* can be fully implemented for an integrated analysis of how power interrelates with actors' interests, knowledge, and socio-political structures in the (co)creation of a water policy. These interrelations define the course and result of the process and thus should be considered in future implementations of the *Power Cube* to enrich the analysis. Furthermore, through the implementation of this tool and Hunjan & Pettit (2011) guiding questions, the dynamics and characteristics of hidden and invisible power became observable, evidencing that the Power Cube is a promising tool for the analysis of power relations to unveil insights for the (co)creation of more inclusive, legitimate, and empowering natural resources and water policies.

Visible power is an exercise by decision-makers, in this case the *Central Provincial*. Actors who exercise visible power usually make decisions in *closed spaces* and, most importantly, decide who can participate and who is excluded. In this case, some vulnerable groups were left out of the process and others, such as women groups, were part of the process, but their participation remained low. This indicates that attendance does not guarantee participation. Moreover, it shows that women's *knowledge* is still not considered as valuable. Similarly, Seemann (2016) found in one community of Tiraque that in the Water Users Registries, only 56 of 200 entries belonged to women even though women are involved in the daily chores of water management. By being left out of these registries, women have limited access to meetings. Therefore, women continue to be invisible in water-related decision-making arenas.

Along the same lines, access to timely and adequate information was a key for the exclusion of lower levels governance actors. As long as communities do not have access to timely and adequate information (*i.e.*, due to language barriers), they cannot achieve 'participation and autonomy' (Chávez & Rojas, 2011, p. 174). If they are not informed, they will not be able to build their own speech and make their voices heard. A similar case was observed in the process of the Commission on the Legal Empowerment of the Poor from Peru. This process

was criticized by excluding vulnerable groups such as ‘the poor, women, indigenous peoples, the landless and ethnic minorities’ (Seemann, 2016, p. 194).

Although certain actors exercise visible power, the FRAIC managed to challenge the process through their *power with* and *power to* and stopped the approval of the process, setting a new agenda by asking for a pilot project. Indeed, by following the strategies and tactics of various actors, it is possible to see how the direction of a policy is changing (Brock *et al.*, 2001). This was seen in studies carried out by Geng (2016) and by De la Cruz & Dessein (2021) in Peru, where groups of villagers managed to challenge the decision-making power through interactive networks of actors. Such ‘intertwining relations’ (De La Cruz & Dessein, 2021) demonstrate that policy-making can take the form of bricolage – where actors participate throughout the whole process as ‘doers’ – , or even of sabotage – where other actors oppose and sabotage the process as ‘stoppers’ (Paquet, 2001, p. 14).

Moreover, throughout the process there were *closed*, *invited*, and *claimed spaces*. However, spaces interact with different forms and levels of power, changing from one type of space to another (Gaventa, 2006). For example, participation was still limited at invited spaces because hidden forms of power defined what issues and whose voices were valid. When the FRIAC contested the public policy and managed to set a new agenda, their contestation was organized in *claimed spaces* (the FRIACs’s meetings) and taken to higher levels of decision-making in *closed spaces* (meetings with social leaders). Similar observations were made in Asian cities and in Rwanda, where vulnerable people excluded from closed and invited spaces of participation mobilized to create *claimed spaces* for contestation (Patel *et al.*, 2016; Nikuze *et al.*, 2020). This evidence indicates that in policy-making dynamics, different spaces are used or created by actors at different levels to achieve their goals. Thus, levels of governance also interact with forms and spaces of power in different and varying ways.

Invisible power can be difficult to explore since it concerns social norms and values related to socio-political *structures* which require longer periods of time in the field to be able to identify and study them. Because of the socio-political unrest after the presidential elections of 2019, it was difficult to reach leaders of social organizations to achieve deeper interviews after the final rejection of the policy. Moreover, in Bolivia, *usos y costumbres* are important aspects in rural communities and are guaranteed by the Political Constitution of the State through Article 374 (Bolivia, 2009). A threat to local *usos y costumbres* can spark conflict. Saldías (2009) in a study on Tiraque and Punata found that irrigation associations of high-altitude communities negotiate water control based on their territory and their *usos y costumbres*. Therefore, to create changes through policy, either the policy must conform with local water *usos y costumbres* or there must be an adaptation or transformation of them. In this line, the rejection of the policy and the requirement to establish pilot projects can be seen in the long term as an opportunity because these interventions could provoke generational and lasting changes to invisible power, required for sustainable water management. Therefore, we recommend promoting small-scale interventions to provoke changes in *usos y costumbres*, and to generate a sense of ownership and earn the required legitimacy for the development of water resources policies.

