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When International Blueprints Hit Local Realities: Bricolage Processes in Implementing IWRM in South Africa, Mongolia and Peru

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ABSTRACT: International targets such as the Sustainable Development Goals or those that are set as part of Integrated Water Resources Management (IWRM) programmes are, on the whole, universally accepted; however, they are often shaped mainly in the Global North. As a result, when these institutionally set targets conflict with pre-existing rules and norms in implementing states, implementation difficulties may result, as one can currently observe with regard to IWRM and SDG 6.5. Governance challenges that result from implementation gaps are often filled at the local level, where actors arrange for functional management processes despite institutional insecurity. Applying institutional bricolage theory, we investigate such processes for South Africa, Mongolia and Peru, focusing on how horizontal and vertical coordination, as well as participation, are achieved as key aspects of IWRM. By adopting an analytical frame focusing on institutions, discourses and power relations based on Frances Cleaver's bricolage dimensions, we show how their governance and management arrangements have evolved. In the process of comparing the three cases, we consider what conclusions can be drawn from these arrangements with regard to facilitating institutional transfer processes. Our study shows that informal aspects of governance systems powerfully influence the interpretation of newly introduced policies. We find that efforts to implement international blueprints that neglect institutional legacies, sociocultural dynamics, and pre-existing inequalities are unlikely to result in arrangements that are suited to local realities.

KEYWORDS: Institutional bricolage, informal institutions, Integrated Water Resources Management, participation, horizontal coordination, vertical coordination, sub-Saharan Africa, Central Asia, Latin America

INTRODUCTION

Institutional transfers¹ have a long history in policy development worldwide (Dolowitz and Marsh, 2003). They introduce new laws and policies that have been shaped by the experience of other countries, promising the socio-economic development of recipient countries to be fast-tracked (Mamadouh and Jong, 2002). Integrated Water Resources Management (IWRM) is a prominent example of a governance model that is frequently transferred (Allouche, 2016). It promotes decentralisation, river basin

¹ Policy transfers are described as "processes by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system" (Dolowitz and Marsh, 2003: 5).

management, cross-sectoral coordination, stakeholder participation, and cost recovery in water management. Its aim is to achieve social, environmental and economic sustainability (GWP, 2000).

Since the early 2000s, the UN has been calling on all countries to draft IWRM and water-efficiency plans (Allouche, 2016). Donor organisations have begun to make the recognition of IWRM a prerequisite in project proposals (Lubell and Edelenbos, 2013). IWRM has become the dominant institutional paradigm of water management and has now been enshrined in Sustainable Development Goal (SDG) target 6.5. Critiques of IWRM, however, point out that there is little evidence that it leads to improved water management (Biswas, 2004); they claim that the success of implementation shows a high variance between the Global North and the Global South, with the latter performing less well (Giordano and Shah, 2014; Mehta et al., 2014). This picture is reflected by the SDG assessment of 2018, which states that, 80% of the countries in the SDG reporting regions Europe and 'Australia and New Zealand' score medium-high to very high, whereas only 25% of the countries in the other SDG reporting regions have medium-high to very high scores (UN Environment, 2018).

With IWRM as the dominant paradigm, other approaches to water management have been rendered unthinkable (Giordano and Shah, 2014; Clement et al., 2017) and governments worldwide have reformed their water sectors accordingly. Water governance systems at the receiving end of policy transfers, however, are not blank pages upon which new institutions can simply be inscribed. Often, they possess a long history of institutional arrangements around water and there is therefore a pre-existing array of formal and informal institutions in place (von Benda-Beckmann and von Benda-Beckmann, 2006). When new formal institutions are introduced, old ones supposedly become invalid; however, informal institutions that *supported* the superseded formal institutions still exist and continue to influence how actors make decisions, even after their formal counterparts have ceased to operate (North, 1990). Governance arrangements resulting from institutional transfers hence engage with a vast variety of institutions from multiple sources that may overlap in scope (Streeck and Thelen, 2005).

Most literature on policy transfer and implementation focuses on processes at the national level, however the impacts of unclear governance settings are particularly felt at lower governance levels where actors cannot directly influence higher-level policy-making (Boelens and Vos, 2014; Denby et al., 2016). Importantly, the literature only marginally addresses how actors deal with insecure or ambiguous institutional settings that evolved through the implementation of new institutions. Institutional bricolage is a theory that explains how actors deal with such situations; it is a process whereby, "people consciously and non-consciously draw on existing social formulae (styles of thinking, models of cause and effect, social norms and sanctioned social roles and relationships) to patch or piece together institutions in response to changing situations" (Cleaver, 2012: 45).

In this paper, we analyse the governance arrangements that have evolved in three countries that represent SDG regions which 'underperform' in assessments of progress towards SDG target 6.5; we take their low scores as an indication that policy transfer involving IWRM has not taken place seamlessly. We investigate how pre-existing (formal and informal) institutional contexts influence the implementation of IWRM, applying institutional bricolage theory as an analytical framework. We specifically compare three cases of institutional bricolage processes related to the implementation of river basin organisations (RBOs) and the local governance arrangements that result from them. In our analysis, we focus on RBOs that are required to promote stakeholder participation and horizontal and vertical coordination as key elements of IWRM but which, in practice, do not deliver on their promises. By scrutinising the institutional bricolage process, we highlight commonalities and differences among the adaptation processes taking place in response to policy transfers. We contribute a framework based on Cleaver (2012) to comparatively and systematically analyse bricolage processes – as called for by de Koning and Cleaver (2012) – and to illustrate the usefulness of an institutional bricolage lens for investigating the implementation of global policy targets and institutional blueprints.

Below, we explain the theoretical groundwork of our study, highlighting our definition of institutions and introducing institutional bricolage theory; we then go on to explain our study methodology. After providing a brief introduction to the three cases, we describe the institutional bricolage processes that took place in each of them. We then compare them according to institutions, discourses and power relations. We conclude with some remarks on the implications for the practice of institutional transfers and we outline practical suggestions for the future of comparative institutional bricolage analyses.

INSTITUTIONAL BRICOLAGE: THEORETICAL UNDERPINNINGS

Formal institutions in policy transfer processes are usually introduced in a top-down manner, where legislation is drafted at higher governance levels that lower decision-making levels are then required to implement. Literature on policy transfer is often tied to notions of 'good governance', but policy transfer has been criticised for its technical-managerial approach to socio-environmental interactions, its neglect of power dynamics, and the socially constructed nature of the expert knowledge used to legitimise it (Escobar, 1996; Clement et al., 2017). Institutional bricolage theory describes institution-building processes in a manner that is sensitive to these dynamics. It begins with the observation that policy transfers occur within a specific governance structure where there is an uneven distribution of authority, reputation, status, and material assets. This, in turn, influences the capacity of actors to shape how institutional transfers occur and which specific outcome they produce on the ground (Cleaver, 2012). As McCann and Ward (2012) and Mukhtarov (2014) contend, conventional or early policy transfer research failed to recognise the volatility of processes of institutional change.

In evaluating policy transfers and policy adoption, agency as well as structure must be considered. While both constrained and enabled by the structural arrangements in which they move, actors are still central to the formation of ideas, discourses and/or paradigms and play an essential role in their dissemination. Actors are in charge of accepting ideas into the governance system of which they are a part (Boelens, 2008) and they are involved in the eventual shaping of the institutional landscape that results from the combined influence of internal and external ideas. Especially in the context of policy transfer and policy adoption, agency and structure are critical to explanations of why and how these processes occur.

So far, analyses of IWRM-related governance processes that are rooted in institutional bricolage have predominantly focused on water user associations (Sehring, 2009; Rusca et al., 2015; Verzijl and Dominguez, 2015; Haapala et al., 2016; Wang et al., 2018) or on other types of local or community-led water management (see, for example, Cleaver, 2002; Mosha et al., 2016; Whaley et al., 2021). Other studies have focused on forestry and biodiversity conservation (for example, Karambiri et al., 2020; Sirimorok and Asfriyanto, 2020) or on agriculture-related aspects (de Bont et al., 2016; Etiegni et al., 2017) (for other topics, see Annex 1). Most of these studies highlight local institutional bricolage processes and question the impacts of institutional reforms on local actors. In this tone, bricolage analysis questions the establishment of organisations whose sole purpose is water management (Whaley et al., 2021); in taking that stance, they join the development-oriented literature that criticises instrumental blueprint solutions (Franks and Cleaver, 2007; Booth, 2012; Clement et al., 2017). Designed organisations often create structures that are parallel to existing participatory forums and therefore have little traction in the engagement with stakeholders (Cleaver, 2012; Peloso and Harris, 2017). The creation of participatory bodies also reinforces existing power structures and their concomitant inequalities unless this is specifically dealt with in the design of the platforms (Cleaver et al., 2013; Haapala et al., 2016; Whaley et al., 2021). These insights are generally relevant to our study; however, of the studies mentioned here only a few discuss observed bricolage processes within the framework of overarching governance reforms in the water sector (however, see Sehring, 2009). By investigating the effects that an international water governance paradigm has on lower governance levels, we provide an example of how policy-oriented research will benefit from the application of the heuristic lens that institutional

bricolage analysis provides (as was already addressed by Merrey and Cook, 2012; and Cleaver and Whaley, 2018).

