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Governing the Ungovernable: Practices and Circumstances of Governance in the Irrigation Sector

Jean-Philippe Venot[a], Diana Suhardiman[b]

[a]*UMR GRED, IRD, UM2, Montpellier, France, and Water Resources Management Group, Wageningen University, The Netherlands*
E-mail: jean-philippe.venot@ird.fr

[b]*International Water Management Institute (IWMI), Southeast Asia Regional Office, Vientiane, Laos*
E-mail: D.Suhardiman@cgiar.org

Since the early 2000s, governance has been at the core of the international water agenda. This has elicited calls for reforms in the irrigation sector, including efforts to address the problem of corruption. Nevertheless, the history of policy reform in the irrigation sector is one of repeated institutional refinements, which have hardly materialized into grounded policy measures and practices. Though international donors, policy makers, irrigation scholars and practitioners have long agreed to invest in the 'soft issues' of irrigation, most policy interventions have retained a focus on infrastructure-oriented development. This paper identifies decisive factors that preserve the *status quo* in irrigation development. We draw our analysis on empirical data from countries with a recent (Ghana, West Africa) and long (Indonesia) irrigation history. Beyond the idiosyncrasies of the two case studies that highlight that everyday practices are embedded in, and constrained by, existing institutional rules and mechanisms, but also contribute to shaping these, we make a broader theoretical point. We argue that the 'business-as-usual' trajectory that characterizes the irrigation sector is also rooted in the very concept of governance, which is fundamentally about "governing", that is a practice aiming at steering people towards defined ends, and through different means such as infrastructure, management practices and policies.

Keywords: Governmentality, Policy reform, Development, Bureaucracies, Agency, Water Resources

1. Introduction

Irrigation is a form of land and water use and management for the enhancement of crop growth. Together with the use of high-yielding varieties and chemical inputs, irrigation was seen as a pillar of the Asian Green Revolution in the 1960s and 1970s (Booth, 1988), which continues to be a hotly debated issue in (agricultural) development policy. The 1980s and 1990s were marked by concerns that large-scale infrastructural investments in irrigation did not yield the expected returns, be it in terms of agricultural production or poverty alleviation (O'Mara, 1990), while constituting a financial burden for national governments and development agencies given widespread lack of systems' maintenance

(Dinar & Subramaniam, 1997). In the early 2000s, the emergence of a global water crisis discourse (Cosgrove & Rijsberman, 2000) highlighted the impacts that large-scale water diversions and agricultural intensification had on the environment, further questioning the adequacy of irrigation (McCully, 2001). The late 2000s marked another turning point as the agricultural sector started, again, to be seen as a key engine of economic growth and poverty alleviation (World Bank, 2007). In line with a growing concern over rising food prices and related food (in)security, notably in sub-Saharan Africa, international and national development agencies seem to re-engage with the sector, which is now dubbed as the agricultural water management sector (World Bank, 2006).

The debate briefly outlined above is reflected in an ever changing focus in the form and objectives of irrigation interventions. Broadly speaking, until the late 1970s-early 1980s, the major focus was on large-scale infrastructural development: building dams, reservoirs and canal networks covering large tracts of agricultural lands to increase food production. Infrastructural development slowed down in the mid-1980s, notably due to increasing construction costs and a sharp decline in cereal grain prices (Barker & Molle, 2005). Referring to the rapid deterioration of the physical irrigation infrastructure, international donors considered that government irrigation systems performed poorly and highlighted the need for better systems maintenance (World Bank, 1986). This marked a shift in focus towards interventions aiming at enhancing Operation and Maintenance (O&M) of existing irrigation systems, but most investments remained infrastructure-oriented and the "deferred maintenance culture"[1] continued (Suhardiman, 2008; Uphoff, 1986). The late 1980s saw the emergence of an organizational approach to irrigation development, which emphasized the important role played by farmers in shaping irrigation systems management and manifested in the widespread formation of Water Users Associations (WUAs) (Cernea, 1991; Chambers, 1988). Later, in the 1990s, the concept of farmer participation evolved towards farmer "empowerment", with emphasis on giving farmers a "voice" (Bruns, 2004), notably within the framework of Irrigation Management Transfer (IMT) policies, which attempted to transfer the irrigation agency's tasks and responsibilities in systems management to WUAs (Groenfeldt & Svendsen, 2000). Despite the terminology of empowerment, reforms remained limited to transferring (financial) burdens and responsibilities without actually devolving the corresponding rights and authority over decision making nor improving irrigation agencies downward accountability towards farmers (Bruns, 2004; Narrain, 2003; Nikku, 2006). First justified by the need to improve irrigation systems cost recovery, IMT was later linked to the good governance concept (Grindle, 1997).

Policy approaches to irrigation development have certainly evolved. In line with broader trends in the water and other development sectors, irrigation scholars, policy makers, and practitioners have notably paid an increasing attention to the issue of governance. While this indicates a growing recognition that understanding the overall process of change

[1] Deferred maintenance indicates the tendency to neglect maintenance and postpone it to the future, in anticipation of, and to justify, external financing for rehabilitation. It is at the core of "build-neglect-rebuild" cycle in which irrigation investments are trapped (for a discussion, see Suhardiman and Mollinga, 2012).

(and how it is shaped by existing power structures and dynamics) is important, the field remains dominated by a (social)-engineering approach that frames change as a linear process (see, e.g., Mollinga, 2008). This is reflected in current policy discourses whereby improvements in field realities would stem from making the right reforms or setting-up the right conditions and institutions for successful reforms (in what constitute a simple input-output model). Such vision, we argue, is conceptually flawed as it imposes model upon context.