This case study shows that the attempts to implement a highly participatory process in the (co)creation of public policies eventually conformed with the traditional linear, silo thinking, and top-down schemes in which vulnerable groups continue to be excluded. To create a truly participatory process, a change must be achieved that allows actors to be given a voice in an effective participation that takes them from ‘access, to presence, to influence’ (Gaventa, 2006, p. 24). Therefore, more collaborative governance approaches should be developed that conform with Latin–American contexts.

## CONCLUSION

The design of a water policy in Tiraque presents evidence that the (co)creation of such a policy is not a linear process because of the complex intertwining of power relations from the beginning until the end. Therefore, to

foster more inclusive, equitable, empowering, and legitimate policies, it is crucial to analyse power relations throughout the whole process.

This paper shows that the *Power Cube* (Gaventa, 2005) is a very useful approach to unveil complex power dynamics and to have a close understanding of the different forms, levels, and spaces of power in natural resources and water issues. Moreover, it demonstrates that it can be expanded to study how power interrelates with actors' interests, knowledge, and socio-political structures. It is highly recommended to include these interrelations in future implementations of the *Power Cube*.

Our study shows that social organizations in the municipality of Tiraque exercise more visible power than the Mayor and the Municipal Council. Although the meetings organized for the construction of the public policy are expected to be invited spaces, they became closed spaces because only specific actors were invited. We identified four forms of exclusion: (1) rotating and supplanting leadership, (2) a culture of gendered decision-making, (3) avoiding conflict by not inviting, and (4) flawed transmission of information. Through these forms of exclusion vulnerable and marginalized groups were excluded. Women groups, for example, were present but their effective and meaningful participation was not guaranteed. Moreover, language barriers hindered the participation of different actors, specially from the grassroots.

The study shows that both actors in favour and against the public policy exercised hidden power by setting the agenda. On the one hand, the NGO managed to get the construction of the public policy on the agenda of social organizations and the municipality. To do so, the NGO abided by the local *usos y costumbres* regarding decision-making and developed a series of workshops and meetings at invited spaces for participation. On the other hand, the FRIAC was afraid of the possible impact of the policy and managed to have the policy rejected, asking for the development of pilot cases; therefore, setting a new agenda. Their contestation was organized in a claimed space. This shows that intertwined relations in processes of bricolage and sabotage shape the policy-making process.

*Usos y costumbres* were followed by the NGO and defined the protocol for the construction of the policy. However, *usos y costumbres* in Tiraque are also closely linked to invisible power because they define what is accepted as normal by society regarding decision-making. Even if some people or families do not agree with the decisions made, they usually will abide by them, seeing them as mandatory.

Different forms, levels, and spaces of power were used by actors to reach their interests. Many actors had political interests at the time, either for the presidential elections or to open new spaces for water management projects. The local NGO had institutional interests, forcing it to achieve the expected results set by their funding organization. Interests of other actors were also present outside of the public eye, such as the interest of the neighbouring municipality that benefits from the water from Tiraque.

Although the study focused on Bolivia for an in-depth case study, the findings are globally relevant for collaborative approaches in the (co)creation of natural resources and water policies. Hence, we suggest developing a power analysis before and during the (co)creation of a public policy to achieve true empowerment. Otherwise, vulnerable and marginalized groups might be excluded which might generate obstacles to achieve the expected result.

## CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## DATA AVAILABILITY STATEMENT

Data cannot be made publicly available; readers should contact the corresponding author for details. The datasets generated during and/or analyzed during the current study are not publicly available due to the sensitivity of data

and to keep the anonymity of the interviewees but are available from the corresponding author on reasonable request.