Most studies of institutional bricolage are single case studies. There are thus few articles that apply a comparative case study design to the investigation of parallels and differences between bricolage processes (however, see Whaley et al., 2021). Most studies, in fact, investigate institutional bricolage processes in an idiosyncratic manner, offering great depth but limited options for comparisons across cases (Cox, 2011). Only a few articles use an analytical frame that would support a comparison across cases (see, for example, Frick-Trzebitzky, 2017; Abu and Reed, 2018; Faggin and Behagel, 2018; Whaley et al., 2021; also see Annex 1). Cleaver (2012) lays out five dimensions of institutional bricolage which can be applied in a systematic bricolage analysis. These are: (1) everyday practice, necessary improvisation, and innovation; (2) multipurpose and dynamic institutions; (3) naturalisation, leakage of meaning, and invention of tradition; (4) conscious and non-conscious action, and moral rationalities; and (5) authoritative processes and unequal outcomes. While each of these dimensions represents a specific focus, significant overlap exists between the processes and dynamics that are covered by each. This lack of a clear-cut distinction has also limited the application of an institutional bricolage focus to a comparative case study design.

To structure our analysis according to Cleaver's dimensions but to limit the overlap, we decided to aggregate the dimensions into clusters; we will thus focus our analysis on (1) institutions, (2) discourses, and (3) power relations.

Institutions

We understand institutions as 'the rules of the game' that constrain and enable actors in a society (North, 1990), which can be distinguished based on their degree of formalisation (Helmke and Levitsky, 2004). We define formal institutions here as the rules and operating procedures of government bureaucracies, such as legally enforceable regulations. Informal institutions, in contrast, are "socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels" (Helmke and Levitsky, 2004: 727); these include social norms and are often associated with culture (Barley and Tolbert, 1997). Informal institutions, however, may also result from the existence and application of formal institutions such as laws, political and economic rules, or contracts between individuals. They may, for example, elaborate, extend or modify formal rules by specifying certain behaviour (North, 1990); as such, in cases of incoherent legislation, actors may negotiate areas of responsibility. Often, even after formal institutions undergo reforms, the informal institutions that supported them remain unchanged for a period of time (ibid). Traces of these supporting informal institutions can therefore be identified by looking at the institutions that have been replaced or modified and at the observable routines that have resulted from those formal institutions and that continue to exist.

Institution building as described through institutional bricolage processes makes use of elements from new and old arrangements and may include accepted practices used in different circumstances, new or borrowed organisational arrangements, and policy instruments that suit the social reality (Cleaver, 2012). These elements support or hinder the social fit of the institution (ibid). As newly transferred institutions build on pre-existing institutional settings and social and cultural contexts, they confront a certain path dependency and are to some degree modified by the encountered institutional setting. They rarely serve a single purpose, and hence have fuzzy boundaries for their sphere of influence (ibid). As Cleaver (ibid) illustrates, acceptance of new institutions increases if these institutions feature legitimising symbols appropriated from pre-existing formal arrangements or other societal domains.

Discourses

As social practices that constitute, rather than represent, their objects (Foucault, 1972), discourses shape history, culture and certain forms of behaviour and are simultaneously shaped by them. They provide legitimacy to particular institutions and they naturalise certain concepts and behaviours while rendering others unintelligible, excluding them as nonsense (Clement, 2010; Whaley, 2018). Similarly, institutional bricolage can be a conscious process, but it can also draw on unconscious actions and 'common sense', that is, normalised forms of (re)acting and framing topics that reproduce informal institutions, such as codes of conduct or social norms (Mahoney and Thelen, 2010; Beunen and Patterson, 2019).

Because institutional bricolage implies a process of translating rules and practices into forms that are intelligible to members of the society to which they apply, they reflect shared understandings of morally or socially appropriate behaviour. As Cleaver (2012) shows, institutional bricolage often draws on non-contested routines, and new institutions are more likely to be adopted if they suit the (current) worldview of the community.

Power relations

As institutions are shaped by certain members of society called bricoleurs, they reflect the social relationships of the community in which they are embedded, and as bricoleurs are mainly community members who participate in public decision-making, the institutions they help shape are often a continuation of the existing power distribution (Cleaver, 2012). Bricoleurs have resources at their disposal such as formal legal authority, public support, expertise and information, and/or financial resources; this allows them to shape decision-making processes (Sabatier, 1988; Sabatier and Weible, 2007) and gives them the legitimacy needed to make decisions that are accepted by their community. Even if actors are not able to shape the institution itself, they may be able to use the leeway it provides. Leeway, in this sense, can arise from differences between rule makers and rule implementers in how the institution is interpreted, or it may be found in situations for which the institution holds no clear prescriptions (Streeck and Thelen, 2005).

The study of institutional bricolage focuses on how institutional processes draw on authoritative symbolic and social orders – such as sanctioned power relations, discourses and artefacts – to create social fit; in this, it overlaps somewhat with critical institutionalism, which also views the formation of institutions as a dynamic process that is shaped by power and meaning (Cleaver and Whaley, 2018).

METHODOLOGY

In choosing case studies from Central Asia, Latin America and sub-Saharan Africa, our research looked at SDG reporting regions which underperform according to reports on SDG 6.5. We focused specifically on river basins located in KwaZulu-Natal, South Africa, north-central Mongolia, and central Peru. In each of these cases, we analysed vertical coordination, horizontal coordination and participation as key pillars of IWRM. To do so, we selected legally established RBOs as coordination platforms that implement all three of these elements.

Our understanding of legally stipulated water governance and its implementation in practice is based on four sources of information (see Table 1): a review of formal institutions, semi-structured expert interviews, observations during fieldwork, and supporting literature. As part of our particular focus on informal institutions, the expert interviews were complemented with focus group discussions. The authors remained in contact with key informants to clarify open questions and interpretations.

All interviews were transcribed verbatim, excluding filler words; together with the documents, they were coded according to the themes of horizontal coordination, vertical coordination, and stakeholder participation. In a subsequent step of the analysis, a narrative was developed for each of the three case studies according to Cleaver's (2012) five dimensions of institutional bricolage. The dimensions are

applied as different investigative lenses on the implementation processes; this led to a clustering of our comparative sections with a focus on institutions, discourses and power.

Table 1. Information on the databases for the case study analyses.

Case study	uMngeni, South Africa	Kharaa-Yeroo, Mongolia	Chillón, Rímac and Lurín, Peru
Time of fieldwork	November, 2017; July-August, 2018, March-April, 2019	September, 2017; April-May, 2018; October-November, 2018; June, 2019; October, 2019	Continuously between 2015 and 2019
Formal institutions analysed	National Water Act of 1998; National Environmental Management Act of 1998	Water Law of 2012; Environmental Protection Law, Resolution No. A/57 of 2018	Ley de Recursos Hídricos of 2009
Interviews	46 semi-structured expert interviews; 2 focus group discussions; participant observation during meetings of stakeholder platforms, workshops, and field trips	49 semi-structured expert interviews; participant observation during 4 meetings of the River Basin Multistakeholder Platform	50 semi-structured expert interviews; participant observation during 8 meetings of CRHC CHIRILU; workshop using stakeholder maps to visualise power relations
Language of interviews	English	Mongolian and English, with interpreters	Spanish

IMPLEMENTING VERTICAL AND HORIZONTAL COORDINATION AND STAKEHOLDER PARTICIPATION IN SOUTH AFRICA, MONGOLIA AND PERU

In this section, we describe the respective case studies and their institutional bricolage processes. We first provide some context and background information, and then illustrate how provisions for stakeholder engagement via RBOs were translated in these cases. We continue with a comparison of our findings according to the three clusters that summarise Cleaver's five dimensions of institutional bricolage, that is, successively, institutions, discourses, and effects of power. Unless stated otherwise, the information refers to our data, as specified above.

Case-specific observation of institutional bricolage processes

Implementing formal institutions: The importance of informal arrangements in the uMngeni catchment

The uMngeni catchment is situated in the Water Management Area uMhlathuze to uMzimkhulu² in the province of KwaZulu-Natal, South Africa. It includes the cities of Pietermaritzburg and Durban with their roughly six million inhabitants, and is characterised by extensive urban sprawl. Pressures on water resources originate from the high demand of households, irrigation agriculture, and forestry, from the

² South Africa's Water Management Areas have been reconfigured several times latest in 2021. The former borders of the Water Management Area extended from the Pongola to the uMzimkhulu river basins.