On the contrary, we hold the view that model and context are shaping each other. In this light, persistent shortcomings in irrigation (notably, the continued focus on infrastructure development and the normative approach to solving issues of transparency and accountability) are not mere externalities, but inherent features, of policy interventions. These are rooted in (1) the framing of governance as a neat process in mainstream development discourse (whereby good governance would lead to desirable outcomes); (2) the way international donors and national bureaucracies reproduce structural conditions with little regard to understanding the power relations and political dynamics of governance; which in turn leads to (3) the shaping of an "opportunistic space" made of adjustments by multiple actors.

The following section briefly reviews the notion of governance as it is being framed by influential think-tanks in the water sector. It proposes to use an alternative approach focused on the everyday practices and circumstances (defined as the conditions people face and need to adapt to when conducting their activities) of governance. We use such framing of governance to shed light on specific irrigation development interventions and reforms in Ghana and Indonesia. Drawing from the two case studies, the discussion provides insights on why specific irrigation models persist and how irrigation bureaucracies continuously reinvent themselves while multiple actors seek new alliances and engage in a series of opportunistic adjustments. The conclusion highlights that development interventions are characterized by "ungovernable spaces", which are inherent to the action of governing i.e. governance.

2. Towards a grounded approach to understanding governance

Since the early 2000s, high-level declarations such as *"the world water crisis is a crisis of governance—not one of scarcity"* pronounced at the World Summit on Sustainable Development in Johannesburg in 2002 (WSSD, 2002), clearly indicate the establishment of governance as a core theme of actions, discourses and scholarship in the water and irrigation sectors.

Governance may be seen as a boundary object in the sense of Star and Griesemer (1989), that is, a stable and reproducible concept that is multivalent in character and can be cast in different ways that speak to various communities of practice. As such, it is to be expected that governance in general, and water governance in particular, comes to be defined in multiple ways and to embody multiple discourses. In their review of the (usages of the) term, Lautze, de Silva, Giordano, & Sanford (2011) identify three commonalities of the various framings of governance. First, governance would be about the *processes* of decision making. Second, the processes of decision-making would take place through

institutions. Third, the processes and institutions of decision-making would involve *multiple actors* (Global Water Partnership, 2000; United National Development Programme, 2004).

In the perspective of our argument and of this special issue, these definitions remain overwhelmingly normative, thus reducing governance to a mere technical issue. People, indeed, are conspicuous by their absence or are, at best, called upon through the use of generic categories such as government, civil society, and the private sector. This leads to an overtly static view of governance that largely ignores the notion of room for maneuver (Clay & Schaffer, 1984) and people's agency, that is, their capability to navigate formal and informal rules, generate social change in line with these rules, and rewrite the rules. Further, the politics of establishing and implementing rules, and notably the importance of power relationships in the shaping of governance institutions and processes, are absent from the approach to governance that currently dominates development discourses and practices.

In order to partially shed light on its 'dark side' (i.e. what remains largely unseen and untold), we link the concept of governance to that of governmentality[2] introduced by Michel Foucault and concerned with the *'conduct of conduct', that is, a form of activity aiming to shape, guide, and affect the conduct of some person or persons* (Gordon, 1991, p. 2). Here, governance, like government for Foucault, is a *practice* (not an institution) influenced by, and also shaping, power structures, institutional rules and social processes. Such a framing not only brings to the fore that governance is first and foremost about "governing", that is, a political activity aiming at steering people towards defined ends, according to belief and value systems, and through different means such as policy and management. It also calls for a deeper understanding of continuously negotiated interfaces (Long, 1989) between multiple actors who "maneuver to influence" potentially leading or due to a lack of integrity that is said to still pervade infrastructure development projects in the irrigation sector and threaten their viability and that of the broader agriculture-for-development agenda (see, e.g., World Bank, 2007). For example, despite increasing attention to the topic, little is known on the ways and reasons why corruption pervades development projects. Notably, the acts of omission and commission that characterize the relationships between international donors, national bureaucracies and politicians, and private construction businesses and consultants, which (re)define what governance is, remain under-researched (Molle, Mollinga, & Wester, 2009). The present paper contributes to filling this gap.

Our analysis involves a detailed examination of irrigation interventions in two very contrasting environments, that of Ghana in West Africa and that of Indonesia in Southeast Asia. Designed independently, the two case studies shed complementary light on the governance of irrigation in developing countries. The research in Indonesia focused on an analysis of a policy model, that of IMT, and the idiosyncrasies of its implementation; the research in Ghana centered on understanding the persistence of a specific approach to small scale irrigation development (small reservoirs) in that country (see Suhardiman, 2008; Venot, de Fraiture, & Nti-Acheampong, 2012, for further details). In line with interdisciplinary research practice, both case studies draw on multiple methods and

[2] Governmentality is Foucault's neologism for "governmental rationality".

generated qualitative and quantitative data. Literature review and analysis of policy documents was complemented by key-informant interviews with policymakers in relevant ministries and regulatory authorities, as well as with development partners. Long period of field work were also conducted to understand irrigation practices in specific irrigation schemes and how they relate to externally driven interventions. Most of the data were collected in 2003–05 and in 2009–10 in Indonesia and Ghana, respectively. As the data dates back to several years, specific circumstances are likely to have changed. The underlying processes that shape these circumstances are, however, most likely to be pervasive. Both studies shared the common objective of understanding the complex relationships of multiple actors (private contractors, line agencies, national government, international donors) who rely on each other and operate within overlapping political economic contexts so as to unravel their interests and the incentive structure that determines how irrigation interventions unfold. This is not to say that irrigators remain passive recipients of externally driven interventions; the way they display agency and contribute to shaping these interventions is, however, beyond the scope of this paper whose primary objective is to unravel the context in which irrigators are meant and made to operate.[3]

