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Whose Waters? Large-Scale Agricultural Development and Water Grabbing in the Wami-Ruvu River Basin, Tanzania

Aurelia van Eeden

Department of Environment and Development Studies (Noragric), Norwegian University of Life Sciences, Aas, Norway; aureliave@me.com

Lyla Mehta

Institute of Development Studies at the University of Sussex, Brighton, UK; and Department of Environment and Development Studies (Noragric), Norwegian University of Life Sciences, Aas, Norway; l.mehta@ids.ac.uk

Barbara van Koppen

International Water Management Institute (IWMI), Southern Africa Regional Programme, South Africa; b.vankoppen@cgiar.org

ABSTRACT: In Tanzania like in other parts of the global South, in the name of 'development' and 'poverty eradication' vast tracts of land have been earmarked by the government to be developed by investors for different commercial agricultural projects, giving rise to the contested land grab phenomenon. In parallel, Integrated Water Resources Management (IWRM) has been promoted in the country and globally as the governance framework that seeks to manage water resources in an efficient, equitable and sustainable manner. This article asks how IWRM manages the competing interests as well as the diverse priorities of both large and small water users in the midst of foreign direct investment. By focusing on two commercial sugar companies operating in the Wami-Ruvu River Basin in Tanzania and their impacts on the water and land rights of the surrounding villages, the article asks whether institutional and capacity weaknesses around IWRM implementation can be exploited by powerful actors that seek to meet their own interests, thus allowing water grabbing to take place. The paper thus highlights the power, interests and alliances of the various actors involved in the governance of water resources. By drawing on recent conceptual insights from the water grabbing literature, the empirical findings suggest that the IWRM framework indirectly and directly facilitates the phenomenon of water grabbing to take place in the Wami-Ruvu River Basin in Tanzania.

KEYWORDS: Integrated Water Resource Management (IWRM), water grabbing, development policies, agricultural development, water governance, Tanzania

INTRODUCTION

As discussed by van Koppen et al. (this issue), Integrated Water Resources Management (IWRM) was introduced in Tanzania in the early 1990s and was then incorporated into the national water policy in 2002 and water law in 2009. In recent years, national development policies have been actively promoting commercial agricultural investment (Cotula et al., 2009; Cotula, 2011). From the late 2000s onwards, foreign investors began tapping into Tanzania's land and water resources, giving rise to the heavily contested 'land grab' phenomenon whereby vast tracts of land have been allocated to investors for commercial agriculture (Cotula et al., 2009; Cotula, 2011; Matondi et al., 2011; Matondi and Matupo, 2011). While suitable land has been the driving force behind these investments, recent

evidence has indicated that water has been the missing dimension in debates on land grabbing (Bossio et al., 2012; Bues and Theesfeld, 2012; Mehta et al., 2012).

In Tanzania, conflicts between communities, government and investors have been on the increase (see van Eeden, 2014). Land and water grabs have led to new forms of water and food scarcities for local communities and the manner in which land deals have been implemented has meant that some communities that used to have access to water and other resources connected to the land, are now excluded from using these resources (ibid). Furthermore, the physical aspects of water allocation are also notoriously complicated in Tanzania where rivers and river basins are complex and highly variable (see Lankford and Mwaruvanda, 2007). These issues have questioned the ability of the IWRM framework as implemented in Tanzania, to efficiently and equitably allocate water among water users in a river basin. While IWRM seeks to reconcile goals of economic efficiency, social equity and environmental sustainability, clearly these goals are often "antagonistic (…) and trade-offs are necessary but hard to achieve in such situations" (Molle, 2008: 133; Franco et al., 2013).

Central to the working of IWRM is the granting of water permits whereby a certain amount of water is allocated to a water user for a specific purpose (van Koppen et al., 2007; van Eeden, 2014). However, since water allocation is both physically complex and intrinsically a political and power-laden process, it can entail the potential reallocation of water to those 'priority uses' with the supposedly highest economic value that, in turn, tend to have detrimental impacts on the lives and livelihoods of local communities (Mehta et al., 2012; Veldwisch et al., 2013). The water permit application process in Tanzania and other parts of sub-Saharan Africa has also been criticised for being too rigid, complicated and favouring the 'administrative-proficient' (van Koppen et al., 2007; Franco et al., 2013: 1665). Therefore, concerns have been mounting over the visibility of small-scale farmers who, failing to acquire water use permits, lack the legal footing to stand their ground against large-scale water users in any water conflict (ibid).

Since IWRM is the major water governance framework in both Tanzania and the world, it is important to ask how it deals with these tensions and conflicting interests in a river basin and the particular situation of small-scale users. This article thus explores how the IWRM governance framework is used to manage the competing interests of diverse water users in a river basin. It asks whether institutional and capacity issues can be exploited by powerful actors that seek to meet their own interests, thus allowing water grabbing to take place (Franco et al., 2013). Specifically, this article addresses how IWRM manages the diverse priorities and interests of both large and small water users in the midst of foreign direct investment in commercial agricultural projects in the Wami-Ruvu River Basin (WRRB), Tanzania. After a short conceptual framework, the paper provides a background of water and land development in Tanzania. It then looks at how IWRM has been implemented in the Wami-Ruvu River Basin. We focus on two sugar companies and a surrounding village at each of the companies' operations: Mtibwa Sugar Estate (MSE) and Lukenge Village, upstream in the Wami River, and EcoEnergy and Matipwili Village situated downstream. These cases were chosen as the two commercial sugar farms are the largest users of water in the WRRB, abstracting water from the Wami River. Also, their position relative to one another, one being upstream and the other downstream, makes for a vibrant study of the power relations not just between the two of them, but also between them and the villages that surround each of them.