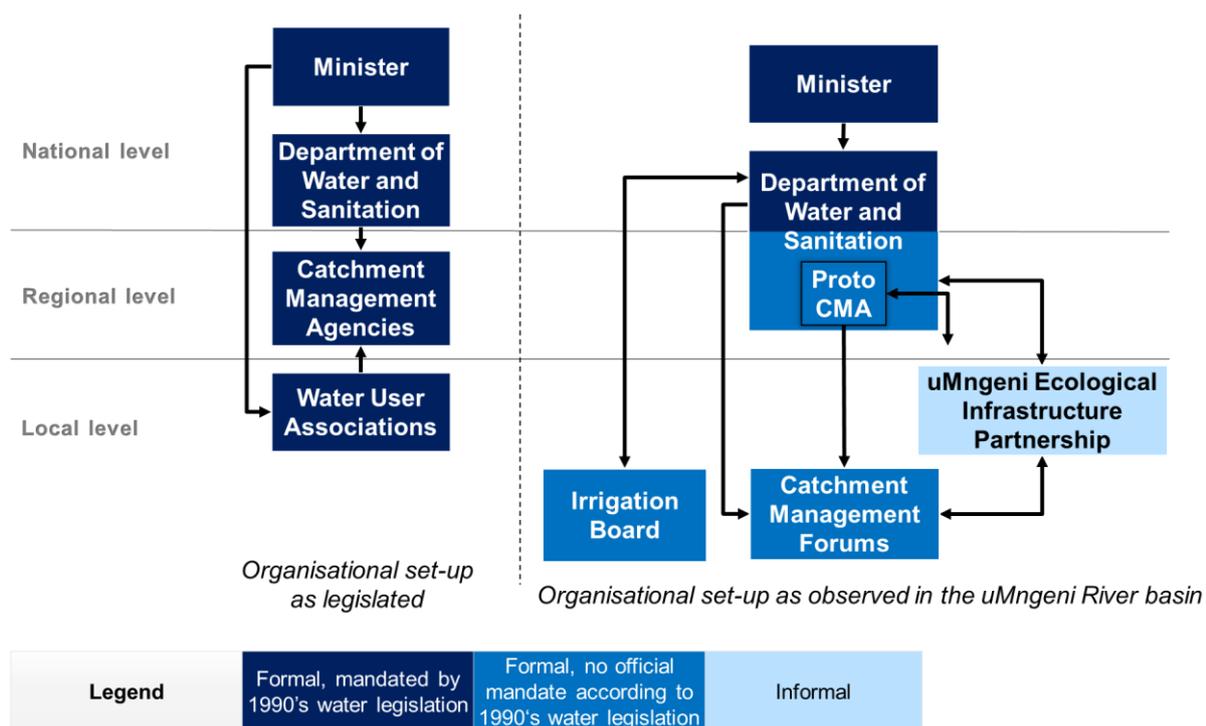
related water-quality issues arising from contamination due to deteriorated and missing sanitation infrastructure, and from contamination with pesticides and fertilisers (Jewitt et al., 2015).

After the end of apartheid, South Africa received an institutional makeover to redress past inequalities. IWRM principles, considered to be the modern approach to water management at the time, were adopted into the progressive water legislation that came into force in 1998 (Mehta et al., 2014). Major implementation gaps still exist, however, more than 20 years after the new water legislation was enacted (Stuart-Hill et al., 2020).

A reason for the delayed implementation was the reorganisation of government ministries, departments and agencies, during which many positions were opened to historically disadvantaged South Africans; a brain drain to the private economy set in as also working conditions in government organisations deteriorated (Movik et al., 2016). Today, many positions in public administration remain vacant (Stats SA, 2019).

The National Water Act of 1998 aimed to decentralise water governance and management to regional and local levels. It stipulates that formal governance organisations below the Minister of the Department of Water and Sanitation (DWS) should consist of only two multistakeholder platforms (MSPs) (see Figure 1); these platforms are Catchment Management Agencies (CMAs) and Water User Associations (WUAs).³ In practice, however, the organisational structure shows marked differences from what was stipulated in the National Water Act (right side, Figure 1).

Figure 1. The organisational set-up of water governance in South Africa.



Source: Authors' illustration.

³ Despite plans to transform Irrigation Boards into WUAs by 2006 (DWA, 2004), Irrigation Boards still exist throughout the country (Reddy et al., 2020). Created during apartheid, they are associations of white farmers that jointly manage irrigation infrastructure. As the transformation process did not yield the promised reorganisation of agriculture – mainly due to unchanged allocation of land and therefore also of water (Méndez-Barrientos et al., 2018) – the process was halted and existing irrigation boards remained in place.

To organise processes at the regional governance level, a provincial Department of Water and Sanitation (DWS) office was created. Decision-making remained at the national level pending the formation of a CMA. Until today, however, no CMA has been established for the case study region; this has resulted in a governance gap at the provincial and catchment area level which has, in turn, led to the under-representation of local needs. Over the past decades, the national government remained unwilling to decentralise power to CMAs. In 2019, the DWS employed a so-called proto-CMA, a division within the DWS that managed stakeholder engagement. Stakeholders understood this to be a sign of DWS's increased involvement with stakeholders. While a CMA is supposed to be external to the DWS and should include stakeholders in decision-making, the proto-CMA keeps decision-making entirely at the departmental level, reflecting the national government's desire to remain in charge.

Although until recently no formal body existed that was tasked with stakeholder engagement, the DWS had ties to organisations at lower governance levels; among them were Catchment Management Forums (CMFs), which were established in the late 1990s by different stakeholders and for different purposes (Karar and Seetal, 2000). In the uMngeni River basin, citizens formed the uMsunduzi CMF to restore the uMsunduzi River, whereas the Inanda CMF was founded by representatives of water management and governance organisations to prepare the establishment of the CMA (ibid). This difference is still visible today. While the uMsunduzi CMF is driven by the represented citizens, the Inanda CMF is still chaired by representatives of the DWS and perceived by citizens as a government platform. According to the National Water Act, as non-statutory bodies CMFs do not hold a mandate; this is possibly to prevent the establishment of more powerful catchment management committees. In 2013, the DWS set out to revitalise CMFs, recognising the role of these platforms, "as a communication channel between catchment residents and local government, municipality and other institutions" (Munnik et al., 2016). Members of the DWS and other departments thus now use CMFs as a platform for conveying information to citizens. As plans to establish the CMA kept changing, CMFs adapted to the situation and operated without much guidance from the DWS.

As CMFs were acting locally and still no CMA was in place, in 2013 a range of stakeholders supported by the Department for Environmental Affairs (DEA) formed the uMngeni Ecological Infrastructure Partnership (UEIP). This MSP deals with catchment management and aims to restore the environment to improve the provision of water services, as water resources and related ecosystems kept deteriorating. Legal unclarity regarding organisational responsibility for catchment management exists and responsibilities are allocated to both DWS and the DEA. For KwaZulu-Natal, the departments have made use of interpersonal ties to divide water and land-related tasks between the DWS and the DEA respectively to organise themselves, which is why the support of the UEIP by the DEA did not cause conflict between the departments. The DWS, however, does not acknowledge the UEIP as an equal partner, but rather as a regular informal partner that is invited to stakeholder participation activities; this is the case even though the UEIP's specific aim is to support government organisations and provide policy advice (Gola, 2016).

Implementing institutions in the Kharaa-Yeroo: Resource constraints and diverging understandings of key terms

The Mongolian case study focuses on the Kharaa-Yeroo River basin in the country's north-central area. Although the area hosts Mongolia's second-largest city, Darkhan, population density is low. Water quality and quantity is impacted by unlicensed gold mining, energy production, irrigation agriculture and deforestation (Karthe et al., 2014).