3. Getting to the bottom of irrigation investments

3.1. Planning and implementing small-scale irrigation projects in Ghana[4]

Overview of the Ghanaian irrigation sector and small reservoirs therein The magnitude and structure of the irrigation sector in Ghana is not well understood and often equated to the 22 public irrigation schemes managed by the Ghana Irrigation Development authority (GIDA) and the Irrigation Company of the Upper East Region. Together, these schemes cover about 15,000 hectares, of which 8 to 9,000 hectares are effectively irrigated. Actual irrigation far exceeds official statistics due to widespread, yet underreported, use of shallow or deep groundwater, direct pumping from rivers and streams, bottom-valley water conservation, and use of waste water in peri-urban and urban areas (Namara et al., 2010). Finally, about 1,000 small reservoirs, half of which are located in the three northern regions of the country, would command a total aggregated irrigable area approximant 6,000 hectares (small reservoirs can have a downstream irrigated area ranging from a few to 50 hectares).

Considerable investments in small reservoirs were indeed made in the 1960s following independence. Most of the reservoirs built during this period were aimed at soil and water conservation to provide a source of water for domestic and livestock purposes, often in remote communities. As such, little investment was made in irrigation infrastructure per se (most of the time, a main valve was included in design and construction but the canal network was not built). After a period during which small reservoirs fell out of favor

[3] Mosse (2005) provides a comprehensive account of the way local communities actively shaped externally driven development intervention in the Indian context.

[4] This section draws from Venot et al. (2011 and 2012).

with the national government and development partners, the 1990s and 2000s have seen renewed interest in such small-scale water infrastructure. Recent constructions or rehabilitations, mostly in the north of the country, are largely donor-driven and specifically aim at supporting the development of the irrigation sector (Venot et al., 2012).

Discursive underpinnings of small reservoirs Venot and Hirvonen (2013) highlight that the prevalence of small reservoirs in sub-Saharan Africa is rooted in their ability to intersect multiple development and irrigation discourses. The growing disenchantment with the costs and social and environmental consequences of large-scale dams has led to growing attention to small-scale projects. These are made all the more appealing by their compatibility with current decentralization and participation rhetoric. In the same time, there has been increasing research-based evidence that small-scale, farmer-based, irrigation could indeed have significant positive impacts on livelihoods, as observed in South Asia (see, e.g., Yoder, 1994). Finally, small reservoirs are amenable to the recent trend that sees irrigation as a potential driver of agricultural development in sub-Saharan Africa (World Bank, 2007) and to the priority African governments place on the *"the identification and preparation of investments to support small-scale irrigation"* (New Partnership for Africa's Development, 2003, p. 28). Collectively, these factors have expanded the discursive justifications for small reservoirs, which were initially—and still are—framed as responses to climatic shocks.

Perverse incentives: Many small dams, as fast as possible A large-scale destruction of small dams in the north of the country during the 2007 rainy season was considered an emergency situation by the Government of Ghana. Following a request of the Minister for Agriculture, the Ghana Irrigation Development Authority (GIDA) hastened to conduct an assessment of the situation. As funds to rehabilitate damaged dams were secured in early 2009, quick delivery appeared crucial for a government recently established after general elections at the end of 2008. Contracts were drafted so that more than 50 dams should be rehabilitated over a period of 4 to 6 months by about 30 small contractors - with little regard to their actual delivery capacity.

Emergency situation or not, development donors tend to adopt the same "big-bang" approach to build or rehabilitate small reservoirs. This is because performance assessments remain mostly linked to the number of programs or volume of funding they process rather than to the projection of outcomes (authors' interviews; Martinez & Shordt, 2008). Even in situations where donors envision to move away from infrastructure development, they may backtrack due to the broader political economy in which they operate. The Northern Rural Growth Project (NRGP, conducted by International Fund for Agricultural Development [IFAD]) is one such case. The initial idea that underpinned the appraisal of the water resources component of the NRGP was to find alternatives to small reservoirs, which had proved to be challenging and expensive to build or rehabilitate during earlier IFAD projects. When AfDB joined forces with IFAD, and following a request from the Government of Ghana, the final proposal was modified and listed the rehabilitation and construction of small reservoir as a priority area (author's interview; IFAD, 2009). This focus on delivering

infrastructure means that demand-driven and community management approaches remain mere rhetoric. Communities hardly contribute to project identification though, in later stages, they often divert and adapt the project's activities to meet their own ends.

Dealing with rules, time and quality constraints: A series of opportunistic adjustments The urgency with which the assessment of small reservoirs was conducted after the floods of 2007 had negative consequences on its quality. It meant there was no detailed feasibility and design studies, which hampered the implementation of the rehabilitation program. Notably, the lack of detailed assessment offered room to contractors to raise variations orders.[5] These may have been warranted, but according to several key informants, the situation bred opportunities for collusion between officials and contractors, sometimes leading to excessive cost overruns (up to 50% of planned investment).

