



Paternalism or participatory governance? Efforts and obstacles in implementing the Brazilian water policy in a large watershed



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ABSTRACT

In many countries, governmental systems and their areas still mirror vanished historical logics rather than contemporary active citizenship based on environmental units. The Brazilian Water Act from 1997 institutionalizes the watershed as the planning unit and the creation of participatory watershed committees. What is the state of this radical shift in governance? Will the notorious system of alliances among powerful actors again impede participation of the broader public? How are the social actors dealing with their role as committee members? We establish our reasoning based on literature, documents published by a selected committee, observations while attending a plenary session, and carrying out key person interviews and a survey among members. Constellation analysis has been used to visualize the complex governance setting. The São Francisco River is a challenging case, as its watershed comprises a very large, heterogeneous and, about half of it, semiarid area. Sixty-two voluntary committee members are to govern the area of 16.6 million inhabitants. The established multi-level governance system (municipal, state, regional and federal scale) co-exists—external and internal frictions are unavoidable. So far, it appears that the governmental agencies are not yet ready to share responsibility. The committee members themselves are in a process of learning by doing. If participation is really wanted—in the study watershed and similarly others in the world—then both members of line organizations and the watershed committee need to build up more trust and should champion for the common goal. Nonetheless, controversies about the allocation and management of scarce water resources will continue be a tough challenge for the various actors.

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1. Introduction

The sustainable use of water resources and their equitable allocation are major challenges of water management worldwide (Biswas, 2008; Butterworth et al., 2010). Furthermore, climate change affects the different sectors and water users (Engle and Lemos, 2010). A revision of water governance is required. The concept of integrated water resources management (IWRM) has gained international popularity since the 1990s. IWRM builds on a participatory and collaborative concept, considering social, economic, and environmental aspects of the water, land, and related resources (Biswas, 2008; Ferreyra et al., 2008; Molle and Wester, 2009;

Costa Silva, 2011). The implementation of this integrated approach, particularly in developing countries, is hampered by competing land-use interests (e.g., irrigated agricultural production, domestic water supply, hydropower generation). As a consequence, the contradicting claims and overlapping conditions can lead to inefficient or environmentally inappropriate water use (Yang et al., 2003; Ferreyra et al., 2008; Liu et al., 2013).

The Brazilian Federal Water Act n°9433 from 1997 initiated a shift in the governance of water resources—from authoritarian to democratic and decentralized approaches (Rabelo et al., 2013). The Water Act triggers the introduction of regional organizations at watershed level, which represent and integrate the three major groups of stakeholders: (a) users of water resources, (b) public administration, and (c) civil society. Watersheds which are limited to one state cooperate with state water agencies, while those stretching over two or more states are under federal supervision. The committees were top-down-wise implemented, but attempted

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a bottom-up approach in governing natural resources. Watershed committees are considered key actors in order to channel information across scales, sectors, and governance levels (Dore et al., 2012; Vignola et al., 2013). According to Pahl-Wostl et al. (2013), major knowledge gaps to be bridged include the lack of consistent information on aquatic regimes and water use and the effects of flow modification on riverine ecosystems. Public and private stakeholders participate in policymaking within these decentralized decision-making bodies (Lemos and Oliveira, 2004). To be successful, the local stakeholders need to have access to training and information (Ferreyra et al., 2008; Butterworth et al., 2010). Collaborative identity building of a committee can take place as an important step towards the construction of democratic decentralization (Abers, 2007). Abers and Keck (2009) emphasize the need to adjust the existing institutions, their relationships, goals, and resource flows. Yet the new deliberative bodies, the committees, had little decision-making power so far. They have been mainly debating water allocation aspects, trying to coordinate the manifold claims (Abers and Keck, 2006).

Thus, the implementation of a new water governance system is still in its infancy. Most of the basins are still without any committee, especially the large ones. An exception is the São Francisco watershed. Its river stretches over 2863 km (ANA et al., 2004) and has a special and emotional status in Brazilian society. It is called the river of 'national unity': It originates in the humid mountains of the Minas Gerais state, crosses Distrito Federal, Goiás, Bahia, and Pernambuco (the latter two comprised of drought-prone semi-arid areas) until reaching the seaside between Alagoas and Sergipe states (Fig. 1). The São Francisco is the major perennial river of the semi-arid Northeast region. Its watershed, or catchment area, is 638,576 km² large (AGB Peixe Vivo and CBHSF, 2011), forming the fourth largest watershed of the 12 'hydrographic regions' of Brazil (CNRH: Resolução n° 32, from 15/10/2003; ANA, n.d.).