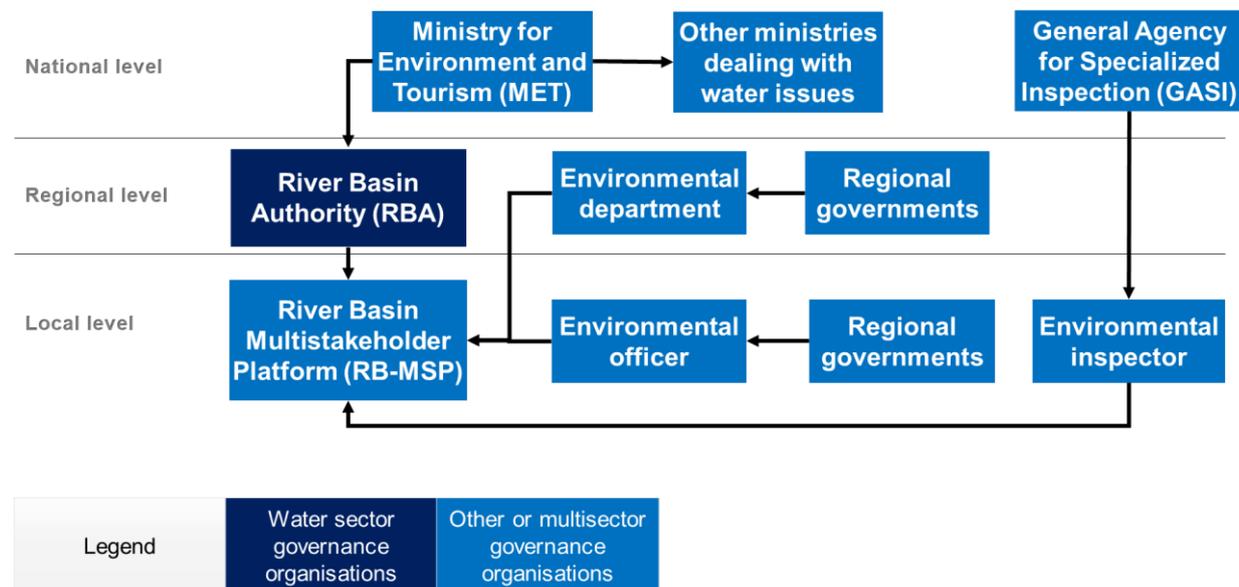
In the 1990s, Mongolia transitioned from a socialist system to a market-based one. This entailed a major overhaul of the country's legislation, which took place in the context of rapid economic investment and development (Dombrowsky et al., 2018). Nationwide protests against water resource degradation from mining increased the urgency of developing water legislation and, in 2012, Mongolia adopted its

new Water Law (Houdret et al., 2014; Schoderer et al., 2021). In doing so, policymakers turned towards water governance paradigms that were promoted by international organisations. The implementation of IWRM can be seen as exemplary of this process (ibid).

The transition to a market-based economy has led to massive and uneven socio-economic outcomes and increasing poverty in rural and peri-urban areas over the last years (Tamir et al., 2015; The World Bank, 2017). Although semi-nomadic herding is still the predominant livelihood strategy in rural areas and figures prominently in imaginaries of national identity and culture, herders struggle with a lack of institutional support (Sneath, 2002) and public infrastructure. The latter also applies to rural villagers who often lack access to centralised water and sanitation services (Karthe et al., 2015).

Mongolia is a strongly centralised country (Dombrowsky et al., 2018). Water governance falls under the purview of the Ministry of Environment and Tourism (MET) (see Figure 2), which devises policies and management priorities and oversees policy implementation nationwide. Some responsibilities have been devolved to the subnational level. Governors’ offices, for example, have environmental departments that play a role in operational water governance (for example, by implementing water protection measures) and the national General Agency for Specialised Inspection (GASI) has an environmental officer in every district who is in charge of monitoring water use and enforcing laws. At the river basin level, river basin authorities (RBAs) fulfil planning and coordinating functions while river basin multistakeholder platforms (RB-MSPs) provide stakeholder engagement (Schoderer and Dombrowsky, 2020). Budgetary decisions, however, remain largely in the hands of central government authorities (Dombrowsky et al., 2018).

Figure 2. Water governance organisation in Mongolia.



Source: Authors’ own illustration.

Horizontal coordination is the key objective of RB-MSPs. According to the Water Law, they are to bring together representatives of civil society, the private sector, academia, and lower-level administrations, providing a forum for exchanging views and opinions on water management. A ministerial guideline (No. A/57) of 2018 outlines the rights and responsibilities of RB-MSPs, specifying that, "operations shall be aimed at providing recommendations for the development of an integrated water resource management plan; providing support for carrying out public monitoring of its implementation; cooperating; distributing information and ensuring multi-party participation" (Art. 1.2). The Water Law also assigns

monitoring and enforcement responsibilities to RB-MSPs. The platform, however, receives no fixed funds from public coffers and therefore relies entirely on financing from development agencies or on contributions from provincial and local governments. The establishment of RB-MSPs throughout Mongolia has thus occurred in a patchy and time-consuming manner and their continued existence is subject to constant negotiation. A joint RB-MSP was established in the Kharaa-Yeroo River basin in October 2017, with financial support from a German research project.

From its inception, the Kharaa-Yeroo RB-MSP has been dominated by lower-level public officials; out of roughly 40 members, only 2 were civil society representatives. There were no private sector representatives, partly because of concerns among public administrators that the high socio-economic status enjoyed by successful mining businesses would lead to them taking over the meetings. None of the government officials interviewed, however, considered the composition of the RB-MSP to be problematic. Suggestions that a more diverse membership might be beneficial were met with the response that herders and villagers lacked proper training to be members of the RB-MSP and would therefore have little to contribute. The lower-level officials who currently make up the platform, on the other hand, are seen to have accrued expertise due to having spent part of their career managing water. This illustrates a very specific understanding of who should be involved in governance processes; it views expertise as more important than participation by those affected by decisions. The lack of funds also means that transaction costs (for example, for long travel or missed days of work) cannot be compensated, which further limits the possibility and likelihood of non-governmental stakeholders engaging in RB-MSP meetings. Thus rather than promoting stakeholder participation, the RB-MSP now facilitates coordination between and among the RBA and lower-level officials from different provinces and districts within the basin.

Implementing a formal RBO in Peru: The diversity of local realities and its role in implementation

The Peruvian case study focuses on the *Consejo de Recursos Hídricos de Cuenca Interregional* (Interregional Basin Water Resources Council, or CRHC) for the Rivers Chillón, Rímac, Lurín and Chilca (CHIRILU); this includes Peru's capital, Lima, with more than nine million people, but also encompasses part of the sparsely populated Andean highlands. Lima depends heavily on water from the Andean River basins (Bleeker and Vos, 2019), allocating it for domestic use (79%), agricultural use (16%) and other purposes (FFLA, 2015). The mountain regions in the upper and middle stretches of the basins are inhabited by 72 peasant communities of low socio-economic status who lack basic services (ibid).

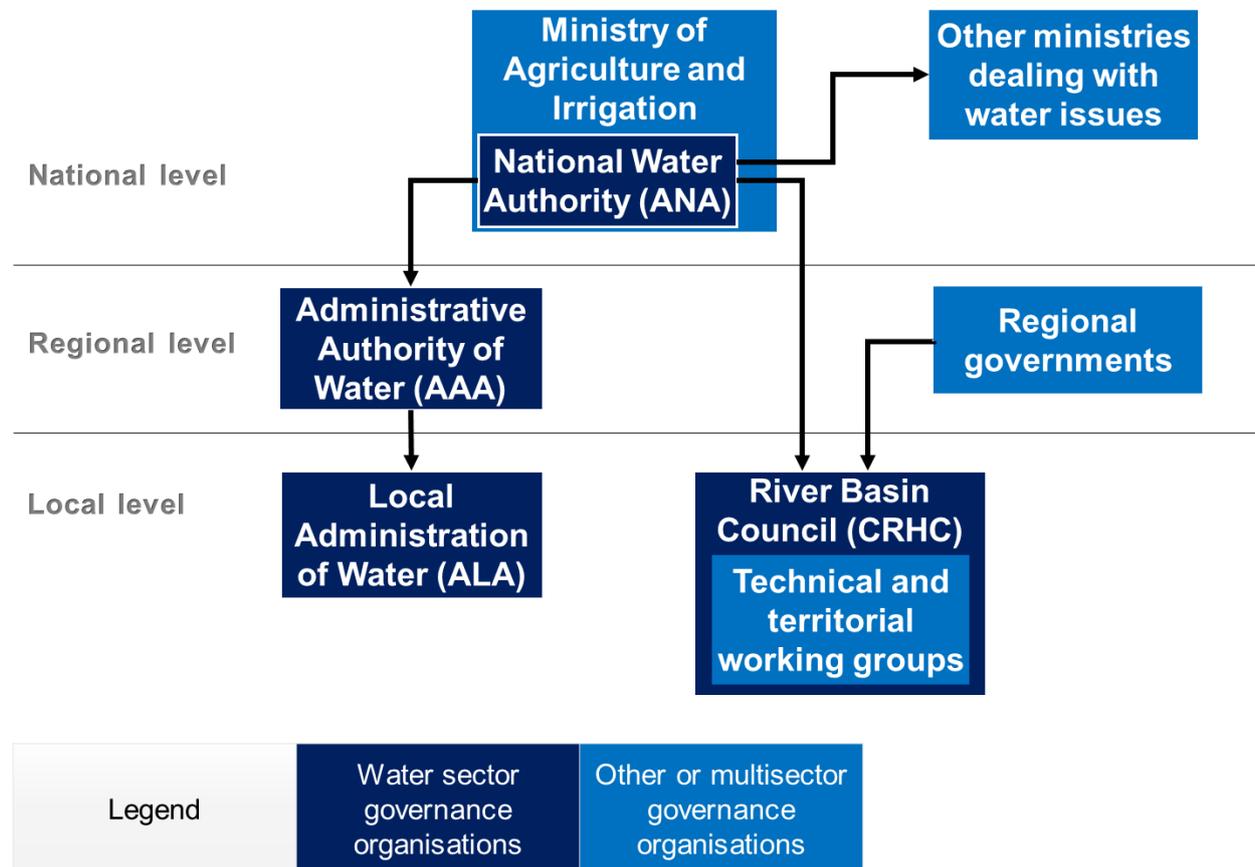
In the 1990s, Peru's government undertook neoliberal reforms that resulted in economic growth that was based on the use of natural resources and foreign private investment. This development sparked social protests against increasing water pollution from mines (Higa Eda and Chen, 2010), which led to a reform of the Water Act of 1969. Peru's polity is strongly centralised and most decisions are taken at the national level, which has impacted the stakeholder dialogues that have accompanied the reform process (Iguñiz Echeverría, 2001). After more than 10 years of negotiation, the Water Resources Law was approved in 2009, incorporating the principles of IWRM and customary rights for communities (Oré and Rap, 2009).