Further, the little time provided to prepare and review bidding documents (by a law largely inspired from World Bank policies and procedures) also created fertile ground for selecting contractors who might not have had the necessary credentials and capacity to deliver on projects. Both contractors and civil servants in charge of reviewing the bids stated their hands were tied; on the one hand *"[contractors] forge document because there is little time to get the proper documentation";* on the other hand "*[civil servants] know the contractor does not have the capacity but cannot disqualify him on the basis of this informal knowledge; only the documents can be used"* (authors' interviews). The same challenges to effectively implement procurement processes affected donor-driven investments.

Finally, financial disbursements to private contractors are under high scrutiny by donors and the national government—they are indeed seen as highly prone to capture. A series of check-and-balances to control payment processes is in place, but one of the (unintended) effects of this has been to create delays in payment, hence implementation. Delays have triggered wide petty corruption through the use of 'speed money' (which might not be of any financial significance but has high transaction costs; authors' interviews), and pressure tactics through best-connected contractors (to expedite payments). Delays do not "just occur", they can be actively pursued as part of an influence game (for some, they are an opportunity for rent seeking) but can also be linked to the broader political economy, hence beyond the reach of the administration and donors in charge of monitoring project implementation. In this particular case, for example, delays were partly due to an embargo that the Ministry of Finance had put on any government payments following political turmoil, shortly after the 2008 elections. In the case of donor-driven projects, significant delays are linked to the fact that off-country staff have to endorse large financial outlays (again on the ground that this limits the scope for corrupt practices).

Alliances and dependencies Small reservoirs rehabilitation projects in Ghana have been the stage for multiple alliances to unfold at different steps of their planning and implementation.

[5] A variation order is a change in the initial design of an infrastructure project, generally leading to a revised budget.

First, between contractors and civil servants in charge of the procurement process. The award of contracts is largely perceived and accepted as a political action rather than a bureaucratic one, and in this particular instance *"was rushed before the general election (…) and contracts awarded to party faithful in Accra"* (authors' interviews) on any number of outwardly justifiable grounds, and generally in exchange for what is seen as "a token of appreciation" rather than a bribe.

Second, between contractors and civil-servants or project staff in charge of preparing the bidding document. It is common for contractors to hire former or current GIDA employees as independent consultants so as to increase their chances of winning a contract or to circumvent policies and procedures.

Third, between contractors and irrigation agency (or donors) field staff. Indeed, a typical set up is to mandate site supervisors in local offices to conduct on-site monitoring and supervision visits during infrastructure works. In reality, few of these offices are properly equipped or staffed to carry out their supervisory roles. Supervisors, who often have little experience, must, as a necessity, rely on contractors to conduct their work. This is an invitation to 'leniency', but is seen as 'reciprocity' rather than a lack of integrity as conscientious supervisors easily find themselves being transferred at the behest of well-connected contractors.

Fourth, between regional and central offices of the irrigation administration. As the government-led rehabilitation program got widespread attention, it meant it would be steered from Accra. This was justified on the ground that the GIDA head-office in Accra had more capacity and staff than the regional offices, but this also made accountability a challenge. Regional GIDA staff appeared to be under pressure to supervise and validate infrastructure work so that contractors would be paid; they were also 'side-lined' as all logistics pertaining to contract payments were directly handled in Accra. This meant contractors felt little accountable to GIDA regional managers or local government structures (which had only been ceremonially involved) and rather spent time interacting with the GIDA head-office.

Fifth, between communities and their elected representatives. Following increasing evidence that rehabilitation works were of poor quality, allegations of corruption and overvalued contracts made public on the internet, and complaints filed by communities through their members of parliament, a formal investigation was ordered. The investigation shows a certain level of accountability and responsiveness to public pressure but its implementation proved uneven. Investigation and sanctions are indeed seen as politically motivated, hence largely delegitimized for most civil servants who consider them *"as routine and generally grounded in fraud allegations from jealous contractors who felt they have been side-lined by civil servants on political grounds"* (authors' interviews). Also, the investigation consisted in adding a layer of bureaucratic control prone to exactly the same shortcomings it aimed at unraveling and denouncing.

Where are the users? The series of adjustments that we have described in the above paragraphs has significant consequences on users and rural communities. First, collusion

and politics at district level have a tremendous bearing on the process of site selection. Second, the low capacity of contractors and little attention paid to supervision often means that communities end up facing structural difficulties to effectively use small reservoirs for irrigation –even if these are now rehabilitated for this specific purpose. Third, the widely spread use of 'speed money' add to the transaction costs of contractors, which offers incentives to recoup these costs by further compromising the quality of infrastructural work. Last but not least, the focus on infrastructure and the priority given to building as many small reservoirs in as little time as possible means that there is little involvement of communities (or of their elected representatives) in project identification, design and implementation. Admittedly, Water User Associations (WUA) are being set up (it is even, sometimes, a precondition for rehabilitation or construction of small reservoirs) but these remain avatars of an (inter)national policy trend, rather than being the expression of a collective decision making process emerging from the communities (Venot et al., 2012). That WUAs remain largely inactive as far as small reservoir management is concerned is not due to a lack of community involvement. It is a situation that is purposefully crafted by landholders who aim at preserving their decision making authority over access to and allocation of land while still engaging with international agencies and the national irrigation bureaucracy, which officially promote WUAs (see Lund, 2009, for an insightful analysis of the "small-scale negotiations" over property rights and the relations between landholders and WUAs in the context of small scale irrigation in Northern Ghana).

