WATER AID AND TRADE CONTRADICTIONS

Dutch aid in the Mozambican waterscape under contemporary capitalism

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Thesis submitted for the degree of PhD

2021

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Abstract

In 2013, the Dutch government adopted its 'aid, trade and investment agenda', commonly known as the 'aid and trade agenda'. This thesis examines the application of this agenda and its forerunner in the Mozambican waterscape and how it has reproduced and transformed the Mozambican-Dutch water aid relationship. The aid and trade agenda is a consensual agenda, in which state- and aid-driven approaches to water management were presented as complementary and compatible with trade- and market-based approaches. In contrast, this thesis argues that this agenda and its implementation in Mozambique can be better understood dialectically, in terms of 'water aid and trade contradictions'.

The dissertation distinguishes between a primary water aid and trade contradiction that is constitutive of the bilateral water aid relationship as a whole, and secondary contradictions. The primary contradiction is explained in terms of the territorial and capitalistic logics of liquid power. These refer to the politics revolving around water's multiple use values and place-based waters on the one hand, and the subjection of water(-related processes) to market mechanisms and market imperatives such as competition on the other. I trace the rise of the capitalistic logic throughout the bilateral relationship's history, as it developed in tandem with contemporary capitalism since the 1980s. I argue that this capitalistic logic has come to contradict with territorial logics of liquid power, in particular by the water politics of the government and central state of Mozambique. This primary water aid and trade contradiction is derivative of and manifests itself in various contradictory realities, or in what I call 'secondary contradictions'. Firstly, the capitalistic logic translated in the will and attempts to apply market mechanisms in the bilateral relationship and in the Mozambican waterscape. However, these attempts were often negated by central state and bureaucratic power in Mozambique—the very power that these mechanisms sought to weaken. Secondly, a capitalistic logic underpinned a water access mechanism that Dutch and Mozambican actors jointly implemented in small towns in Mozambique, but this logic clashed with territorial logics in power struggles unfolding at the national and local scales. Finally, the capitalistic logic was expressed in exclusionary events, events that narrowed down imaginaries and pathways for hydrosocial development. These were therefore contested events and countervailed by agents based on social, political and environmental, rather than economic, grounds.

The thesis argues that the aid and trade course followed in Mozambique has deepened rather than eased the primary water aid and trade contradiction. This has led to intensified power struggles and has complicated the governance and management of (Dutch) water (aid) in Mozambique. Moreover, rather than leading to inclusive and equitable hydrosocial development, it is argued that this agenda has left the root causes of uneven development in Mozambique and its waterscape by and large unaffected.

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Acronyms

AIAS	Administration for water and sanitation infrastructures (Mozambique)
ARA	Regional Water Administration (Mozambique)
ASAS	Sectoral Support to the Water Sector
BoP	Base (or bottom) of the Pyramid
BZ	Ministry of Foreign Affairs (Netherlands)
BWI	Bretton Woods Institutions
CR	Critical Realism
CRA	Water Regulatory Council (Mozambique)
DAC	Development Assistance Committee
DGBEB	Directorate-General for Foreign Economic Relations (Netherlands)
DGIS	Directorate-General for International Cooperation (Netherlands)
DMF	Delegated Management Framework
DNA	National Directorate of Water (Mozambique)
DNAAS	National Directorate for water supply and sanitation (Mozambique)
DNGRH	National Directorate for water resources management (Mozambique)
DRA	Demand Responsive Approach
DWS	Dutch Water Sector
EMS	Eduardo Mondlane Stichting
EKN	Embassy of the Kingdom of the Netherlands
EZ	Ministry of Economic Affairs (Netherlands)
FDI	Foreign Direct Investments
FIPAG	Water Supply Investment and Assets Fund (Mozambique)
Frelimo	Mozambican Liberation Front
GOM	Government of Mozambique
GON	Government of the Netherlands
IFI	International Financial Institution
IMF	International Monetary Fund
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
MASP	Multi-Annual Strategic Plan
MCC	Millennium Challenge Corporation
MDGs	Millennium Development Goals
MOPHRH	Ministry of Public Works, Housing and Water Resources
MoU	Memorandum of Understanding
MZM	Mozambican Meticais
NGO	Non-Governmental Organisation
NWP	Netherlands Water Partnership
PLAMA	Mozambican Water Platform
PO15	Project for 15 operators
PPP	Public-Private Partnership

PSP/ PSI/ PSD	Private Sector Participation/ Private Sector Involvement/ Private Sector Development
SA(P)	Structural Adjustment (Plan)
SDGs	Sustainable Development Goals
SWAp	Sector Wide Approach
TA	Technical Assistance
ToR	Terms of Reference
VEI	Vitens-Evides International
WB	World Bank
WP	Work Package
(Post-)WC	(Post-)Washington Consensus
WRM	Water Resources Management
WSP	Water and Sanitation Program (part of WB)
WWn	World Waternet
UN	United Nations
US	United States

Acknowledgements

This part-time PhD has been a long, but highly rewarding journey. It was a rewarding journey not just in the sense of travelling and getting to know new places and people; it entailed a fascinating exploration into many more dimensions of PhD journeying, including (critical social) science, the 'nature of nature', human and nonhuman histories, and new languages. Long journeys and explorations involve ups and downs, breakthroughs and obstacles, unexpected turns and routines. My PhD is no exception. But even the downs and obstacles have been rewarding (at least in hindsight), indeed even necessary to learn, improve and move on.