The research was conducted over a 5-month period in Tanzania and pursued a qualitative methodology. It used the Case Study Method[1] (CSM) approach (see Stake, 2005: Creswell, 2007; Berg and Lune, 2012). The study utilised/resorted to multiple sources of enquiry including; semi-structured interviews, focus group discussions, seminars and forums, stakeholder observation at various levels,

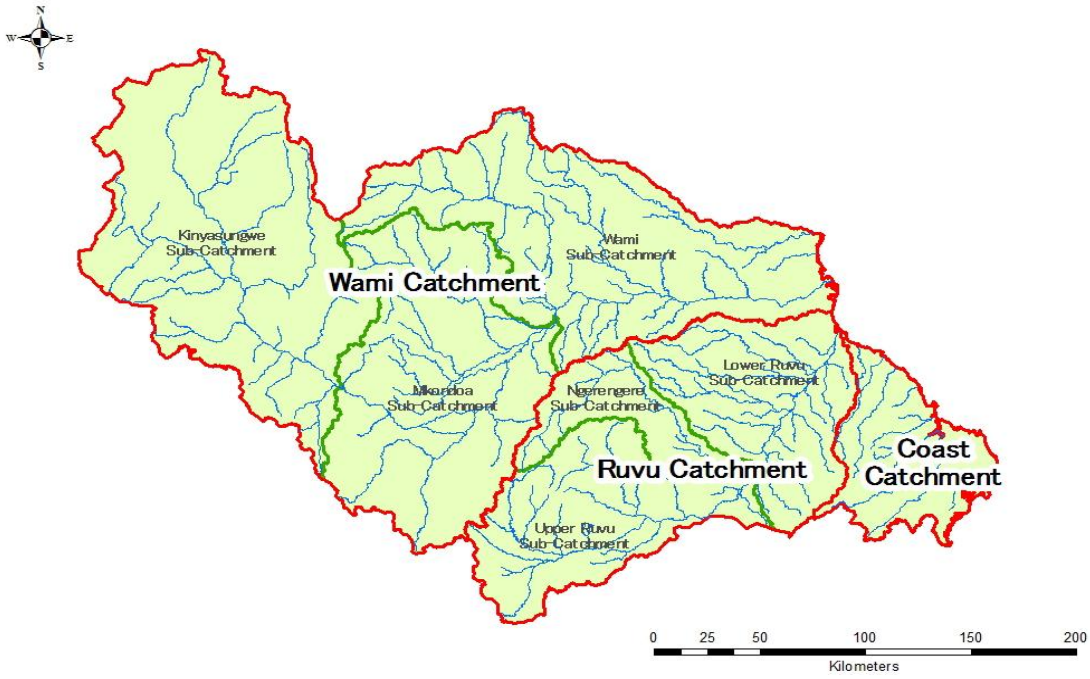
[1] Berg and Lune (2012) defines the CSM approach as a method to collect enough data in a systematic way to effectively understand how a certain social setting, person, group or event operates or functions (Berg and Lune, 2012).

reports, policy and media reviews as well as informal communication. Both case studies operated within a politically charged arena and had sensitive aspects to their operations that at the time made regular headlines of Tanzanian news. Thus, in preparation of the interviews a question guide was prepared with key topics and questions in line with the objective of the study.

Individual interviews were held with various employees, consultants and advisors of the two sugar estates; officials of the Wami-Ruvu River Basin Office, District and Ward offices; employees of NGOs and Ministry officials.

Through the empirical evidence derived from this research study, the paper highlights the power and interests of the various actors involved in the governance of water resources and argues that the IWRM framework indirectly and directly facilitates the phenomenon of water grabbing to take place in these two areas in the Wami-Ruvu River Basin. This also suggests that the IWRM approach may not be really suitable in a country like Tanzania where thousands of smallholders, for multiple reasons, never gain access to permits and thus their rights will lie outside of the 'official' water governance framework (see also van Koppen et al., this issue).

Figure 1. Wami-Ruvu River Basin, Tanzania.



THEORETICAL POINTS OF DEPARTURE

The Tanzanian government's development policies such as 'Development Vision 2025' and 'Kilimo Kwanza' (Swahili for *agriculture first*) are perhaps the highest-profile attempts to eradicate poverty through economic development. A significant feature of these initiatives is the development of large-scale commercial agriculture where vast tracts of land have been earmarked by the government to be developed by investors for different commercial agricultural projects. However, allowing investors to gain access to land has meant that others, especially local communities, have been excluded from decisions regarding their own land now earmarked for agricultural investments or from having access to resources which are key to sustain their livelihoods. This is why scholars note that many development programmes designed to eradicate poverty can, in fact, create poverty for some (Li, 2007; Hall et al., 2011).

The recent wave of large-scale resource appropriation is being justified by governments and the private sector by promoting narratives that consider water and land wasted if it is not developed or fully utilised for commercial purposes (Mehta et al., 2012). Vast tracts of 'marginal' or 'unused' lands have been made available by governments to investors for productive purposes. However, many scholars have debated that these 'marginal' or 'unused' resources are in fact not unused but rather belongs to villages and smallholders with customary rights over the resource (van Koppen et al., 2004; Kiishweko, 2012; Mehta et al., 2012).

Resource grabbing is "the appropriation of natural resources, including land and water and the control of their associated uses and benefits, with or without the transfer of ownership, usually from poor and marginalised to powerful actors" (see Mehta et al., 2012: 195; Fairhead et al., 2012). The growing body of empirical research that underpins the phenomenon of the global 'land-grab' is broadly based on Harvey's notion of 'accumulation by dispossession' (Harvey, 2005), a concept that highlights the transfer of property from public to private ownership which serves the interests of the state or a few capitalist elites (Harvey, 2005). The term 'grabbing' is intentionally used to 'grab' attention to memories of past and present-day injustices of resource enclosures and dispossessions (Mehta et al., 2012).

While power and control over water resources do not constitute a new concept, the water grab phenomenon "draws attention to the involvement of new capitalist players and stakeholders in water resources management and the rise of new political and economic power relations through diverse trajectories of neo-liberalism" (Mehta et al., 2012: 198). The process of water grabbing is much more 'slippery' than land grabbing, not least due to the nature of water (Mehta et al., 2012). Water is fluid in nature and by implication its governance (through IWRM) requires the continued, active measuring and monitoring of water resources and allocations (Hodgson, 2004). However, this is extremely difficult due to the limited human and financial resource capacity of water governance agencies. Secondly, the fluidity of water implies that its availability fluctuates over space and time, which may further complicate decisions concerning water allocations. A third crucial aspect is that downstream users are deeply affected by upstream users' abstractions and other uses (Arduino et al., 2012; Sosa and Zwarteveen, 2012) and this affects both the quantity and quality of water available to users in a river basin (ibid).

We take a social justice perspective to the term 'water allocation' following the water grabbing literature that has been presented in a past special issue of this journal (see Special Issue on water grabbing; Mehta, et al., 2012). We also acknowledge that equity in allocation is notoriously difficult to judge and is not the same as equality (see Lankford, 2013). There are also many physical issues around water allocation that lead to inequalities in distribution, especially in Tanzania where river systems and river basins are complex and highly variable. These include physical problems in using fixed weirs when allocating water down a gravity-fed river (see Lankford and Mwaruvanda, 2007) or the fact that water flows are notoriously difficult to measure and that water allocation policies and their delivery are both badly thought through and poorly implemented (Hooper and Lankford, 2016). Due to these reasons, Tanzania offers a context in which ad hoc and licensed misappropriation can run high, also contributing to powerful players resorting to water grabs.