3.2. Irrigation Management Transfer Policy Formulation and Implementation in Indonesia

Overview of Irrigation Management Transfer Policy Indonesia has a long history of irrigation but rapid infrastructure-oriented development focusing on the construction of large-scale irrigation systems (ranging from 5,000 to 50,000 hectares) started only during Suharto's New Order government from the late 1960s onwards (Ambler, 1991). Such investments relied on continuous funding from major international donors such as the World Bank and the Asian Development Bank (ADB), a development trend that continues until now.

Irrigation Management Transfer (IMT) policy was first adopted in Indonesia in 1987, under the Irrigation Operation and Maintenance Project (IOMP) 1987 Statement. IMT under the IOMP was formulated primarily as part of a policy agreement between the irrigation agency and the World Bank. Under the IOMP 1987 statement, all irrigation schemes smaller than 500 hectares were supposed to be gradually turned over from the irrigation agency to farmer groups, so called Water Users Associations (WUAs). In practice, however, the irrigation agency transformed IMT into a construction program focused on rehabilitating and extending existing schemes (Bruns & Atmanto, 1992). This rerouting towards a construction program was made possible by the fact that the irrigation agency was fully in charge of managing project funds for IMT implementation. As stated by Bruns (2004), "The participatory reforms initiated in 1987 [gave] little choice to exit from the dominant pattern of agency controlled development in irrigation" (p. 146).

In 1998, the political upheaval caused by the country's economic crisis subsequently triggered political and economic reforms, which led to the downfall of Suharto's 32-year old regime (Priyono, Prasetyo, & Tornquist, 2003). Political reforms gave the momentum for IMT policy renewal. In 1999, the IMT policy was renewed through the World Bank funded Water Sector Adjustment Loan or WATSAL. Unlike before, IMT implementation targeted all irrigation schemes, regardless of their size and location. A major difference between IMT under the IOMP and the WATSAL IMT program lies in the way the role of farmers is projected. In the IOMP 1987 statement, farmer participation was focused on contribution (in the form of labor and construction materials) for system repairs and irrigation service fees collection. In WATSAL, farmers' involvement was geared towards empowerment, mainly by giving WUA direct access to manage Operation and Maintenance (O&M) funds, the so-called 'stimulant' funds.

Discursive underpinning of IMT IMT policy formulation and renewal was rooted in international donors' development agenda. Rooted in a neo-liberal discourse in development policy, IMT reforms primarily aimed at shifting the financial responsibility for government irrigation systems from the irrigation agency to farmers. International donors proposed management transfer to reduce government expenditure in the irrigation sector and improve the poor condition of the infrastructure and systems' performance through increased farmers' sense of ownership. It was only in the late 1990s that IMT was linked to the good governance concept (Grindle, 1997) and farmer participation to the decentralization and democratization debate, leading to a change in terminology with the use of the term farmer empowerment (World Bank, 2002).

In practice, however, the irrigation agency viewed IMT merely as a policy tool for funds mobilization. The irrigation agency agreed to adopt IOMP 1987 statement as part of donors' preconditions in order to obtain further loan-funded projects. IMT policy adoption was based on the government's inability to meet O&M costs rather than on its willingness to increase farmers' involvement in systems management. Similarly, while IMT renewal under WATSAL had extended the scope and degree of management transfer and increased farmers' decision-making authority over O&M funds, the irrigation agency continued to shape the implementation of IMT to fit its interest towards infrastructure-oriented development. The irrigation agency's main interest to preserve infrastructure development was rooted in its hydraulic mission and bureaucratic identity (for a generic discussion, see Molle et al., 2009), as well as the scope it offered for funds embezzlement (Suhardiman & Mollinga, in press).

Perverse incentives: Management transfer, as fast as possible Both under the IOMP 1987 statement and WATSAL 1999, IMT implementation was focused on the formal fulfillment of predefined project targets. Under WATSAL, the irrigation agency had to be able to transfer a certain number of irrigation systems, form a certain number of WUAs, and allocate the stimulant fund within a predefined timeframe (Java Irrigation Improvement and Water Resources Management Project–Irrigation Development Turnover, progress

report, 2002). Meeting these targets proved central because, as stated by an irrigation agency field staff, *"Under WATSAL, IMT was often perceived as a precondition to pull in [more] project funds"* (authors' interviews).

According to the systematic framework for IMT implementation, the stimulant fund could only be allocated to a WUA after both the irrigation agency and the WUA had agreed on redefining their respective tasks. In practice, the fund was allocated regardless of whether or not such agreement had been reached. Indeed, the irrigation agency had an interest in spending the total amount of the stimulant fund, which had been allocated to them, in time, so as to ensure similar allocation for the next years. In one of the districts where IMT was implemented, discussion on tasks redefinition started only in 2004, that is four years after formal management transfer (and the related allocation of stimulant funds to WUA) took place. Similarly, WUA staff urged formal management transfer as they viewed it as a prerequisite to gain access to the stimulant fund. Despite delays, the discussion on redefining tasks could serve as farmers' entry point to negotiate their water delivery schedule with the irrigation agency.

Actual rules shaping: extending the corruption network The rationale of entrusting the management of the stimulant fund for system O&M to WUAs (instead of the irrigation agency) was to empower farmers and increase their ownership of the irrigation infrastructure, thus reducing potential 'leakages' (informal use of the funds by the irrigation agency to cover both personal and public expenditure not related to system O&M). In practice, however, WUA's access to stimulant fund management transformed WUAs into contracting agencies. Like the irrigation agency, WUA's organizational existence and functioning revolved around infrastructure development, as this was the main activity for which they could use the stimulant fund. Moreover, it was in the WUA staff's best interest to spend the allocated stimulant fund for system repairs, regardless of whether this was needed by farmers, as to ensure similar if not higher fund allocation in following years.