Even though one of the initial reasons for the reform was the integration of local and national decision-making and management, the formalisation of indigenous norms in the national policy still fails to represent their diversity in terms of water management (Budds and Hinojosa, 2012). More than 10 years after its approval, many formal provisions of the Water Resources Law have still not been implemented.

Peru's main water governance organisation is the National Water Authority (ANA) (Figure 3). ANA proposes policies to the regulating ministries of water-using sectors and oversees their implementation nationwide. It oversees the Administrative Authorities of Water (AAA) at the regional level and the Local Administrations of Water (ALA) at the local level. ALAs are in charge of water management, monitoring and control, as well as of guaranteeing and distributing water rights, which is a major point of contention

in water-scarce regions with large agro-industrial areas and mining developments. In practice, however, most decision-making remains on the national level and ANA remains in control of staffing decisions for its subnational bodies.

Figure 3. Excerpt of the organisational structure of water governance in Peru.



Source: Authors' own illustration.

As stipulated in the Water Resources Law, Basin Water Resources Councils (CRHCs) also fall under ANA’s purview but are headed by regional governments. Their task is to promote horizontal and vertical coordination among representatives of regional and local governments, civil society, water user associations, peasant communities, academia, and the private sector. In conjunction with the AAA, they create the river basin management plan (RBMP), which then undergoes consultation with stakeholders and is finally approved by the ANA. CRHCs are also in charge of facilitating the implementation of the RBMPs by collecting funds from, for example, the private sector, international development agencies, and local and regional governments. The legal status of RBMPs is weak, however, and they cannot exert pressure on business entities to comply with them; the extent to which projects are implemented thus depends largely on voluntary compliance. The establishment of CRHCs was supported by the World Bank and the International Development Bank, with the explicit aim of fostering IWRM implementation. In 2010, the government of the Lima Metropolitan Area initiated the creation of CRHC CHIRILU which spans three different river basins. Addressing their cultural, socio-economic, and geographic diversity in the organisational set-up caused a delay of several years in the establishing the CRHC.

Due to the number and diversity of actors in the large territory of CRHC CHIRILU, the CRHC does not sufficiently represent all actors. This is particularly true in the case of peasant communities which, despite their vast number and diversity, are represented by only one person; this renders it highly unlikely that their interests are adequately integrated. A proposal to expand the number of CRHCs from one to three was shot down as not following the law.⁴ Stakeholders agreed instead to form three territorial working groups (one for each basin) and five thematic ones. The thematic working groups are comprised of state organisations, NGOs, academia, agrarian organisations, and representatives from other users such as civil society organisations and industry. In the three territorial working groups, peasant communities and local governments are also included; they are not included in the thematic working groups, however, and thus are neither party to, nor able to influence, those discussions. Their knowledges and interests therefore play no role in decision-making around water infrastructure measures or in other planning and coordination processes (Bleeker and Vos, 2019). CRHCs also struggle with a lack of fixed funds, which further impacts their capacity for drafting RBMPs. As of 2020, the CRHC CHIRILU had not yet acquired funding to draft a plan and still depended on the support of consultants paid by ANA. These consultants were in charge of organising participation events in the process of drafting the RBMP, where a range of stakeholders was informed about, and consulted on, planned measures. In 2021, however, ANA's financial support was discontinued, which clearly illustrates the impact of central government financial decisions on regional water governance.

Comparison of IWRM implementation: Three case studies

In this section, we set out to compare the three case studies in terms of the aggregated dimensions of institutional bricolage that we introduced earlier. Table 2 uses the three dimensions of institutional bricolage to provide an overview of the bricolage processes that occurred in the three cases. Rather than viewing these dimensions as impermeable categories with which to make strict comparisons, in the following section we establish points of connection across the case studies, applying the dimensions as different investigative lenses to the implementation processes.

Institutions: The implementation and working of river basin organisations for horizontal and vertical coordination

In all three of the cases, RBOs are a cornerstone of water governance and management, as stipulated in formal provisions. They are designed to involve stakeholders, establish horizontal coordination, and integrate local needs and interests with higher-level governance, in that way supporting vertical coordination. We find in all three cases, however, that everyday practices required improvisation, and that the implemented RBOs therefore vary from the initial ideas and represent dynamic constructs within their boundaries.

Although the organisational structure of CRHC CHIRILU in Peru is observed to be similar to the formal provisions, the aim of the Water Resources Law to establish participatory and inclusive water governance that acknowledges indigenous communities could not be fulfilled, even though CRHCs are explicitly meant to promote vertical and horizontal coordination. Large implementation challenges exist, in particular concerning the ability of CRHCs to represent the wide socio-economic and cultural diversity in the basins. We understand the under-representation to be a consequence of centralised decision-making and a hierarchical culture. As the national level does not decentralise power but only deconcentrates tasks, an actual representation of lower-level actors is not deemed necessary or desirable.

⁴ A CRHC must include at least the geographic boundaries of an ALA. In this case, it corresponds to the boundaries of the ALA CHIRILU.

Table 2. Institutional bricolage dimensions as observed in the case studies in South Africa, Mongolia and Peru.

	uMngeni River basin, South Africa	Kharaa-Yeroo River basin, Mongolia	Chillón, Rímac, Lurín and Chilca River basin, Peru	
Institutions	Everyday practice, necessary improvisation, and innovation	Proto-Catchment Management Agency (CMA) established as a division on a regional level with ad hoc stakeholder involvement; decision-making remained on the national level	River basin multistakeholder platform (RB-MSP) only included public officials; decision-making remained on national level	Inability of lower governance levels to adapt organisational setting to the diversity of stakeholders; decision-making remained on national level
	Multipurpose and dynamic institutions	Multistakeholder platforms (MSPs) adapted their aims by focusing on issues of interest to their members; proto-CMA included MSPs more recurrently in their activities	RB-MSP evolved to a vertical coordination body	Three territorial groups for the three main river basins were included in the Basin Water Resources Council (CRHC) as working groups; implementation project involved peasants in project planning
Discourses	Naturalisation, leakage of meaning, and invention of tradition	Scientific and technical focus of MSPs and stakeholder participation events	Hierarchical frame attributed higher credibility to people with higher standing (rank, economic position, expertise)	Same treatment for all water users was introduced following the mining sector's call for 'equality'
	Conscious and non-conscious action, moral rationalities	Repeated rearrangement of organisational structure on river basin level (changing number of CMAs to be established)	Ministerial guideline established quotas for different stakeholder groups and stripped responsibilities from RB-MSPs	Regional governments took turns in CHRC leadership to reflect different socio-economic settings of the represented regions
Power relations	Authoritative processes and unequal outcomes	Aversion to sharing power with lower governance levels and stakeholders; stakeholders with experience in catchment management and governance influence Department of Water and Sanitation (DWS)	Aversion to sharing power with lower governance levels and stakeholders	Aversion to sharing power with lower governance levels and stakeholders; peasant communities were able to exert leverage on the implementation of a project that are carried out on their land

In the Kharaa-Yeroo River basin in Mongolia, we observe a similarly incomplete involvement of actors, as only a few non-governmental stakeholders are included in the RB-MSP. The involved officials share tasks related to river basin management and their coordination is also required by law. We observe that the central government deploys RB-MSP meetings as a communications channel to lower-level officials, with the amended RB-MSP thus fulfilling the requirement for vertical coordination. In a context where hierarchical steering is the unquestioned mode of interaction, stakeholder involvement and coordination means imparting, or at most exchanging, information rather than sharing decision-making power.

In the uMngeni River basin in South Africa, the transformed proto-CMA continues the organisational structure of other sectors and embodies representation on the provincial level rather than on the river

basin level. The proto-CMA involves stakeholders only in an ad hoc manner, that is, in a form of consultation;⁵ it thus suffers from a lack of transparency and inclusiveness. Participants represent the white, educated middle class, while inhabitants of townships and less-affluent communities rarely take part. Participants do not perceive their involvement to affect the final product (for example, water management objectives and water management plans), and decision-making remains entirely at the national level. Horizontal coordination thus effectively fulfils the aims of the DWS, that is, to address the most powerful water users. Vertical coordination is overshadowed by the hierarchical bureaucratic culture and by the unwillingness of the national DWS to share power.