My PhD journey started while being employed as a social researcher at KWR Watercycle Research Institute. This institute introduced me into the fascinating world of water (research). KWR, and especially its social science team where I started my (research) career, has been pivotal in getting acquainted with the various (social, infrastructural, physical) dimensions of water. I am particularly grateful to my former team leader, Jos, who supported and motivated me to embark on the PhD from the very start. From my colleague and friend Andrew I learned what it was like doing (part-time) PhD research in different countries and to dig ever deeper into one's matter of investigation. During the latter part of my PhD, I combined work for the court of appeal Arnhem–Leeuwarden with writing my thesis. This has been another supportive environment for combining work and PhD research. Special thanks to Trees, for the flexibility offered during the writing stage of the PhD.

My first supervisor Peter Mollinga took the time and effort to read and discuss draft versions of my preliminary PhD proposal even before I joined SOAS. This was critically important for me as a junior researcher, for whom the 'what, where and how' of the PhD journey was still a tabula rasa. He supported and helped guiding my project before and during the entire journey at SOAS, for which I am very grateful. Many thanks go out to the other (former) members of my supervisory team. They are Rosaleen Duffy, whose support was critical in the first phase of upgrading to PhD, and Thomas Marois, whose comments were particularly helpful in the upgrade phase and in the final phase of writing. I furthermore received a small fieldwork bursary from the STEPS Centre and was given the opportunity to participate in an inspiring workshop in Cape Town with their support. Thanks for that and special thanks to Amber Huff for acting as coordinator and liaison in this process.

Many people have helped me getting to know and getting around Mozambique and its water sector. I'd like to thank the following persons in particular: Herco, for his insights on (water and Dutch aid in) Mozambique and the opportunity to rent his apartment in Maputo; Toine, for his introductions into the Mozambican water sector and VEI (projects) during various digital and physical chats and coffees and Joep, for introducing me into the PO15 project, for providing reports and data about the project and for letting me join several missions to PO15/ AIAS towns. In these missions, I spent quite some time with Carlos, Jelmer and Wilco. I have fond memories of these trips together and I have learned a lot from them on all kinds of water topics in Mozambique. I furthermore wish to thank personnel of the Dutch embassy in Maputo, in particular the water specialists, who were very open to welcome me and share their insights. Regarding DNA (now DNAAS and DNHGRH), I am particularly grateful to

Julieta for guiding me through the organisation. During fieldwork in the villages, I was greatly assisted by Juma, Januario, Ito and José. More generally, I am very grateful to all Mozambican and Dutch interviewees who made time available and whose kindness, openness and warm welcome was heart-warming.

I am indebted to IESE for having offered me an inspiring, temporary research environment during my fieldwork in Mozambique. The presentations and discussions with colleagues here have helped me much in thinking through aspects of Mozambican (water) society that I was investigating. Being able to use the facilities and documentation of IESE on Mozambique proved very valuable. Special thanks go out to Carlos and other members of IESE's economy and development department for helping me becoming affiliated to IESE and to Sérgio for his support throughout. The same appreciation goes to those who have (temporarily) connected me to the Department of Archaeology and Anthropology of the Eduardo Mondlane University in Maputo: Adriano and Esmeralda.

Family and friends help make the journey so much more pleasant and bearable. Thanks go out to all friends I have made in previous journeys in Putten/Ermelo, Breda and Amsterdam and who have one way or the other been there for us, whether by making dinners, having chats over a coffee or a beer, engaging in debate and discussion or by critically questioning me. My family has been a great source of support and inspiration. Bram, Stacey and Arana as well as my parents-in-law Jan en Frieda have helped us out in many ways, for which I am very grateful. I thank them as well as my other brothers/sisters(-in-law) Freek, Dineke, Tessa and Erik and their families for their love and care. Bram, I admire your passion about (critical social) science, which has been an inspiration throughout. My parents Henk and Lenny have always inspired and motivated us to continue learning. It is in this spirit that I embarked on this PhD. They have, as always, been there for us with their love and support—thank you.

I dedicate this PhD to my wife and daughter, Marjolein and Britt. Marjolein: without you, this PhD would not have started or finished. Your open, flexible and positive mindset enabled me to embark on this project and your unconditional support, not least after the birth of Britt, allowed it to be finalised. I thoroughly enjoyed the time we spent together in Mozambique and London as part of this. Britt: you made our lives and this particular journey even more fascinating and worthwhile than it already was. I truly hope one day we get to discuss together some of the topics I discuss in this thesis and the things in life you develop a passion about, whatever those are. I love you both.