WUAs' decision making authority over the management of the stimulant fund linked and embedded them in a system of institutionalized corruption that characterizes irrigation agencies (Suhardiman & Mollinga, in press; Wade, 1982). By making WUAs responsible for fund management, IMT policies embedded them in broader procedures and mechanisms dominated by the irrigation agency. Consequently, as WUAs had to adopt rules defined by the irrigation agency, the majority of WUAs mismanaged their stimulant funds. For instance, collaborating with the WUA treasurer, one WUA leader spent the entire stimulant fund for repair activities conducted by his family members. Another WUA leader manipulated financial reports by overestimating the number of laborers that was needed for specific activities as well as their daily pays, cashing up the difference. In yet other instances, WUA staff worked together with the irrigation agency field staff to manipulate the standard mixture of construction materials to decrease actual costs and cash the difference.

Alliances and dependencies The way WUAs managed stimulant funds shows how the irrigation agency shaped new alliances to sustain its power. Some of the irrigation agency

staff formed alliances with WUA staff to 'jointly manage' stimulant funds. By doing so, they became closely involved in the way the stimulant funds could be used, and diverted some of it for their own benefit. For WUA staff, this new alliance served also as an alternative channel to negotiate the overall water delivery schedule, adding some flexibility into existing water distribution plan and practices.

The irrigation agency preserved its decision-making power notably by maintaining confusion over the procedures to follow for the disbursement and justification of use of stimulant funds. Lack of transparency characterized the process as staff from the irrigation agency kept WUA staff ignorant about the standard requirements (technical and managerial) in proposal writing. In 2004, four years after IMT was implemented, WUAs still lacked any formal guidance on how to write proposals and financial reports to manage stimulant funds. For example, when WUA staff approached the irrigation agency about the possibility to get a formal guideline, the irrigation agency would tell them that they should discuss the proposal development with the irrigation agency, right from the beginning, and not only when they encountered problem to get it approved. Not to mention that irrigation agency staff could also change and invent new rules with regard to proposal development according to their interests. Lack of transparency allowed staff from the irrigation agency to whimsically reject or approve WUA development proposals. Agency staff could indeed justify their decision on the basis of supposedly technical and procedural flaws or adequacy as they were the only one to know what the actual requirements were. It is not rare that similar proposals were accepted in some instances and rejected in others. In practice, given the cumbersome and non-transparent nature of the procedures that had to be followed, the majority of WUAs made informal financial contributions to the irrigation agency, to ensure approval and immediate allocation of the stimulant fund.

Where are the farmers? The way WUAs' activities mostly revolved around the management of the stimulant fund resulted in WUA bureaucratization. WUA bureaucratization was evident in the way WUA meetings were conducted. In general, these meetings could only be conducted if the WUA head arranged a formal invitation letter to all WUA staff. Moreover, WUA meetings were conducted following a fixed agenda that had been drawn beforehand by the WUA head. Only the issues stated on the agenda would be addressed in the meeting. In addition, next to staff salaries, the largest part of Irrigation Service Fee (ISF) collection was spent on acquiring office materials (paper, notebook, pen, desk, file storage, etcetera).

This bureaucratization is also apparent in the way WUAs were formalized: 1) they had to be formally registered as a legal farmer organization; 2) they had to possess formal organizational rules; and 3) to be clearly structured (Suhardiman, 2008). All registered WUAs had standardized organizational rules (prepared by the irrigation agency) and uniform organizational structures. Further, to meet predefined project targets (see above), WUAs were formed hastily, mostly involving staff from the village government in relative isolation from actual farmers. The bureaucratization of the WUAs is also evident in a highly formalized procedure and relationship with the irrigation agency, especially with

regard to the reporting of problems experienced by farmers. Unlike before, farmers have to write a formal water request to the agency, which sometimes requires formal approval from WUAs leaders and/or village government staff.

The bureaucratization of the WUAs came hand-in-hand with their domination by the village elite. As stated by the head of a WUA: *"the most important requirement to be a staff of the WUA was one's administrative capability. Given that the WUA has to manage the stimulant fund, its staff should be able to write development proposals, financial reports, ISF registration forms, as well as the regular meeting notes"* (authors' interview, personal communication, August 10, 2004). Given this focus, it is not surprising that the rural elite overshadowed farmers who had much less ability and experience in dealing with administrative matters.

4. Discussion: Major trends in irrigation

The two case studies shed complementary evidence on irrigation development interventions in sub-Saharan Africa and Asia. First, we highlight the ability of irrigation bureaucracies to adjust and reinvent themselves, so as to sustain their power, even against the backdrop of increasing calls for downward accountability and increased users participation. Second, we highlight that irrigation interventions are characterized by a series of adjustments to local circumstances by multiple actors. These adjustments define multiple "ungovernable spaces" and are grounded in the very rules and regulations that aim at preventing them. Finally, we contrast the persistence of interventions that have acquired the status of "models" in irrigation development with how they are said to fare "in reality"– and relate this discrepancy to an apolitical imagery of governance that is at odds with the practices of governing.