Access to both land and water is crucial for rural livelihoods as well as for the pursuit of a wide range of development objectives (Hodgson, 2004). In Tanzania, this relationship becomes increasingly critical as investments in land (as well as donor-driven projects) for large-scale commercial agricultural ventures continue to rise, causing growing tension among villagers, pastoralists, investors and the government. Yet, the manner in which the policy, regulatory and administrative frameworks to govern these resources have evolved in isolation from one another reflects the adoption of sectoral priorities over that of an integrated approach (ibid). In the case of Tanzania, the lack of harmonisation and coordination between the various sectoral policies has had detrimental social, economic and

environmental consequences: from reinforcing exclusion of marginalised groups from resources, to the exploitation of resources for a few elites' economic gains (Hodgson, 2004; Lein and Tagseth, 2009).

A focus on the concept of 'exclusion' of Hall et al. (2011) is important for our study. 'Exclusion' is defined as the "ways in which people are prevented from benefiting from things" (Hall et al., 2011: 7), and is the inversion of Ribot and Peluso's (2003) definition of access as "the ability to benefit from things" (Ribot and Peluso, 2003: 153). Hall et al.'s (2011) four 'powers' that give way to exclusion and shape how different actors are prevented from accessing land provide a logical framework to discuss the complexities pertaining to exclusion. These include the powers of regulation, force, the market and legitimisation (ibid). Through regulation, exclusion happens by delineating land and setting terms of use within certain boundaries, for certain uses and for certain purposes; this is useful in the context of this study to describe how the Tanzanian government appropriates land for commercial agriculture and thereby excludes communities. The power of market on the other hand, drives exclusion through setting a price tag on resources and making it unaffordable for some (Myers, 2012). It drives the demand for land, as well as the price thereof in line with certain uses and markets; as in this case a 'boom crop' such as sugar cane for biofuels. The power of force describes instances where harm will come to those who try to access land and water resources (Harms, 2011), and is useful to describe instances where the Government of Tanzania (GoT) removed villagers or pastoralists from land earmarked for commercial agricultural production. However, it also includes the power of force imposed on people from actors other than the state, such as fellow villagers, investors and private companies. Legitimisation is further used to describe the rationale used by the state to justify the exclusion of some people, and also hinges on normative ideas of what is the 'right' or 'wrong' way to use resources and for what purposes it 'should be' used (ibid). This last concept of legitimisation is useful to discuss the current water governance framework in Tanzania that centres on water permits, and to discuss the complexities pertaining to the exclusion of the majority of the water users in the country who are still unregistered and 'informal'.

The complexities surrounding legal pluralism in Tanzania have highlighted the weaknesses of IWRM to effectively allocate water through the water permit system (Maganga et al., 2003; van Koppen et al., 2004). Legal pluralism is the coexistence of multiple legal orders, including statutory law and customary law, and thus the management and regulation of natural resources such as land and water by different institutions and pieces of legislation (Maganga et al., 2003). A major challenge of IWRM implementation in the global South concerns integrating plural legal management systems (Maganga et al., 2003; van Koppen et al., 2007). This is also the case in Tanzania when policy-makers adopted unitary, rigid property rights in order to establish formal legal regimes and formalise informal customary arrangements (van Koppen et al., 2004). In doing so, customary users of land and water have been rendered invisible, especially in the context of increasing foreign direct investments (FDIs) in commercial agriculture and despite being legally recognised in national policies and laws (Maganga et al., 2003; van Koppen et al., 2004). Furthermore, the permit system tends to favour those who have the time and financial resources to apply for permits, while excluding a large portion of rural water users who lack these resources (Hodgson, 2004).

There are multiple avenues by which powerful players can take control of, and gain access to, water resources. For the purpose of this study, these avenues are broadly categorised as 'new alliances' formed and 'acts of dispossession' (Islar, 2012). These avenues range from new coalitions of interest that can take on the form of newly created state agencies that are specifically geared for assisting investors to appropriate land (e.g. the Tanzanian Investment Centre), to business coalitions or new alliances between bureaucrats or politicians and private companies all of which have interests in large-scale agricultural investments. In her study on the privatised hydropower development in Turkey, Islar (2012) argues that although sometimes regulated, transformations in land and water property regimes can result in exclusive rights that have unequal distributional outcomes, resulting in the exclusion or marginalisation of communities. Also the blurring of boundaries between state actors, private

companies and financial actors makes it difficult for local communities to benefit (ibid). Similar to the findings of Islar (2012), we also show how affected communities struggle to make their claims heard as they have no clear legal or institutional framework on which to base their claims to water rights (ibid). In these cases, conflicts have emerged where local communities seek to both protect and legitimise their uses of water (Islar, 2012; van Eeden, 2014). The article will tease out these various alliances in the context of the Wami-Ruvu Basin and demonstrate how they result in water-grabbing processes that favour the large users of land and water.

OVERVIEW OF WATER RESOURCES MANAGEMENT IN TANZANIA

Tanzania's water resource management policies centre on the water use permit system, and has served to implement the priorities of colonial and national policies over the years (van Koppen et al., this issue). This agenda has, as early as 1923, enabled displacement of Africans to make way for large-scale colonial estates. Tanzania's water and land sector reform can be roughly divided into four major periods: From colonial to independence (1923 – 1961), *ujamaa* (familyhood in Swahili) and *villagisation* (1968 – 1975), economic liberalisation (1980 – 1989), and the foreign investment promotion period (1990 to the present).

While Tanzania's water resources are managed by the National Water Management Act of 2009 (URT, 2009), this Act revised the Water Utilisation (Control and Regulation) Act No. 42 of 1974 (URT, 1974) which was the first water governance act after gaining independence. Alongside the villagisation programme, full power was delegated to the Prime Minister to issue directions over village land use as he saw fit (Land Utilisation Act of 1973 and the Village Act of 1975, respectively). Furthermore, the introduction of the Water Utilisation (Control and Regulation) Act No. 42 vested all water resources in the United Republic of Tanzania instead of the colonial rulers, which is still the case today. The Water Utilisation (Control and Regulation) Act No. 42 further stipulates that all Tanzanians need to apply for a water right in order for their productive water use to be considered legitimate (Maganga et al., 2003). This implied that any water use should be declared illegal if unregistered (van Koppen et al., 2004).