The conflicts ahead of allocating water are numerous and quite predictable: Aspirations to increase irrigated agriculture, the wish to reinforce navigation, an increasing energy demand, and a water diversion project are among these conflicts (ANA, n.d.). The governance of the São Francisco River is a multi-national example for watershed governance when considering the federal structure of Brazil with its rather autonomous state governments. The interstate complexity of the São Francisco River might even be more conflictive than a multi-country watershed (Biswas et al., 1999). In this multi-state river basin, different governance levels are encountered. The federal authority is responsible for the main river, while most of its tributary watersheds are under state control. The deliberative body to govern the large watershed is, hence, composed by representatives from different sub-watershed regions.

The watershed committee is embedded into the national system for the management of water resources (SINGREH, in its Brazilian acronym) and as a participatory body, must develop its own rules. Hence, an internal and external way of interaction has to be developed and negotiated. The participating actors have different disciplinary experiences, are used to different governance styles of their home agencies, and are influenced by their political and societal systems and values. Shifting from clientelism and paternalism to a political culture practicing collective debate is a challenging assignment (Starr et al., 2011). Porto et al. (1999) diagnosed high resistance to new systems. The still oligarchic character of Brazil, forged by alliances between rural landlords and urban industrialists (Paulino, 2014), and the behavior of the powerful in the outback of the Northeast region (Domingos, 2004) might hamper civil society to take over active roles. The long established relationship between the state and its citizens as beneficiaries, especially in the Northeast region (Garjulli, 2003), seems contrary to active participation.

The present study hypothesizes that the new concept of watershed committees disputes the established governance system. The

concept introduces democratic bottom-up participation and civil responsibility not yet accomplished in Brazilian (and in particular the Northeastern) society. Will the notorious system of alliances among powerful actors again impede participation of the broader public? How are the social actors dealing with their role as committee members? How far is current governance practice favoring participation or is it not? Pursuing these research questions, we study the development and current performance of a specific watershed committee and discuss options to overcome barriers in implementing Brazil's water policy.

2. Study location and methods

The committee of the São Francisco watershed (CBHSF – Comitê da Bacia Hidrográfica do Rio São Francisco) has been chosen for the case study as this drainage basin is very large and diverse. To facilitate administration and its extensions, the São Francisco watershed has been divided into four physiographic subregions by the authors of the first river basin plan. Current practice of its delimitations is however different (Fig. 1). The subregions cover different area with distinct physical and socio-economic characteristics (Table 1). Most of the 505 municipalities are entirely part of the watershed, others only partially. Braga and Lotufo (2008) presented major challenges of this watershed: The dynamics of natural and regulated water availability, the changing water demand and its specifically high importance of various water uses and users.

A diverse set of documents has been used in this study: A book published by the CBHSF, describing its first 10 years (AGB Peixe Vivo and CBHSF, 2011); the CBHSF-website (<http://cbhsaofrancisco.org.br/>), which informs the public about activities and provides resolutions and minutes; and the executive agency's website for additional information. Firsthand information about the committee has been collected by taking part in the 24th plenary session (held twice-yearly), holding a series of in-depth interviews and group discussions with committee and agency members. Interview partners were selected using member lists and snowball-procedure, covering all sectors. The interviews focused on understanding the processes of institutional origin and change, along with the performance of watershed management institutions at different scales.

Then, an online questionnaire was developed (Appendix), using a free of charge software. The first set of questions characterized the respondent. Three questions were on personal motivation, collaboration and transparency within the CBHSF. Two questions explored how people deal with scale differences regarding the complex and large watershed. Another question was on current main challenges and tasks. Two questions focused on the implementation of committee decisions. The last question asked for good governance suggestions. The response lengths were unlimited.

The questionnaire's link was sent successfully to 165 addresses, of which 103 belonged to CBHSF plenary members. E-mail addresses of the remaining members were not available or returned as undeliverable. The others were participants of the regional consultative groups, from tributary committees or agency personnel. Twenty-four respondents or 15% answered the questionnaire, of which four were women and 20 men. They were on average 51 year-old (range: 26–76; $n=24$). The educational profile revealed: Two with basic education, nine with Bachelor-like qualifications, ten with a Master's degree, and three holding a PhD or currently being enrolled in a PhD program. Three individuals filled in the personnel characteristics from page one but did not answer any of the following questions. The other 21 respondents answered between three and nine questions, averaging eight out of the nine main questions.

Out of the 24 respondents, 14 were from Minas Gerais, four from Pernambuco, two from each Bahia and Alagoas, and one from each

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