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## REFERENCES

- Antequera, N. (2018). *Pachamamawan Parlaspa. Saberes y conocimientos locales sobre el clima*. PIACC – UMSS, Cochabamba.
- Boelens, R. & Hoogendam, P. (2002). The Yapa: Water rights, power and empowerment. In: R. Boelens & P. Hoogendam, eds. *Water Rights and Empowerment*. Koninklijke Van Gorcum BV, pp. 241–241.
- Boelens, R., Bustamante, R. & de Vos, H. (2007). Legal pluralism and the politics of inclusion, recognition and contestation of local water rights in the Andes. In: B. van Koppen, M. Giordano & J. Butterworth, eds. *Community-Based Water Law and Water Resources Management Reform in Developing Countries*. International Water Management Institute, Sri Lanka. pp. 96–113.
- Bolivia (2009). Constitución política del estado. In: Asamblea Constituyente, eds. *Gaceta Oficial del Estado Plurinacional de Bolivia*. Gaceta Oficial del Estado Plurinacional de Bolivia, La Paz.
- Brisbois, M. & de Loë, R. (2016). [Power in collaborative approaches to governance for water: a systematic review](#). *Society & Natural Resources* 29(7), 775–790.
- Brock, K., Cornwall, A. & Gaventa, J. (2001). *Power, knowledge and political spaces in the framing of poverty policy* (Working paper, Issue 143).
- Brouwer, H., Hiemstra, W., van Vugt, S. & Walters, H. (2013). Analysing stakeholder power dynamics in multi-stakeholder processes: insights of practice from Africa and Asia. *Knowledge Management for Development Journal* 9(3), 11–31.
- Brouwer, H., Woodhill, J., Hemmati, M., Verhoosel, S. & van Vugt, M. (2016). *The MSP Guide: How to Design and Facilitate Multi-Stakeholder Partnerships*. Practical Action Publishing Ltd, Wageningen.
- Bustamante, R., Antequera, N. & Galindo, G. (2019). Comprendiendo la relación con el clima en la zona de Tiraque. Resultados del proyecto Concepción Andina del Clima. In *Visiones sobre el clima y gestión del riesgo climático. Estudios y propuestas de estrategias de adaptación al Cambio Climático*. Bustamante, R. & Canedo, G., (eds). Centro AGUA-UMSS, Cochabamba. pp. 103–130.
- Chávez, F. P. F. & Rojas, A. M. L. (2011). Una mirada a las raíces de la comunicación para el desarrollo. Entrevista con Luis Ramiro Beltrán Salmón. *Signo y Pensamiento* 30(58), 170–176.
- Cooke, B. & Kothari, U. (2001). *Participation: The New Tyranny?* Zed Books, London, New York.
- Cossio, V., Bustamante, R. & Skielboe, T. (2010). Conflict and cooperation in local water governance: Inventory of local water-related events in Tiraque District, Bolivia. DIIS Working Paper.
- Costas, P., Garcia, A. & Chávez, M. (2005). *Sociología de los movimientos sociales en Bolivia: Estructuras de movilización, repertorios culturales y acción política*. AGRUCO. NCCR. PLURAL, La Paz.
- CSUTCB (2019). *Quiénes somos*. Available at: <http://www.csutcb.org/> (accessed 04/10).
- De La Cruz, M. & Dessein, J. (2021). [Beyond institutional bricolage: an 'intertwining approach' to understanding the transition towards agroecology in Peru](#). *Ecological Economics* 187, 1–13.
- Erlingsson, C. & Brysiewicz, P. (2017). [A hands-on guide to doing content analysis](#). *African Journal of Emergency Medicine* 7(3), 93–99.
- Etiegni, C. A., Irvine, K. & Kooy, M. (2020). Participatory governance in Lake Victoria (Kenya) fisheries: whose voices are heard? *Maritime Studies* 19(4), 1–19.
- Follet, M. P. (1918). *The New State: Group Organization the Solution of Popular Government*. Longmans, Green and Co., New York.
- Gaventa, J. (2005). Reflections on the uses of the 'power cube' approach for analyzing the spaces, places and dynamics of civil society participation and engagement. *Prepared for Dutch CFA Evaluation 'Assessing Civil Society Participation as Supported In-Country by Cordaid, Hivos, Novib and Plan Netherlands*.