While the water right application process was introduced by the Water Ordinance of 1948, Section 7, the process has evolved to also obliging all customary[2] productive water users to apply for a water right, which, under the Water Resources Management Act of 2009 has changed the term into 'permits'. This was underpinned by the National Water Policy (NAWAPO) of 2002 (URT 2002; van Koppen et al., 2004). Along with the application and subsequent approval of a water permit, the water permit holder needs to pay a once-off registration fee, as well as an annual volumetric water user fee as set out in the Water Utilisation (Control and Regulation) Act No. 42 of 1974 and especially in its subsequent amendments[3] (Lein and Tagseth, 2009). This fee was introduced on the recommendation of the Rapid Water Resources Assessment in 1994/1995 by the Ministry of Water, Energy and Minerals in collaboration with the World Bank and DANIDA (MWEM 1995), and the subsequent World Bank's Staff Appraisal Report in 1996 (World Bank 1996). The aforementioned assessment and report found that the country was experiencing immense water user conflicts and that water resources were deteriorating due to exploitation, misuse and uncoordinated management mechanisms (URT, 1995; van Koppen et al., 2004; Hillborn, 2012; see also van Koppen et al., this issue). It was believed that the introduction of the fee and managing water as an economic good would deter water wastage and

[2] The Water Ordinance of 1959 Section 11, 12 and 14 made voluntary provisions for customary water practices to register for a water right (Van Koppen et al., 2004; Lein and Tagseth, 2009).

[3] In 1994 the Subsidiary Legislation [Government Notice No. 347 of 1994 under section 38(2) of the Water Utilisation (Control and Regulation) Act No. 42 of 1974] was promulgated to introduce the annual fee structure for water rights (Van Koppen et al., 2004). In 1997, a Schedule of Fees was promulgated in the Water Utilisation (General) Regulations of 1997, and later revised in the Water Utilisation (General) (Amendment) Regulations, 2007.

alleviate the challenges that the newly appointed water basin officials and water boards were facing in having to be financially self-sustainable (URT, 1995; van Koppen et al., 2004; Hillborn, 2012).

The National Water Policy of 2002 framed these recommendations and primarily focused on decentralisation through river basin organisations in order to use water to alleviate poverty and for economic development. However, ironically as will be demonstrated in this article, the investment promotion period (1990 to the present) which was initially aimed to resurrect the country from its economic slump during the 1980s, has instead resulted in major resource grabs by investors that, in turn, have resulted in heightened tension and conflicts among villagers over limited water and land resources. During this period, in February 1990, Tanzania adopted its first investment policy, the Investment Promotion Policy which was an extension of the Agricultural policy in that it also emphasised modernisation by allocating land to commercial farmers (Sundet, 2004). This policy was soon followed by the National Investment Promotion Protection Act (NIPPA) of 1990 which gave the directive to establish the Investment Promotion Centre (IPC) to facilitate, monitor and approve foreign direct and local investments (ibid).

These developments have opened up for numerous investments in the country's agriculture sector, especially in the form of land acquisitions for commercial farming. It is, however, important to note that the relationship between land and water is equally significant for realising development objectives, as well as for rural livelihoods. This relationship becomes increasingly critical as the investments in land for large scale commercial agriculture continue to rise. Sadly, the isolated manner in which land and water policy and administrative frameworks evolved, prioritising the government's drive for development through foreign investments, has resulted in dire social, economic and environmental consequences. These include the over-exploitation of resources for the financial gain of a few elites while already marginalised groups are being excluded from certain water and land resources (van Eeden, 2014).

AGRICULTURAL INVESTMENT AND LAND ACQUISITION IN TANZANIA

A large number of multinational organisations, development banks, private-sector players as well as a few members of the local elite have taken advantage of the government's development drive. Perhaps the most controversial of these is the Southern Africa Growth Corridor of Tanzania (SAGCOT) project which was initiated at the World Economic Forum Africa summit in May, 2010. SAGCOT brings together the Tanzanian government and more than 20 multinational companies and organisations (e.g. Monsanto, YARA and the World Bank) in a public-private partnership in an effort to alleviate food insecurity through commercial agriculture (SAGCOT, 2014). SAGCOT is currently planned to span across a third of Tanzania's land, affecting livelihoods, land and water resources (ibid) of hundreds of communities.

In 2006, the GoT formed the National Biofuel Task Force (NBTF) in an effort to strengthen the policy, legal and institutional framework for biofuel development in Tanzania. In addition to this, the GoT had also passed laws and commenced with the development of a regulatory framework to allow the smooth development of biofuel projects in Tanzania, both for local landowners and the investors. These included the Tanzanian Investment Policy of 1997, the Village Land Act of 1999, the establishment of the Tanzanian Investment Centre (TIC) in 2005, as well as the Public Private Partnership Policy and Public Private Partnership Act of 2010.

The culmination of the above-mentioned efforts is manifested in the presidential initiative, Kilimo Kwanza (agriculture first) launched in 2009. This initiative focuses on the modernisation of both small and large-scale agriculture, political reform, foreign investment and public-private partnerships (Mousseau and Mittal, 2011). Through the national policy, Kilimo Kwanza, Tanzania claims it has taken a firm handle in combating food insecurity. Through actively promoting investment in Tanzania's agriculture sector, Kilimo Kwanza is the culmination of various policies discussed above that together ease the process of large-scale land acquisitions.

The increasing focus on commercial agriculture has had far-reaching implications for the governance of water, as well as for communities' access to water. Communities' access to water has in some instances literally been cut off to demarcate land for commercial agricultural purposes. Despite being critical to the successful implementation of these initiatives, the importance of water was almost negligible in the formulation and adoption of Kilimo Kwanza (van Eeden, 2014). Similarly, not much importance was given to the water governance framework and the institutions which were meant to strengthen water resources governance and management, such as the water basin offices, the introduction of volumetric pricing as well as water permits. These are now in turn being altered and shaped to fit into the national agenda of the various investment policy initiatives. We now turn to the water governance framework and the implementation of IWRM in the Wami Ruvu River Basin amidst these investment policies.

IWRM IN THE WAMI RUVU BASIN

Since Tanzania's adoption of the river basin as the planning unit for effective and efficient water management in the Water Utilisation (Control and Regulation) Act No. 42 of 1974, the Minister of Water, in 1989, gazetted nine river basins of which the Wami Ruvu River Basin was one (Tobey, 2008). Subsequently, the Government of Tanzania established the Wami-Ruvu River Basin Office (WRBO) and its Basin Water Board in 2001 (see also van Koppen et al., this issue). Tanzania's water resources management is organised around participatory and representative forums that decentralise from the national to the basin and sub-basin levels (URT, 2002; Ngana et al., 2010).