These depictions show that not all the observed cases have a functional horizontal and vertical coordination body on the river basin level. In all cases, bottom-up vertical coordination with the lowest governance level is particularly inhibited due to the centralised power of the respective governmental bodies. (This observation is supported by reports on decentralisation reforms in the Global South by Ribot, 2002, and Ribot et al., 2006). The resulting organisational settings are oriented towards the long-standing routines of the central governments, thus embodying a hierarchical bureaucratic culture. This emphasis on hierarchy conflicts with what is considered by IWRM to be a normative orientation, that is, the notion of stakeholder engagement and of governance processes that centre on the negotiation of priorities in a setting that presumes equality of participation and voice (Pahl-Wostl, 2020). Bureaucratic hierarchies lead to an under-representation of the knowledges and needs of the least powerful; this is further exacerbated by the vast distances between settlements in Mongolia, the diversity of local actors in Peru, and the repercussions of the racist past on self-perception and economic realities in South Africa.

Regarding horizontal coordination, we observe that the private sector is taking part at least in obligatory coordination exercises in Peru (via the thematic working groups of CRHC) and South Africa (through bilateral stakeholder consultations), where governmental actors do not shy away from involving them. This private sector involvement may be accredited to the neoliberal influence on polity in these countries and to its closer ties to the economy (Narsiah, 2010; Callirgos, 2018). In Mongolia, on the other hand, private sector involvement (especially in mining) is viewed sceptically; it is regarded as a potential encroachment on public sector concerns. This may reflect the experience of postsocialism, where the rapid development of mining interests and claims outpaced the development of regulations, and where mining companies were thus perceived to be overrunning the country. We find here particularly cultural, and hence informal, institutions represented in the bricolage process.

In the case of Peru and South Africa, lower-level stakeholders make use of opportunities to exert influence on higher levels. In a project initiated by the Peruvian water utility SEDAPAL whose aim is to secure fresh water for Lima, affected peasant communities blocked the project's implementation until SEDAPAL met their demands. In that case, power relations could be reconfigured and coordination could be advanced within the CRHC. Similar projects will be part of the CHIRILU RBMP, which may offer opportunities for local actors to involve themselves more directly, as observed with the SEDAPAL project.

Existing lacunae for catchment management and meaningful stakeholder involvement in the uMngeni case resulted in the formation of various non-statutory and informal MSPs, such as the UEIP and CMFs. The DWS does not recognise these bodies and they thus have no authority to take part in governance processes on an equal footing with the proto-CMA. As voluntary organisations whose members take part in meetings in their free time, their activities represent coordination among individuals rather than coordination among the organisations to which the respective members belong, although their organisational affiliations leak into the MSPs' activities (as also found by Whaley et al., 2021). A strong legacy of hierarchical governance hinders coordination, networking, and sharing information on equal terms between these platforms and authorities; nevertheless, their continued existence and ability to exert pressure on the DWS can be understood as a contribution to the formation of the proto-CMA in

⁵ Consultation refers to less deliberate forms of stakeholder participation in which decisionmakers retrieve information from stakeholders who are not involved in making the resulting decisions (OECD, 2015).

2019. The impact that MSPs have on higher-level policy is still limited, however, due to the department's refusal to include them more meaningfully. Like official participation events, MSPs also lack lower-income, non-academic members from peri-urban areas and thus are not representative of society.

In summary, peasant communities in the Peruvian case were able to leverage their involvement in the implementation of a project to their benefit, while stakeholders in the uMngeni River basin used their social standing as well-educated and experienced individuals as leverage to influence water governance processes. Opportunities to use this leverage may continue to present itself. In the Mongolian case, both types of leverage are lacking as opportunities for the engagement of civil society actors have not arisen nor do they enjoy any particular social capital.

Discourses: Sense-making of institutional change

As outlined above, none of the RBOs that we consider in this article were implemented in the way that laws and policies said they should. To legitimise these variations from what had been stipulated, actors apply different strategies. One is the conscious reflection of irregularities that occur during the implementation processes, which we observe in all three cases; the other is to draw on political traditions and 'common sense' understandings related to water governance.

The Peruvian CRHC CHIRILU comprises three regional governments with different needs based on their respective socio-economic context. The Lima Metropolitan Area and Callao are urban, while Lima Province is more rural; their respective priorities for water resources management thus diverge. As a conscious reflection of these differences, regional governments take turns assuming leadership of the CRHC so that decisions reflect these divergent needs. To cope with the diversity of peasant communities, the peasants' representative in the CRHC is democratically elected; the current representative, however, who belongs to a community in the lower Rímac River basin, has been accused by stakeholders of bringing forth primarily the interests of his own community and neglecting the interests of peasants located in the higher Andes.

In Mongolia, conscious action is reflected in the release of a ministerial guideline for RB-MSPs in 2018 that demands quotas for different stakeholder groups, including civil society and the private sector, indicating a commitment to turn the platform into a forum for horizontal coordination that involves multiple stakeholders. This guideline, however, also limits the functions of the RB-MSP to engaging with RBMPs, and cuts down on its responsibilities for monitoring and enforcement. Being severely resource constrained, these are the functions that the platform would have the most difficulty fulfilling; however, they are also the functions with the most far-reaching decision-making power with which the RB-MSP was imbued by the Water Law. To some extent, the ministerial guideline can be seen as drawing conclusions from implementation difficulties observed with RB-MSPs, while effectively recentring decision-making power at the national level.

For South Africa, the conscious process of aligning the organisational structure to financial and personnel resources extended over more than two decades. Within this time, the initial 19 CMAs (DWA, 2004) were reduced to 9 (DWA, 2013); for a short period there was only a single CMA envisaged (DWS, 2017), but this eventually increased again to 6 (DWS, 2021). Reasons for these adjustments are lack of financial means due to corruption (Meissner, 2021), lack of skilled personnel (Movik et al., 2016), and the unwillingness to devolve power (van Koppen and Schreiner, 2014). The ideal-typical CMA as a stakeholder-driven platform external to the department has changed dramatically to a division within the DWS, a development that yielded resignation on side of the stakeholders as expectations were disappointed several times. Stakeholders today perceive the proto-CMA as a compromise that promises forward-looking development. This shift in stakeholders' opinions shows how the DWS was able to create legitimacy for the proto-CMA.

In the three examples, a conscious process unfolded that involved reflecting on existing constraints and concerns, aligning organisational structures with actual conditions, and integrating these realities

into the institution as it was implemented. In all three cases, however, discourses shaped the institutional bricolage processes through the influence of political traditions.

During the consultations for the new Water Resources Law in Peru, the mining sector strategically employed the equality discourse to demand that new water users (such as mining companies) should be provided with the same opportunities to access water as pre-established users such as peasant communities; they argued that the same requirements for water efficiency should apply to all (Budds and Hinojosa, 2012). These notions found their way into the new water legislation (*ibid*). Peasant communities and small-scale farmers in the case study still oppose the effects of this, as it means that they are supposed to pay for the right to use water; they claim historic use rights, however, and continue their traditional practices. As the ANA has made compliance with the regulations concerning payment of fees a prerequisite for their support of infrastructure projects, these communities often forfeit improved infrastructure. The deployment of the equality discourse by the mining sector and the consistent lack of involvement of peasant communities in water governance – even in the governance body that is explicitly tasked with stakeholder participation – has thus resulted in what can be considered an inequitable outcome. The influence of the mining sector on the legislative process can be attributed to Peru's neoliberal approach to governance; it began in the 1990s and continues until today despite official acknowledgement of indigenous heritage (Callirgos, 2018).

Mongolia's history, like that of Peru, has shaped the discourses that are employed to make sense of changes in water governance; it is a history that includes a technocratic, top-down type of governance that goes back to the socialist period. Before then, the right to use land was obtained from lords or monasteries that controlled "all aspects of steppe life, economic and political" (Sneath, 2002: 198). Since the modern Mongolian state came into being during the socialist era, the notion of statehood is strongly tied to practices that took place in this era and that fit well with how natural resources had previously been managed. Notions of governance are thus still largely synonymous with hierarchical forms of governing. With regard to the RB-MSP, in meetings that we attended this hierarchical approach was evident in the way that directives from people higher up the command chain were rarely questioned; it was also evident in how the status quo of water governance remained largely unchallenged. Interviewees consistently framed water governance as a topic for experts and considered relevant knowledge as stemming from the domains of academia and government. In this context, the notion of 'stakeholders' is (re)interpreted as being people with expert knowledge and/or with a certain degree of influence in governmental decision-making at the provincial or local level.