4.1. Understanding bureaucracies

Hegemonic tendencies in irrigation development are evidenced from the way irrigation interventions continue to be introduced and implemented in a top-down fashion by national irrigation agencies and centered on technical infrastructure development. In Indonesia, this top-down development is most apparent from the fact that the bureaucracy has kept the upper hand, as it still has the power to sanction (or not) proposals made by WUAs. In Ghana, the control the bureaucracy exerts is linked to the selection of sites and small-scale private entrepreneurs who will be contracted to conduct infrastructure work. In both situations, there is a clear power discrepancy between a long established and structured bureaucracy and farmers, who are often organized in and represented through WUAs. The latter have in general been established hastily, to meet project targets or preconditions, and according to a bureaucratic model that is often at odds with farmers' decision-making processes and makes them easily amenable to elite control.

The complexity and the lack of transparency and downward accountability that characterize administrative procedures are key elements that sustain and reinforce power

differences, while also allowing power holders to navigate these spaces to their own benefit. The series of opportunistic adjustments described in Ghana is illustrative of a tension between formalization and pragmatic practice that characterizes public action in sub-Saharan Africa, whereby a wide range of actors (state officials and non-state agents) are involved in shaping the actions of the state, in terms of both cooperation and competition with the state apparatus (Hagmann & Péclard, 2010; see also Lund, 2009). This yields what Laube (2009), in an investigation of the irrigation bureaucracy in the Upper East Region of Ghana, described as a "creative bureaucracy" where formal rules and regulations are meshed with informal norms and opportunistic behaviors, and irrigation bureaucrats (who are still dependent on government funding and political support for their personal careers) are likely to cave in to political pressures. The interdependency between the bureaucracy and the political realm is not a recent phenomenon and find its roots in the emergence of a political-bureaucratic elite at independence, which was itself an upshot of the colonial state apparatus (for a generic argument, see Bierschenk, 2010). This notably explains why awarding contracts is seen, and widely accepted, as a political rather than a bureaucratic action.

The Indonesian case study sheds light on the interplay between state (the irrigation bureaucracy) and non-state actors (WUAs, meant to represent irrigators' interests) in a slightly different way. It illustrates how policy reform outcomes are shaped and reshaped by existing power structure and relationships, and embedded in the irrigation agency's ability to reinvent its hydraulic mission. The agency's interest to preserve infrastructure-oriented development explains how power interplays are centered on how, and to whom, the stimulant fund is to be allocated. The IMT framework focused on transferring the responsibility for fund management to WUAs positioned the latter as contracting entities. In so doing, the irrigation agency co-opted WUAs in its bureaucratic system. As WUAs' organizational activity is focused on managing stimulant funds for small repairs, WUAs mimic the irrigation agency's organizational development path. In this light, WUA formation also contributes to the penetration of the hydraulic mission and of corruption at grass roots level. WUAs hence contribute to reshaping public action—even though they remain largely subordinate to the irrigation agency. Finally, the interplay between the bureaucratic and the political realms is clearly illustrated by the capture of WUA management structures by the rural elites, a rather common phenomenon (Mollinga, Doraiswamy, & Engbersen, 2004).

4.2. The shaping of an opportunistic space for adjustments

In the two case studies (and maybe more strikingly in Indonesia), irrigation agencies have had to face shifting policy paradigms in line with broad changes in the international donors' agenda. They still do; but new paradigms rarely displace older ones neatly. Each round of development policy intervention leaves behind an institutional legacy, which slots into the group of existing institutional arrangements (Bierschenk, 2010; see also Lund, 2009). This proliferation of institutions is reinforced by the fact that projects

(e.g. small reservoirs in Ghana) remain the preferred ways to channel development aid (because they allow for tighter control) despite increasing calls for policy-based budgetary assistance to national governments (such as IMT), which are yet to show they allow to address past shortcomings. Even in this latter configuration, donor-led initiatives provide perverse incentives to civil servants by tying up resources to specific activities and deflecting their energies from all other tasks. For instance, IMT policy reforms continue to incorporate infrastructure development (system rehabilitation) as a prerequisite to management transfer (and related bureaucratic reform), thus leaving the door wide open for potential side-tracking by the irrigation agency.

Maybe more essentially, the fact that multiple institutional arrangements deposit on each-others, or run alongside, defines a "messy reality". The multiplication and fragmentation of rules means that any one person can only have partial knowledge or awareness of these rules. Given the prime focus on reaching targets, this, in turn, opens the door to interpretation and opportunistic adjustments and to a de-facto informal appropriation of administrative action and/or rules by actors within or outside the state. An extreme situation is when the targets themselves (and the rules, regulations, laws and policies designed to achieve them) are set by and for the benefit of a few individuals or groups (what Plummer, 2008 called 'state capture'). Maybe more common is the fact that rules are designed with a concern over accountability and transparency but with little regard to the context, while individuals remain mostly evaluated on their capacity to achieve targets. There, rules and regulations trigger the very practices they were meant to eliminate, that is, a series of management lapses and failures in transparency and accountability. These adjustments enable minimal implementation of policy interventions but in a fundamentally unpredictable and selective way. They reinforce irrigation agencies' functional problems, create uncertainty, pave the way to, and reinforce, power discrepancies and corrupt practices.

4.3. Persistence of different irrigation development models

Small reservoir projects in Ghana are first and foremost about infrastructure development, that is, rehabilitating or constructing new dams and canals. The social component of small reservoir projects (i.e. the establishment of water user associations) is meant as a tool to ensure that infrastructure investments are sustainable—rather than as an objective *per se*. This is in contrast with the case of IMT in Indonesia, whereby infrastructure development appears to be a result of the way policy reform has been 'sidetracked' from what was heralded as its main objective—that is, farmer empowerment.