This institutional framework aims to integrate various sectors such as mining, irrigation and industry across the different levels of water management to ensure that water resources are managed in a participatory and transparent manner. However, as discussed, water management among sectors happens in silos and the integration between the sectors does not often exist. This is still mainly because water for noncommercial purposes assumes a lower priority than for other sectors such as large-scale irrigation and mining.

Furthermore, water use permits are core to managing water resources under the auspices of IWRM. While the Water Resources Management Act (WRMA) of 2009 clearly stipulates the process to apply for a water use permit, water users are able to bypass these official steps through forming alliances with the government, district and water basin officials, as well as through manipulating other water users (van Eeden, 2014). Large users can thus exploit the weak capacity of the basin office to bypass legal requirements and form alliances that suit their interests. It can be argued that this is another form by which water grabbing takes place. While water may not be grabbed physically, the water permit legally allows the water user to abstract water, giving her or him a certain power over those, often smaller water users, who lack a water use permit.

Illegal water abstraction by users that exceeds their allocation as well as those abstracting water without the necessary water permit, constitute a major concern in the Wami-Ruvu River Basin as it complicates the accurate monitoring of water use in the basin. As per the new WRMA of 2009, all water users, including those who already held water permits under the previous Water Utilisation (Control and Regulation) Act No. 42 of 1974, are legally obliged to register their water abstraction points or reapply for a new permit before August 2011 (Tobey, 2008; Ngana et al., 2010). However, in November 2011, a mere 11% of the permits subject to renewal was submitted for reapplication, while only 789 of the 988 permits on the WRBO record were still active permits (JICA, 2013). It is noteworthy that out of

[4] The repealed Water Utilisation (Control and Regulation) Act No. 42 of 1974 introduced the concept of managing water resources based on the river basin as a planning unit. The Act was amended in 1981, 1989, 1997 and 1999 (Tobey, 2008). It was later repealed and replaced by the Water Resources Management Act (WRMA), No. 11 of 2009 (Ngana et al., 2010).

these permits, the 30 largest permits, including five permits of Mtibwa Sugar Estate and two by Sekab (the former holding company of the EcoEnergy project), equalled 89% of the total volume of water allocated, and, hence, the proportion of fees to contribute to the costs of the WRBO and the salaries of its staff (Sumuni, 2015). In an attempt to streamline the WRBO, the Japan Investment Cooperation Agency (JICA) assisted the WRBO in updating their database and introduced a new permit database[5] that was 'user-friendly' and allowed for easy update of information. Despite JICA's efforts to establish the new database the officers at the WRBO still used the old Excel spreadsheet to get information and update info regarding permits (van Eeden, 2014).

In addition to the financial strain that the WRBO experiences as a result of nonpayment and no financial assistance from the Ministry of Water, the office struggles to conduct their day-to-day responsibilities due to a shortage of staff. The WRBO has a work force of 78 staff members (as of August 2012) that need to collect water fees, measure water flow, evaluate water permit applications and monitor water abstraction points in the entire WRB which covers an area of approximately 66,295 km^2 (JICA, 2013; van Eeden, 2014). According to interviews with staff members, the Ministry of Water, who appoints staff for the WRBO, has stopped new recruitments for many years. This not only resulted in an enormous age gap between staff members, but also in terms of work experience. The newly appointed graduates have not yet had the chance to acquire the necessary technical and managerial skills required by their job descriptions. Not only do the young employees lack the necessary experience, but they are also ill-equipped to handle the political pressure that they are often subjected to.

The lack of capacity and financial resources hampers the productivity and efficiency at the WRBO, while it also poses opportunities for bending the formal procedures among water users and basin officials. As has been pointed out by similar research studies, underpaid staff of the public sector in developing countries develop a series of coping strategies to make up for inadequate income (World Bank, 1997; Chêne, 2009; van Eeden, 2014). In her study, van Eeden describes instances where water permits were issued, while no formal applications were submitted by water users (van Eeden, 2014). In one case, a water basin official granted a water permit to a large-scale mineral and resources company over the phone without following the stipulated procedures (van Eeden, 2014). Another example relates to an instance where a junior basin official was intimidated by a senior official to sign-off on a water permit, despite an evaluation which concluded that there was insufficient water available in the Wami River to meet the need of the specific water user (ibid). In the particular case of EcoEnergy to be described below, the company went as far as to alter the Environmental Impact Assessment report which was conducted by Orgut (2008), an independent Swedish environmental consultancy. The initial report by Orgut indicated that there were insufficient levels of water in the Wami River to support the development of 22,000 ha sugar-cane plantations (van Eeden, 2014). Despite these developments, and the subsequent withdrawal of Orgut from the project, EcoEnergy received a water permit from the Wami Ruvu River Basin. The JICA report also indicates that more water permits have been granted and more water has been allocated than the amount of water available in one of the rivers in the WRRB, having multiple implications on future water security (JICA, 2013; van Eeden, 2014).

Although the WRBO and other water management institutions have the authority to issue permits, numerous factors are preventing them from doing so. The wider literature on water grabbing has indicated how large-scale users, by colluding and forming alliances with key stakeholders and government officials can obtain water permits without necessarily following – or even ignoring altogether – the formal application process (Mehta et al., 2012; Molle, 2008; van Eeden, 2014). Even if large-scale users follow the correct procedure without undue influence, the majority of smaller water users still struggle to get water permits, either due to their lack of knowledge of the procedures to

[5] The new permit database is one of six stand-alone databases that are integrated into a main database. The other databases include information concerning Water User Associations, Hydrology, Water Quality, Hydrogeology and River Structure.

apply or due to their lack of financial capacity, while the basin offices lack the capacity to process those applications even if they were submitted. Also, there are instances where large-scale water users use their power and technical ability to gain control and access to the water resource to the detriment of other water users. These instances will be described in the following sections.

UPSTREAM: MTIBWA SUGAR ESTATE

Mtibwa Sugar Estate (MSE) is the single largest user of water for irrigation in the Wami Ruvu River Basin, despite collectively not holding the largest water use permit. The Wami-Ruvu Basin Office (WRBO) database indicates that MSE holds nine water permits of which some date back to 1960. However, the database does not coincide with actual abstraction points at MSE and has also not been updated with MSE's latest application for a water permit for irrigating their fields in the Dakawa Ranch (Meggison Tandberg et al., 2013; van Eeden, 2014).[6] These discrepancies have implications for future development and allocations in the WRRB, as having incorrect information can lead to overallocation and shortages for some users in the future (van der Zaag et al., 2010).