In the uMngeni case, similarly, all types of participation in catchment management, whether formal or informal, demand technical and scientific knowledge. Holders of this type of knowledge are under-represented in most rural areas and townships. This implies an ethnic bias that is a result of the apartheid era, when access to knowledge via university education was reserved for the white minority (Thompson, 2001). As hierarchical governance favours technical expertise (Meuleman, 2008), this ethnic bias persists to this day. As a conscious effort to include other participants and knowledges, the leader of a Black non-profit organisation working in the townships became chair of the uMsunduzi CMF; however, due to the COVID-19 crisis and the concomitant restrictions on public gatherings, results from this change in leadership could not be assessed at the time of data collection.

Although in all three cases the institutional settings resulted in the invention of new traditions, in all of them we find that the influence of the political culture remains tangible. We observe that it shapes current settings both in consciously reflected processes as well as in unconscious processes. One example of this is the unquestioning acceptance of the decisions on MSPs that were taken at higher governance levels. This indicates the extent to which non-conscious actions drive bricolage processes; they shape MSPs in a manner that excludes stakeholders who are not yet part of the platforms or who have no legacy of being engaged in public decision-making. Cleaver et al. (2021), in their intensive research on community management in sub-Saharan Africa, also observed exclusion that resulted from sense-making based on specific worldviews. To some extent, there is a conscious reflection of this matter in all our

cases, however it falls short of upsetting institutional structures or explicitly questioning current biases related to the composition of MSPs. In all cases, reflections and the resulting actions have the potential to significantly enhance the contributions of the MSPs concerning stakeholder participation and vertical and horizontal coordination.

Power relations: Unintended outcomes of international blueprints

In all cases, we first observe how centrally located decision-making interferes with the aims of IWRM to install horizontal, and particularly vertical, coordination. We find that central governments do not engage in power-sharing with lower governance levels, although this does not always stem from deliberate, conscious decisions. In the uMngeni case, this failure to share power is visible through the organisational rearrangement and the establishment of the proto-CMA; also, stakeholder participation events that advertise the inclusion of stakeholder perspectives in water governance are organised as consultations, with final decisions being made in Pretoria.

The Mongolian case echoes these dynamics. The Mongolian Ministry of Environment and Tourism, in addition to keeping for itself the final decision-making power over, for example, measures proposed in the RBMP, is also in charge of confirming members to the RB-MSP after they have been suggested by the RBA. This presents an additional impediment to bottom-up organisation. Contrary to the South African case, however, Mongolian actors at the river basin level do not perceive this concentration of power at the national level as problematic. The close working relationship between officers of the RBA and their counterparts at the Ministry, as well as the assumption that steering capacities rightly belong with these actors, means that there is little or no critique of the distribution of decision-making power.

In Peru, the aversion to sharing power is already visible within the strict structure of the CRHC. It fails to reflect the diversity of local stakeholders by allocating only one seat on the council to peasant communities and also by excluding local stakeholders from technical working groups. The lack of representation on technical working groups becomes particularly problematic in working groups that are responsible for the supervision and implementation of agreements that directly affect local communities. This includes the thematic working group on natural infrastructure and water conservation, which plays a role in the water provisioning scheme by SEDAPAL. By largely excluding peasant communities, the composition of the working group creates distrust and reinforces unequal power structures. The implementation of SEDAPAL's project started only in March 2021, after four years of planning and negotiating, even though funds were available from the beginning. Because of previous negative experiences involving insufficient payments, and due to the perception of the negotiations with SEDAPAL as unjust, peasant communities did not trust the arrangement and rejected cooperation. Only once SEDAPAL adapted its approach to include local knowledge in the planning of the scheme, and only after it agreed to grant local development support to the communities, did SEDAPAL win the approval of the peasant communities, finally allowing the project to commence.

Another pattern that we observe in all cases is the exclusion of stakeholders through the existing power structures and the prioritisation of technical, expert knowledge. In the case of Peru, we have already depicted this with regard to the working groups; in addition, however, consultations for the RBMP mainly involved stakeholders from urban areas through online conferencing, while planned consultations with rural stakeholders did not take place. Although the official reason for the postponement was the COVID-19 pandemic, the dynamics of the CRHC working groups indicate that local interests and knowledges are not highly valued. It thus remains doubtful whether rural consultations will take place in the future.

In Mongolia, the biophysical and infrastructural circumstances – a large geographic area with bad roads – imbue participation in an RB-MSP meeting with significant transaction costs. One RB-MSP member, for example, spent more than eight hours traveling to the meeting. Members of groups that cannot afford to invest the travel time or advance its costs are therefore likely to be unwilling and/or

unable to participate. As a consequence of these circumstances and of the persistent notion that water governance is the business of experts, population groups affected by the current failures of the governance system (such as herders or villagers who have no access to central water supply and sanitation) remain largely excluded from river basin management despite the implementation of stakeholder involvement via RB-MSPs. We observe this pattern in South Africa as well. Citizens living in peri-urban areas with lower socio-economic status – that is to say, those who are most affected by lack of water and sanitation infrastructure and the effects of unsustainable catchment management – only rarely participate in events by the DWS or MSPs. Norms of prioritising technical expertise over local knowledge (which result in the exclusion of local actors) are thus strong driving forces behind the bricolage processes we observed. As coordination and stakeholder involvement require equal treatment of all forms of knowledge and all types of actors, strongly authoritative governance processes that do not promote equitable forms of interaction contradict the aims of IWRM (Pahl-Wostl, 2020).

Despite these elements of top-down exerted power, we also find examples of bottom-up influences. In South Africa, we found that the activities of non-governmental MSPs put pressure on the DWS to fulfil its duty to engage stakeholders, which resulted in the creation of the proto-CMA. In Peru, we found that local stakeholders were able to successfully alter SEDAPAL's nature-based solutions project by only starting to cooperate when they saw that the conditions suited them. In Mongolia, the civil society member involved in the RB-MSP as part of an environmental NGO repeatedly insisted on the integration of knowledge held by local stakeholders and promoted their involvement in monitoring by, for example, using smartphones to take pictures of illegal mining activities and forwarding them to local enforcement officers. These suggestions were not taken up in the Mongolian case at that time; however, like the dynamics observed in South Africa and Peru, they nonetheless indicate the existence of bottom-up processes on the basis of which stakeholders who are not involved in decision-making may accrue voice and agency over time or by using specific windows of opportunity to contribute to decision-making.

DISCUSSION AND CONCLUSIONS

We set out to analyse what effects institutional bricolage processes have on the effectiveness of horizontal and vertical coordination within implemented river basin organisations (RBOs). Our analysis focused on three RBOs, one each in Mongolia, Peru and South Africa. Despite far-reaching formal provisions for decentralising powers to the river basin level, we find that long-standing practices and organisational routines inhibit this development. While prevailing patterns of hierarchy are well documented in the literature (Sehring, 2009; Fawcett et al., 2011; Kairu et al., 2018), our analysis shows that these patterns have formed subconscious routines and expectations that inhibit the devolvement of decision-making even in the absence of a clear intention to hold onto power. These dynamics also impede the implementation of stakeholder engagement; in all three of our cases, this lacked equality and representativeness. We can trace this back to the effect of the worldviews embodied in the hierarchical administrative culture that treats scientific and technical knowledge preferentially (Pahl-Wostl, 2019), leading to the exclusion of laypeople and the dismissal of local stakeholders as key actors in water governance (see also Cleaver et al., 2021).

Our study provides a systematic, comparative institutional bricolage analysis along the three dimensions of institutions, discourses, and power relations. Although in our analysis we apply the institutional bricolage framework as developed by Cleaver (2012), and even though we present the results accordingly to facilitate comparison, selecting case study evidence for the presentation of our results prevents readers from gaining a total overview of our material; this further reduces comparability. The systematic representation of cases of institutional bricolage thus remains a challenge, as either complexity is reduced for the sake of a systematic representation or systematic representation is reduced for presenting a rich picture with all facets. In most analyses of institutional bricolage, researchers portray the nuances of local institutional adaptation; we focus this analysis, however, at the river basin level and

on the role that institutional bricolage processes play in larger policy reforms. The heuristic lenses that we apply along with the bricolage framework support the identification of power constellations, institutional legacies of informal and formal aspects, and the mechanisms of institutional adaptation, all with the aim of understanding the processes initiated with the (intended) implementation of RBOs. In this manner, a (systematic) institutional bricolage lens can support a diagnostic approach that researchers and practitioners alike are calling for in order to overcome the curse of institutional blueprints (Franks and Cleaver, 2007; Cox et al., 2010; Booth, 2012; Pahl-Wostl et al., 2012).