- Gaventa, J. (2006). [Finding the spaces for change: a power analysis](#). *IDS bulletin* 37(6), 23–33.
- Gaventa, J. (2020). Applying power analysis: using the ‘Powercube’ to explore forms, levels and spaces. In: R. McGee & J. Pettit, eds. *Power, Empowerment and Social Change*. Routledge, New York, pp. 117–138.
- Gaventa, J. (2021). [Linking the prepositions: using power analysis to inform strategies for social action](#). *Journal of Political Power* 14(1), 109–130.
- Gaventa, J., Pettit, J. & Cornish, L. (2011). *Power pack, understanding power for social change*. Institute for Developmental Studies, Sussex, UK.
- Geng, D. (2016). *Reformas institucionales del agua en la costa peruana: análisis de la gobernanza del agua en la cuenca Ica-Alto Pampas*. Pontificia Universidad Católica del Perú, Peru.
- Gerbrandy, G. & Hoogendam, P. (2002). Materialising rights: hydraulic property in the extension and rehabilitation of two irrigation. In: *Water Rights and Empowerment*. Boelens, R. & Hoogendam, P., (eds). Koninklijke Van Gorcum BV, Assen. pp. 36–51.
- Green, D. (2016). *How Change Happens*. Oxford University Press, Oxford.
- Hunjan, R. & Pettit, J. (2011). *Power: a practical guide for facilitating social change*. Carnegie United Kingdom Trust, Dunfermline.
- Jacobi, J. & Llanque, A. (2018). [‘When we stand up, they have to negotiate with us’: power relations in and between an agroindustrial and an Indigenous Food System in Bolivia](#). *Sustainability* 10(11), 4001.
- Karpouzoglou, T., Tri, V. A. N. P. D., Ahmed, F., Warner, J., Hoang, L., Nguyen, T. B. & Dewulf, A. (2019). [Unearthing the ripple effects of power and resilience in large river deltas](#). *Environmental Science & Policy* 98, 1–10.
- López, R. R., Hoogendam, P., Vos, J. & Boelens, R. (2019). [Transforming hydrosocial territories and changing languages of water rights legitimization: irrigation development in Bolivia’s Pucara watershed](#). *Geoforum* 102, 202–213.
- Lukes, S. (1974). *A Radical View*. Macmillan, London.
- Mehta, L. (2016). [Why invisible power and structural violence persist in the water domain](#). *IDS Bulletin* 47(5), 31–42.
- Merriam, S. B. & Tisdell, E. J. X. (2015). *Qualitative Research: A Guide to Design and Implementation*. John Wiley & Sons, San Francisco.
- Miller, V., VeneKlasen, L., Reilly, M. & Clark, C. (2006). *Power: Concepts for Revisioning Power for Justice, Equality and Peace*. Just Associates, Washington, DC.
- Nikuze, A., Sliuzas, R. & Flacke, J. (2020). [From closed to claimed spaces for participation: contestation in urban redevelopment induced-displacements and resettlement in Kigali, Rwanda](#). *Land* 9(7), 212.
- Paquet, G. (2001). La gouvernance face au sabotage et au bricolage. *Canadian Parliamentary Review Autumn*, 11–18.
- Patel, S., Sliuzas, R. & Georgiadou, Y. (2016). [Participatory local governance in Asian cities: invited, closed or claimed spaces for urban poor?](#) *Environment and Urbanization Asia* 7(1), 1–21.
- Pettit, J. (2013). *Power Analysis: A Practical Guide*. Swedish International Development Cooperation Agency (SIDA), Stockholm.
- Pratt, S. L. (2011). [American power: Mary Parker Follett and Michel Foucault](#). *Foucault Studies* 11, 76–91.
- Protección y conservación de zonas de recarga hídrica y fuentes de agua del municipio de Tiraque. Draft. 2019.
- PTDI (2016). *Plan Territorial de Desarrollo Integral 2016–2020*. Justicia Hídrica, Abya Yala, Bolivia.
- Rocha, R., Vos, J. & Boelens, R. (2016). *Territorios hidrosociales y valoración del agua: Perspectivas divergentes sobre los derechos de agua en la Cuenca Pucara Tiraque*, Bolivia.
- Rocha-López, R. g. (2020). *Hydrosocio-Territorial Struggles: Shifting of Water Rights Frameworks*. Wageningen University & Research, Wageningen. The Netherlands.
- Rodriguez, I. (2020). *Water Accounting and Model Development for A Sustainable Management of Water Resources in Tiraque*. Universidad Católica Boliviana, Bolivia.
- Rodriguez de Francisco, J.-C. & Boelens, R. (2014). [Payment for environmental services and power in the Chamachán watershed, Ecuador](#). *Human Organization* 73(4), 351–362.
- Roth, D., Vink, M., Warner, J. & Winnubst, M. (2017). [Watered-down politics? inclusive water governance in the Netherlands](#). *Ocean & Coastal Management* 150, 51–61.
- Saldías, C. (2009). *Revelando la distribución del agua. Abanico Punata, área de influencia de la cuenca Pucara*. Bolivia Wageningen University and Research Centre, Wageningen.
- Schiffer, E. (2007). The power mapping tool: A method for the empirical research of power relations (Discussion Paper, Issue 703).
- Seemann, M. (2016). *Water Security, Justice and the Politics of Water Rights in Peru and Bolivia*. Palgrave Mcmillan, Hampshire, New York.



- Tantoh, H. B., Simatele, M. D. & Ebhuoma, E. E. (2020). [Shifting the paradigm in community-based water resource management in North-West Cameroon: a search for an alternative management approach](#). *Community Development* 51(2), 172–191.
- Thompson, I., Shrestha, M., Chhetri, N. & Agusdinata, D. B. (2020). [An institutional analysis of glacial floods and disaster risk management in the Nepal Himalaya](#). *International Journal of Disaster Risk Reduction* 47, 101567.
- Tiraque (2003). *Plan de Desarrollo Municipal*. Gobierno Autónomo Municipal de Tiraque, Bolivia.
- Viceministerio de Recursos Hídricos y Riego (2013). *Inventario Nacional de Sistemas de Riego 2012*. GIZ PROAGRO, Bolivia.
- Wamuchiru, E. (2017). [Beyond the networked city: situated practices of citizenship and grassroots agency in water infrastructure provision in the Chamazi settlement, Dar es Salaam](#). *Environment and Urbanization* 29(2), 551–566.
- Whaley, L. & Weatherhead, E. K. (2015). Power-sharing in the English lowlands? The political economy of farmer participation and cooperation in water governance. *Water Alternatives* 8(1), 820–843.

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