The manner in which MSE abstracts water for irrigation is particularly contentious. Upstream of the Mkindo rice scheme and Lukenge Village, MSE constructed a weir and an irrigation canal in the Diwale River that flows into the Wami River. MSE has total control over this weir and has been opening and closing the weir to meet their irrigation demand, often for months on end, regardless of the needs of downstream users (Meggison Tandberg et al., 2013; van Eeden, 2014). MSE's irrigation technician confessed that in order to irrigate their sugar-cane plantations he will need to keep the weir closed for up to two months, while there is no monitoring by the basin officials as to the amount of water actually being discharged (ibid). MSE is thus literally grabbing water from downstream water users. This has sparked major conflicts between them, i.e. downstream communities as well as pastoralists in the area.

Some of these conflicts take place within the community. Some community members, who are also employees of the Mtibwa sugar estate, are forced to stay away from work or strike against the employer in order to put pressure on the company. Many employees feel threatened by their fellow community members and also risk losing their jobs if they do not go to work (van Eeden, 2014). The situation gets even more complicated, as many of the employees are also outgrowers to the company. These outgrowers deliver a certain amount of sugar cane, which they produced on their own land, to the mill in return for compensation. Often, companies require the sugar cane from outgrowers in addition to their own plantations to sustain their business. Because many employees are also outgrowers, they are forced to go on strike with fellow outgrowers because they have not received payment from Mtibwa for the sugar delivered, resulting in them not being able to repay loans for the previous season's input costs such as seeds and fertilisers.

These conflicts have partly also been the result of the WRBO's inability to monitor and service all the water abstraction points or to issue penalties and fines to those users who overuse their water allocations. Although the WRBO officials have the legal authority to issue fines, according to basin officials, they have never done so. This may be due not only to their lack of resources and capacity but also to the huge convening power of the large-scale users. Despite having an allocated abstraction amount to abide by, MSE is misusing its power over the weir to suit its own needs and interests and thus creating water-scarcity problems downstream (Komakech et al., 2011; Meggison Tandberg et al., 2013). The perceived problem of water scarcity has manifested in various ways among downstream water users in the basin. Villagers and small-scale rice farmers had no choice other than to take on a more reactive approach to manage this problem; by walking with their machetes to the weir protesting

[6] MSE applied for a water permit for irrigation purposes to the amount of 4.5 m^3/second for a dam that forms part of the expansion project in Dakawa; however, the permit was only granted for 2.5 m^3/second.

and demanding that the weir be opened once they physically experience a shortage of water downstream. Other large-scale users take on more of a proactive approach to deal with this problem as will be illustrated in light of EcoEnergy's water use and management.

Mtibwa Sugar Estate was established during Tanzania's sugar sector reform when the state-owned sugar industry was privatised from 1998 to 2001. At the time of MSE's privatisation, the company held 75% shares while 25% was retained by the GoT to be sold to interested parties in future. While this equity share arrangement was in line with contracts between the GoT and the sugar industry at the time of the reform, it shortly changed after the company's establishment in 1998. Instead of selling the remaining 25% of shares to interested parties, the GoT decided to sell their shares back to MSE, foregoing the opportunity by others, such as the Outgrower Associations to buy shares and have a stake in the company.

This ownership structure has given the GoT an excuse not to intervene in the ongoing disputes between surrounding communities, the outgrowers and MSE. According to multiple interviews conducted during this research, government officials have claimed that the GoT cannot interfere in the struggle between the various parties, leaving the outgrowers alone in their fight against the company (van Eeden, 2014). This struggle concerns hefty disputes and strikes by the outgrowers over not being paid by MSE for sugar cane that they have delivered, as well as conflicts over access to water resources and water pollution, to which we will return in the following section.

In addition to MSE's elusive ownership structure, another point of contention is the alleged stake that the ex-president of Tanzania, Mr. Benjamin William Mkapa has in the company (van Eeden, 2014). Through this relationship, MSE has been enjoying immense support from the ex-president on numerous occasions,[7] further aiding to sense of powerlessness of the outgrowers and communities (ibid). As indicated in the wider literature, through dissolving mergers and acquisitions, companies are able to create vagueness and confusion over their true ownership structure (Mehta et al., 2012; van Eeden, 2014). This not only implicates their accountability to the government and public but ultimately creates opportunities for companies to obtain water and land resources by obscure means. MSE's equity structure has thus given the owners of the company the leverage to misuse their power, which is in line with the wider literature on water grabbing and the power of large-scale water users (Mehta et al., 2012; van Eeden, 2014).

DOWNSTREAM: ECOENERGY

In contrast to MSE's company structure, Agro EcoEnergy Ltd. (EcoEnergy) was established in Tanzania by multiple international and Tanzanian entities.[8] It was initiated in 2008, with the signing of a Memorandum of Understanding (MoU) between the GoT and SEKAB BioEnergy Tanzania Ltd. (SEKAB BT). The MoU was signed with the intention to kick-start the development of a long-term and

[7] Mr. Mkapa [in turn] has been involved in many economic development initiatives in the Mtibwa ward (TDN, 2012). However, the communities around MSE have received these initiatives with mixed emotions. The Mtibwa Outgrowers Association (MOA) recalled the time that the ex-president was invited to open up a branch of the Bank of Africa towards the end of 2012: a news article describes this event as being a victory for rural communities as the bank was implementing the government's policy that encourages banks to go rural and to encourage people to have bank accounts and how to save and facilitate development at large (TDN, 2012). However, the ex-president made it clear that the community should be thankful to MSE for facilitating development within the community (van Eeden, 2014: 116).

[8] SEKAB is 70% municipally owned and has a reputation for upholding it as it is directly accountable to Swedish tax payers (Havnevik et al., 2011). SEKAB BT comprises two entities, (1) the Tanzanian Community Finance Company (CFC), which focuses on the establishment of community-based farming to foster rural development and (2) the Swedish Ethanol Chemistry AB (SEKAB), which is the largest producer of ethanol for the Scandinavian market and owned by three Swedish public utility energy companies (Van Eeden, 2014).

sustainable bioenergy platform in the country (Chachage, 2010).[9] EcoEnergy's biofuel project is the first of its kind in Tanzania where the state has entered into a partnership with the investor. This model is known as the Land for Equity Policy, which was developed by the Ministry for Lands, Housing and Human Settlements Development in 2012. It is through the auspices of this policy that the GoT presented EcoEnergy with 22,000 ha of the Razaba Ranch in return for 25% equity in the biofuel project. The Land for Equity policy is, however, not without its critiques. In order for the policy to benefit investors and communities, Tanzania's land and villages need to be surveyed and demarcated before it is allocated to investors. However, 90% of Tanzania's villages do not have a land use map that clearly demarcates the boundaries and borders of the villages (Havnevik, 2012).