Our study contributes to the body of literature that analyses the implementation of IWRM-related policies. By focusing on RBOs as instruments for horizontal and vertical coordination, we show that postulating the implementation of specific instruments (for example, river basin organisations) as policy goals – as inferred by the IWRM principles – does not deliver successful implementation of the instruments themselves; it also does not necessarily drive progress towards the social-environmental outcomes that these instruments were meant to support (Booth, 2012; Whaley et al., 2021). Institutional blueprints are nevertheless found to trigger 'development' as they set goals that actors orient themselves towards (Haapala and White, 2018). Our cases showed that the innovative effects of institutional bricolage are particularly strong where there is room for manoeuvre, for example where formal arrangements have not (yet) been implemented. We were able to observe this with the informal MSPs in South Africa and with the Peruvian water provisioning project. We also see that implementation goals and formal institutional set-ups can be adapted to local conditions; this was illustrated by the reframed responsibilities of RB-MSPs and the stakeholder quota in Mongolia. In these cases, formal designs of RBOs initiated increased coordination as a local reaction. On the other hand, institutional blueprints are understood as constraining innovation (Cleaver and de Koning, 2015); we were able to observe this in our Peruvian case, where institutions conducting river basin governance are being implemented as stipulated. Flexible organisational approaches are needed in order to enable accountability to local realities (Faggin and Behagel, 2018; Whaley et al., 2021).

The question remains how institutional panaceas like IWRM should be dealt with. On the one hand, international policies disregard the diversity of local institutions, while local institutions manifest power relations that undermine certain stakeholders (Whaley et al., 2021). Some national policies undermine the self-determination rights of indigenous peoples, as policies are path dependent (Callirgos, 2018) or consider indigenous livelihoods and ontologies to be not suited to today's realities (Cleaver et al., 2013). All these perspectives are thus normative and all of them include potential shortcomings in terms of equity. The pursuit of sustainable development is internationally agreed upon; however, its implementation – for example, concerning IWRM – has been critiqued as being too simplistic and as being focused on the implementation of instruments rather than on the effects they yield (Franks and Cleaver, 2007; Biswas, 2008; Giordano and Shah, 2014; Fritsch and Benson, 2020). Rather than prescribing specific tools – as IWRM and the SDGs do – adapting broad international aims could bring betterment if the triggering effect of goals can be combined with leaving space for innovation that draws on locally suitable institutional processes (Merrey and Cook, 2012). Understanding that local actors can contribute meaningfully to institutional bricolage processes and that they can better do so when room and resources are provided is a lesson that needs to inform policy-making.

We believe that investigating governance settings along the different dimensions of institutional bricolage can support the design and implementation of policies that are more conscious of existing institutional and sociocultural dynamics and which are therefore less likely to inadvertently harm humans and ecosystems. For IWRM and SDG 6.5, our investigation shows clearly that institutional legacies survive reform processes and shape the implementation of blueprint solutions. Acknowledging that institutional and sociocultural contexts differ across world regions has important implications, not only for implementation but also for the defining of international governance goals and paradigms. If taken seriously, such an acknowledgement of particularity could support policy design processes that promote

mutual learning between the Global South and the Global North, rather than simply presuming the universal applicability of certain concepts and paradigms.

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APPENDIX 1

To position our research in the body of literature on bricolage analysis, we conducted an exploratory literature review of scientific articles that cover bricolage analysis. We read the articles and analysed them according to the number of cases, the topics, the location of the cases, how the analysis was systematised and whether reference to Cleaver's bricolage dimensions is made (See Table A1). The references of the articles included in our review are inserted below.

Table A1. Overview of reviewed studies on institutional bricolage analyses.

Article	Type of study and location	Topic	Type of analysis
<i>Water</i>			
Cleaver, 2002	Single case study design, Tanzania	Collective resources management to overcome common pool resources depletion (grazing land, water resources)	Inductive analysis of the bricolage dimensions: conscious and non-conscious actions, multi-purpose and dynamic institutions, naturalisation
Cleaver et al., 2021	Comparative case study analysis, Malawi and Uganda	Role of worldviews in community managed water projects	Bricolage analysis with focus on worldviews, analysis not structured according to bricolage dimensions
Haapala et al., 2016	Several case studies, three cases, Nepal	Water User Associations	Inductive analysis. Authoritative processes identified
Haapala and White, 2018	Single case study, Nepal	Roles of local administrators in rural water management development projects	Institutional bricolage as explanation, not as a frame of analysis
Jones 2015	Single case study, Mali	Financing rural water services	Institutional bricolage as explanation, not as a frame of analysis
Mosha et al., 2016	Multiple cases, no comparison, Tanzania	Irrigation water distribution and allocation in farmer managed schemes	Inductive, non-systematic analysis, reference to multi-purpose institutions
Peloso and Harris 2017	Single case study, Ghana	Participatory water management	Analysis coupling bricolage and hydrosocial perspectives, inductive, unsystematic analysis
Rusca et al., 2015	Single case study design, Malawi	Water User Associations	Inductive, non-systematic analysis, without reference to bricolage dimensions
Sehring, 2009	Comparative case study analysis, two cases, Kyrgyzstan and Tajikistan	Agricultural water governance reforms at the local level, Water User Associations	Inductive, non-systematic analysis, without reference to bricolage dimensions

Verzija and Dominguez, 2015	Single case study design, Peru	Water User Associations	Inductive, non-systematic analysis, without reference to bricolage dimensions
Wang et al., 2018	Single case study, China	Irrigation management, Water User Associations	Institutional bricolage as explanation, not as a frame of analysis
Whaley et al., 2021	Comparative case study analysis, Ethiopia, Malawi, Uganda	Community managed water points	Bricolage dimensions are represented in the structuring of findings, which however go beyond the framework and include aspects of „working with the grain“ and similar concepts
<i>Forestry and biodiversity conservation</i>			
Faggin and Behagel, 2018	Single case study, Brazil	Sustainable forest management	Analysis according rejection, alteration, aggregation (de Koning, 2011)
Funder et al., 2013	Single case study, Tanzania	community-managed forest reserves	Bricolage not specifically mentioned
Ingram et al., 2015	Comparative case study analysis, eight cases, Cameroon	Governance of value chains of Cameroonian non-timber forest products	Inductive analysis, own assessment scheme, not according to Cleaver’s bricolage dimensions
Kairu et al., 2018	Single case study, Kenya	Roles of meso-state actors in implementing participatory forest management	Bricolage analysis regarding the development of forest management, no mention of dimensions
Karambiri et al., 2020	Comparative case study analysis, Burkina Faso	Implementation of community forest projects	Analysis according to agency, networks and power, no mention of bricolage dimensions
Sirimorok and Asfriyanto, 2020	Single case study, Indonesia	Adaptation to environmental threats to the commons (depletion of forests and mangroves, degradation of coral reefs)	Role of traditional institutions within legal pluralism, no reference to bricolage dimensions, unsystematic, inductive analysis
<i>Agriculture and fishery</i>			
Bersaglio and Cleaver, 2018	Single case study, Kenya	Community conservancies of rangeland	Systematic analysis of bricolage dimensions
Cleaver et al., 2013	Single case study, Tanzania	Sungusungu, a hybrid pastoralist security institution	Inductive, non-systematic analysis, reference to bricolage dimensions
Cockburn et al., 2018	Single case study design, South Africa	Implementation of benchmarks in the sugar industry	Inductive, non-systematic analysis, without reference to bricolage dimensions
de Bont et al., 2016	Single case study design, Tanzania	land and water grabbing in horticultural agribusinesses	Inductive, non-systematic analysis, without reference to bricolage dimensions
Etiegni et al., 2017	Single case study design, Kenya	Community norms and fisheries rules within co-management	Inductive, non-systematic analysis, without reference to bricolage dimensions
<i>Adaptation to socio-ecological changes</i>			
Abu and Reed, 2018	Single case study design, Canada	Adaptation of livelihoods to socio-ecological change (hydrological, biological, connectivity)	inductive analysis of the bricolage dimensions covering everyday practice, naturalisation, moral rationalities
Frick-Trzebitzky, 2017	Single case study design, Ghana	Adaptation to urban flooding	deductive analysis of the bricolage dimensions: authoritative processes, naturalisation, moral rationalities

Implementation of particular policies

Funder and Marani, 2015	Single case study design, Kenya	Implementation of the national environmental law on the local level	Inductive, non-systematic analysis, without reference to bricolage dimensions
Koppenjan and de Jong, 2018	Single case study design, The Netherlands	Introduction of public–private partnerships in the Netherlands	Inductive, non-systematic analysis, without reference to bricolage dimensions
Kunz et al., 2017	Single case study, Sumatra, Indonesia	land tenure regulations fostering landscape transformation	Inductive, non-systematic analysis, without reference to bricolage dimensions
Upton, 2009	Single case study, Mongolia	Land rights	Unsystematic, inductive analysis, no mention of bricolage dimensions
<i>Other topics</i>			
Bond and Mkutu, 2018	Single case study, Kenya	peacebuilding in a context of pastoral conflict	Inductive, unsystematic analysis
Leta et al., 2018	Single case study, Ethiopia	Agricultural extension for smallholder farmers	Informal institutions in social-learning, no reference to bricolage

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