Assessed by the yardstick of conventional performance assessments, these interventions fail to live up to expectations. Many studies for example point to the low performance levels of small reservoirs (notably in terms of little irrigated area, damaged infrastructure, and low water or agricultural productivity) while others highlight governance challenges at local and national levels (for a discussion, refer to Venot et al., 2012). In the case of IMT, while management transfer has to a certain extent increased WUA's decision making authority in system management, this did not result in greater representation of farmers'

Table 1
Key features of IMT policy in Indonesia and small reservoirs in Ghana

	IMT policy in Indonesia	Small reservoirs in Ghana
Underlying narrative and wished 'horizon'	Transferring decision making over irrigation to water users leads to sustainable irrigation investments	Extending small-scale irrigation allows for equitable and sustainable agricultural intensification
Main actors of supporting network	International aid agencies; scientific community; national bureaucracy	International aid agencies; scientific community; civil society groups (for community mobilization)
Benefits derived by in-country actors	Extension of bureaucratic control Elite capture	Extension of clientelist networks Repeated construction works

needs in irrigation development, reduced government expenditure in irrigation, or improved systems performance—three stated objectives of the reforms (for elaborate discussion, see Suhardiman, 2008).

Despite widely documented shortcomings, IMT and small reservoirs continue to be pursued in the contexts we study. They have acquired the status of policy and intervention "models", which embody a dimension of success. Molle (2008), in his study of conceptual objects in the water sector, highlights some of the mechanisms through which this happens. The existence of a compelling narrative (often ideologically laden); the formation of a large and well-connected epistemic community in support of the model; and the possibility for (part of) this community to (openly or covertly) derive benefits from its implementation and pursue its own interests (which might be aligned, or not, with the stated objectives of the model) appear to be key elements of this process of "reification" (see also Mosse, 2005), as are the ability of the bureaucracy to reinvent itself and the multiple opportunities for and instances of small-scale negotiations between actors. These elements clearly emerge from our case studies (see Table 1).

Good governance (as it is being promoted by influential think tanks, international donors and national governments alike) can be seen as a "nirvana concept", that is, a vision of a "'horizon' that individuals and societies should strive to reach" (Molle, 2008). By rendering governance technical and reducing it to its managerial dimension (to reach a desired future),[6] such agenda does not provide, however, for a significant shift away from earlier modernization thinking and linear approaches to planning and development interventions. Interventions that are said to aim at enhancing governance remain indeed focused on reaching predefined targets often expressed in terms of disbursement of funds, lineage of rehabilitated canals, number of small reservoirs built or water user associations established, in an equally predefined period of time. We argue this is not only an instance

[6] See Li (2007) on "rendering technical", that is "a set of practices concerned with representing the domain to be governed as an intelligible field with specifiable limits and particular characteristics" which she sees as a key elements to translate a "will to improve" in development interventions in the context of Indonesia (and beyond).

of "concept perversion" but is also grounded in the very concept of governance, which is fundamentally about the act of governing: targets and preferred modes of organizations (such as Water User Associations) are but a way to steer and control the conduct of people and organizations; to "govern" is to set direction.

5. Conclusion

This paper describes the dynamics of two irrigation development interventions, that is, small reservoir rehabilitation projects in Ghana and Irrigation Management Transfer (IMT) policies in Indonesia. In both instances, we observe a drift off (the intended) course as these interventions tend to be re-routed towards mere infrastructural development despite a discursive focus on issues such as management, empowerment and governance. This is notably grounded in two phenomenons that reinforce each other. First, a primary focus on reaching targets (framed as the main indicator of impact), almost regardless of the processes followed. Second, the fact that irrigation agencies, which have historically focused on infrastructure development, have kept the upper-hand on the reform processes.

The finding that empirical data highlight a discrepancy between practices and theory or between policy and implementation (and that this is partly grounded in the way bureaucracies function) is not novel in itself. Such instances have long been documented. Where we differ from other studies is in the explanation we provide to this state of affairs. Most studies link such discrepancy to externalities in the context of implementation; we also associate it to the very "act of governing", or in other words, to governance as a practice aimed at "conducting the conduct" of people. Our case studies illustrate how irrigation interventions are shaped and reshaped through the creation of "opportunistic spaces" at multiple interfaces. We highlight how various actors use these spaces to make policy adjustments in line with their interests and needs. In Ghana, this opportunistic space is most evident in the way construction contracts are awarded and supervision activities conducted. In Indonesia, both the irrigation agency and WUAs staff created opportunistic spaces when they formed alliances to jointly manage stimulant funds.

Functioning where the boundary between formal and informal rules is blurred, this opportunistic space becomes a governing entity that is nearly impenetrable to external actors. Further, by designing rules and procedures that aim at limiting people's agency and interests (because these are often equated to lack of integrity) instead of recognizing them as inherent features of any development projects, external interventions often have the opposite effect to the one pursued. That is, they actually offer further opportunities to create "ungovernable spaces". This is largely because development project monitoring and evaluation systems remain focused on assessing projects' achievement in relation to predefined targets, rather than on understanding how policy processes unfold on the ground.

In this light, we conclude that while the creation of ungovernable spaces reveals the messy reality on the ground, e.g. an interplay between rules, institutions and individual

behaviors, it also reflects the dynamics if not the very essence of water governance, where actors continuously (re)shape rules in line with their (changing) interests. It reveals the role of power relationships in shaping actors' interactions and actual policy outcome. While such ungovernable space may be perceived as 'unacceptable' from the normative point of view of good governance, in our opinion, it resembles how various actors perceive and unavoidably contribute to shaping policy and project interventions.

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