As in this instance, village governments and the GoT have allocated land, and effectively water resources to EcoEnergy without the knowledge of where their village boundaries lay (van Eeden, 2014). This has resulted in intense conflicts between village communities, pastoralists and EcoEnergy as will be discussed in the sections to follow.

The Razaba Ranch in the Bagamoyo District is situated 80 km northwest of Dar es Salaam, 20 km north of Bagamoyo Town and borders the Sadaani National Park to the South. The Ranch has a long history of farmers, traders and hunters who have lived on the land for centuries up until 1974 when the GoT formally gave the ranch to the Government of Zanzibar as a livestock grazing area (Orgut, 2008). At that time, inhabitants of the area were compensated for their loss of land while 7000 head of livestock came to be stocked in that area. However, 20 years later all operations ceased due to persistent problems with tsetse flies (ibid).

Since operations ceased in 1994, various pastoralist communities brought their cattle to graze and drink from the water resources on the Razaba Ranch while other communities have also settled on the land. The activities of these communities ranged from charcoal producers, hunters, collectors of medicinal plants and farmers who cultivated paddy fields, perennial plants (sugar cane, pineapples, coconuts and citrus fruit) and annual crops (maize, rice, sweet potatoes and cassava) (Orgut, 2008). These communities had to be resettled elsewhere when the GoT allocated the entire Razaba Ranch to EcoEnergy. EcoEnergy prepared a Resettlement Action Plan (RAP) in line with the African Development Bank's Involuntary Resettlement Policy.[10] According to the survey conducted for the RAP, approximately 1200 people had to be resettled, including the villagers of Kaloleni Biga, Gobole, Gama, Bozi and 11 pastoralist families belonging to the Datooga tribe and owning 1750 head of cattle (Johansson, 2013).

When EcoEnergy acquired the Razaba Ranch as well as village land from Matipwili and Fukayosi,[11] five access ways to the Wami River were blocked off (Philemon, 2013). This has meant that pastoralists, who are dependent on the water in the Razaba Ranch as well as the Wami River, can no longer access these resources and take care of their cattle. Subsequently, pastoralists have been forced to seek alternative resources, often on village land. Villagers have complained that the influx of pastoralist and their cattle on their land have placed immense pressure on the land resources and has left their water

[9] As with MSE's elusive ownership, the dissolving of SEKAB BT and subsequent establishment of EcoEnergy has raised questions pertaining to the overall manner in which the company does business and has also created a lot of confusion amongst various stakeholders and villagers. For an in-depth discussion regarding the transition from SEKAB BT to what is now EcoEnergy, refer to van Eeden (2014), Section 6.3 p.118.

[10] "[This policy] states that people are eligible for compensation for their land whether they have legal rights over the land or not. However, the GoT only recognises people who are legal residents or users of the land to be eligible for compensation (AEE, 2012b). This implied that, during government surveys of the communities in the area, pastoralist families were not accounted for, as they do according to Tanzanian law, not legally own any land. Charcoal producers were also omitted from the survey as they were deemed illegal and unauthorised, using the Razaba Ranch without permission" (AEE, 2012b: 124).

[11] For an in-depth description of EcoEnergy's land acquisition and the resettlement of communities refer to van Eeden (2014) Section 6.3.

resources depleted (Engström, 2014). As a result, these villagers now need to buy water from a tanker or cover additional distances to collect water from other water resources (ibid).

Although EcoEnergy has acquired a water use permit from the WRBO allowing them to abstract water from the Wami River to meet the irrigation demand for the full 22 000 ha, a previous study by Orgut found that there is not enough water in the Wami River to sustain the needs of the downstream Matipwili Village, livestock and the environment (van Eeden, 2014). This required EcoEnergy to conduct another study, this time by themselves and students from the University of Dar es Salaam, concluding with a favourable amount of water for the intended uses; i.e. the plantations, communities and livestock. However, the independence and precision of this study is questionable. In line with Lankford et al. (2007), this draws attention to the inadequate and short-sighted studies conducted by basin officials and investors that give way to allocating water rights – with related fees – that favour large-scale users over that of communities (Lankford et al., 2007). Because of EcoEnergy's position in the Wami sub-catchment, situated downstream of Mtibwa Sugar Estate and other agricultural and industrial developments upstream, they are exposed to severe water shortages that directly influence the viability of their project. This has made EcoEnergy seek alternative ways of ensuring that their future water demands are met.

In their Integrated Water Resources Management Plan, EcoEnergy proposed two long-term mitigation measures that will alleviate the water shortage during the deficit months: a large-scale storage dam and assuming a seat on the Wami-Ruvu Basin Board. These solutions would direct more power to the company concerning decisions of water resources management in the WRRB (AEE, 2012a). In the short term however, EcoEnergy has resorted to a third route to ensure the security of water supply in the future. It has identified 3000 ha of land from farmers belonging to Matipwili, Gama and Kiwangwa villages (AEE, 2014) who need to organise themselves into groups who will collectively own 75-150 ha of sugar cane (ibid). Each of these groups will establish an outgrower company in accordance with the Companies Act 2002, No. 12 and have a long-term off-take agreement of 11 years with EcoEnergy (ibid). EcoEnergy envisages that 25-35 outgrower companies will be established, producing approximately 300,000-400,000 tonnes of sugar cane for the EcoEnergy sugar mill (van Eeden, 2014). The outgrower companies will also be able to apply for loans from, for instance, the Tanzanian Investment Bank through the Kilimo Kwanza initiative for smallholder farmers (AEE, 2014).

However, to obtain these loans[12] the companies require three documents: 1) a business plan including the land title deeds of their farms, 2) a sugar-cane purchase agreement (the long-term off-take agreement) between EcoEnergy and their company, as well as 3) a water use permit from the WRBO. It should be noted that water use permits are issued on a first-come, first-serve basis, which, together with MSE's expansion plans provide enough concern for EcoEnergy to ensure that they have secured water permits for their outgrowers as soon as possible, even though it will still take another few years for these to be established and operational, if this happens at all. Thus, instead of following the formal process of applying for a water permit for their outgrower scheme at the basin office, EcoEnergy requested the Bagamoyo District Officer to apply for a water use permit on behalf of the entire outgrower scheme. This was decided after EcoEnergy raised their concern with the director of the WRBO who instructed them to follow this speculative route. In sum, EcoEnergy has gained access to land and water resources through various acts of dispossession as well as through the creation of new alliances with government officials and key figures in communities. It has both followed official procedures and also used more creative ways that circumvent these official steps.

[12] While farmers indicated that they would like to apply for a loan, they were oblivious of the actual amount they would need to apply for, to operate an outgrower company; this is roughly estimated to be USD800,000-1.2 million payable over an 11-year period (van Eeden, 2014).

DISCUSSION AND CONCLUSIONS

This article has illustrated how IWRM has directly or indirectly favoured the priorities of companies and investors in the Wami-Ruvu River Basin. This has started with the shift towards neoliberal water policies that strengthened statutory water permits and simultaneously neglected customary rights to water (van Eeden, 2014). Furthermore, the redefinition and creation of institutions that justify the government's drive towards 'modern' agricultural development (i.e. the TIC, Kilimo Kwanza, and the Biofuel guidelines), have also allowed investors to gain access to large amounts of water and land, which in the case studies described above, resulted in instances of water grabbing. These have resulted in the exclusions (cf. Hall et al., 2011) of small and usually poor users who have not been able to benefit from the new policies and governance frameworks. The two cases presented above will now be discussed in light of 'undue influence and new alliances' and 'acts of dispossession' (Islar, 2012).

Undue influence and new alliances

Each of the two case studies represents and involves different actors, powers and agendas that contribute to instances of undue influence and new alliances. Firstly, then, perhaps the biggest contributor to MSE's misuse of the weir, results from the positional power they enjoy from their established relationship with the ex-president. This undue influence effectively gives them the sanction power to fully control the weir and deprive downstream users of sufficient water without having to be concerned about the consequences. While MSE has the backing of the ex-president, the downstream communities can only rely on their collective social power to force MSE to open the weir and let water through.

Despite the social power that the communities have, their sense of powerlessness against MSE's misuse of the weir is compounded by their not having legal rights to water (Crawford and Andreassen, 2013; Hellum et al., 2013). This sense of powerlessness though not having a water permit to abstract water, has to some extent also surfaced in EcoEnergy's case; for the latter, the statutory permit application process to secure water rights in future worked well. EcoEnergy's alliances with the basin director and district officer among others, have given them the ability to fully exploit the IWRM framework to suit their needs.

In addition to these alliances, the Land for Equity model is another means by which new alliances are fostered between private companies and influential government officials. EcoEnergy has gained large tracts of land and access to the Wami River's waters through the myriad of alliances they have formed, by various means, with influential village members and key government officials. As Bakker elucidates, these new alliances between government and private companies imply "a more diffuse, opaque form of governance, with important and technical consequences, namely loss of transparency and accountability, and an incomplete assessment of the future economic returns and the environmental and social impacts of proposed projects" (Bakker, 1999: 228). Despite the equity model being upheld as a means whereby communities are being involved in the project and ensured of economic returns, the EcoEnergy case has illustrated how certain key individuals profit while thousands of community members are deprived of their land and water resources.

The creation of new alliances, whether it is between private companies and government officials, or with certain community members, has resulted in social exclusion among certain community members. In line with other water grabbing cases, social exclusion in this instance is the result of conflicts between those who see the opportunities that the project holds and those whose livelihoods depend on the land and water resources claimed by EcoEnergy and MSE (Dauvergne and Neville, 2010; Islar, 2012; van Eeden, 2014). EcoEnergy formed new alliances with those prominent individuals within the villages who have the authority to make decisions about village resources, such as wealthy farmers, village elders and village chairmen (van Eeden, 2014). The effect thereof is increased social divisions and mistrust between village members and EcoEnergy, as well as these key village members (ibid).

Acts of dispossession

In the cases presented above, two main factors contribute to acts of dispossession: The requirement to apply for permits and the speculative means by which powerful actors can do so; and the physical diversion or overabstraction of water by powerful actors that deprive small-scale water users of their ability to access sufficient water.

MSE enjoys both a physical and sociopolitical prominent position in the Wami-Ruvu River Basin, which gives them the upper hand to intercept and divert water away from downstream water users. While MSE contends that they are using water within the limits of their allocated amount, from the research study conducted by van Eeden (2014) it is clear that they misuse their power over the weir and deprive downstream communities from having access to sufficient water. This has multiple implications on downstream users; both those communities in the immediate surroundings that experience the effect of MSE's water grabbing more directly and instantaneously and those users located at the end of the river who are also rather concerned about future water availability and security. As mentioned above, these users have varying degrees of capabilities and support to deal with this situation. While communities need to fend for themselves, EcoEnergy enjoys the support from various key actors in government and communities to be creative in securing water rights for their development in the future.

At the onset of EcoEnergy's project, they demarcated their project land and closed off major access ways that were used by communities and pastoralists to get water from the Wami River (van Eeden, 2014). The effects of this entailed that communities and pastoralists had to go in search of water resources on other land, placing additional stress on the already water- and land-scarce environment surrounding the Razaba Ranch. This has further resulted in violent conflicts among communities and the pastoralists, as well as with EcoEnergy.

While the IWRM framework did not directly contribute to these conflicts by its ineffective implementation in Tanzania it has allowed powerful actors to manipulate the legal framework and secure water for their own use, as in the case of EcoEnergy who was able to secure water for their own operations in future, resulting in what can be argued as water grabbing. As mentioned, EcoEnergy was able to circumvent and manipulate the formal water right application process whereby the District Officer had to apply for a water right on behalf of EcoEnergy's outgrowers. This was done without the knowledge of the outgrowers and without many of them knowing what a water right and the subsequent payment for water entailed (ibid). Thus, by securing water for themselves, albeit on a piece of paper, EcoEnergy is robbing other water users who wish to abstract water from their water rights in the future. This arguably relates to acts of dispossession. The issue of water availability in future is further complicated when taking into consideration the basin officers' inability to measure current abstractions in the basin to effectively establish a baseline and allocate water accordingly.

To conclude: the institutional shortcomings of IWRM have created many difficulties for the WRBO to effectively implement IWRM in the Wami-Ruvu River Basin. This is because of major power disparities among the water users in the basin coupled with the physical and political complexities of water allocation that are rarely addressed through IWRM. The various new alliances described in this article have led to acts of dispossession that have excluded local users from land and water. Thus, we concur with others that the IWRM framework can be exploited by powerful actors' agendas to influence decisions regarding water allocations (see Franco et al., 2013). IWRM, as implemented in the Wami-Ruvu River Basin, is not able to allocate water among water users in a fair and equitable way. Rather water is being allocated to 'priority' users, namely commercial agricultural companies and investors with detrimental outcomes on small-scale users.

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