Chapter 1

Introduction

1.1 From water aid *to* trade...

In his treatise on political economy, Karl Polanyi (2001 [1944]: 187) remarked that "...what we call land is an element of nature inextricably interwoven with man's institutions. To isolate it and form a market for it was perhaps the weirdest of all the undertakings of our ancestors". A similar statement can be made about water, the 'element of nature' central in this thesis: that subjecting water to what Polanyi calls 'the requirements of the market mechanism' (ibid) is a peculiar undertaking. It may be considered even more peculiar than marketising land, considering the difficulty to (materially) isolate water as a 'flow resource' as opposed to the relative fixity of land, or the social and moral objections, and political sensitivity to deny people access to water—elements deemed necessary for markets to function well. Such 'limits to capital' (Harvey 2006 [1982]) are well-known and well-documented for water (e.g. Bakker 2003; 2005; Swyngedouw 2005; McDonald and Ruiters 2005; Roberts 2008; Loftus 2009), and they help explain why a market for water has not (yet) been established to the extent that it has been for land.

In spite or because of such limits, there is a perseverance in subjecting water to market discourses and mechanisms. For those persuaded by and actively propagating neoliberal ideology, there is nothing weird about this. On the contrary, such limits are to be overcome in order to apply the (in their eyes superior) workings of the market to elements of nature like water. The (enduring) privatisation of water supply in England and Wales is amongst the best examples of this neoliberal ideology at work (see e.g. Bakker 2003; Walker 2014; Bayliss 2014; Loftus et al. 2018). Actors involved in international development (aid) appear to be driven by a more moderate politics. Those I spoke to are well aware of the controversy around water privatisation, which has been subject to debate ever since its widespread application from the late 1980s. While not supporting water privatisation as it exists for instance in England and Wales, most of them have grown tired of political and moral debates on this or likeminded topics such as the (universal) right to water and/or the question whether water should be managed by public or private entities. They take the pragmatic, depoliticised route. Rather than endlessly debating political questions that according to them produce no winners, or in which the nuance is supposedly lost, they tend to focus on instrumental and managerial ('how to') questions. They see the market not as a panacea or end in itself, but as a means to achieve progress. Whether public, private or non-profit agencies; all should work together in water development, they argue. This reminded me of Third Way politics and (development) approaches in which progressive goals are pursued, but still within the confines of and guided by the ordering principles set by neoliberal capitalism (Kiely 2005: 80-125; Didier et al. 2013).

The Dutch government's 'aid, trade and investment agenda' (GON 2013a) and its attempted realisation

in the Mozambican waterscape[1] that this thesis examines represents a quintessential Third Way approach, or so I argue. Commonly referred to as 'aid and trade', this agenda fits a wider trend in which donors similar to the Dutch state aim to achieve progressive ends by tying actors, objects and processes of aid (closer) to those of trade and (private) investment.[2] In other words, aid agencies linked to or dependent on the state are encouraged to partner up with private companies and to engage in marketisation, in their will to improve human and nonhuman conditions (Li 2007; Mawdsley 2015). This agenda was launched in a political economic context of crisis and austerity in the Netherlands and in a context of growing criticism on aid especially by right-wing and nationalist parties.[3] A budget cut on aid was part of austerity measures taken and criticism was responded to by pledges to make aid more effective, more market-oriented and more self-beneficial. An influential report that took stock of Dutch aid in 2010 (WRR 2010) had also already opted for a reorganisation of Dutch aid. Combined, these events shaped the aid and trade agenda as a whole and the choices that were part of it. Among these choices was a reduction in the number of partner countries from 33 to 15 and of aid sectors to four. Mozambique was selected as an aid and trade partner country and water as an aid and trade spearhead sector or 'priority' (GON 2013a: 7).

The initial idea of Dutch decision-makers was to move from aid to trade in Mozambique in the course of five years, that is, to replace a relationship based mainly on aid with one based only on trade. What notably inspired this idea of "thinking beyond aid" (GON 2013b) was the discovery of extensive gas fields in northern Mozambique in the late 2000s and the frenzy it triggered. Mozambique's foreseeable future was considered bright, with a Gross Domestic Product (GDP) that was expected to triple in size. It was envisaged that Dutch companies could exploit "new opportunities" in this alleged "dramatic transformation in its economic structure" (ibid; GON 2013c). Notwithstanding a number of challenges, the Mozambican water sector was equally seen as a reservoir of "opportunities for trade and development" and for "further Dutch (private sector) engagement" (GON 2013c: 5). In short, the aid and trade agenda was supposed to add a promising chapter to the Mozambican-Dutch (water) aid relationship, whose origins go back to before Mozambique's independence in 1975.

1.2 ...to water aid *and* trade

Targeting Mozambique and its water sector as promising destinations in which to realise this agenda was deeply puzzling for two main reasons. Firstly, by the time this agenda was set, the actual foundation and mechanisms of Mozambique's political economy were considered highly problematic (Cahen 2005; Sumich 2010). Surely, the country had experienced consistently high economic growth figures for decades. Members of the international aid community by and large attributed this to the development pathways promoted and largely designed by them from the late 1980s onwards (Pérez Niño and Le Billon 2014). These pathways aimed at the country's integration into global capitalism,

[1] Waterscape refers to 'a produced hydrosocial entity' (Loftus 2007: 49). Waterscape is a much-used term in political ecology, the literature that this thesis engages with. Political ecology looks at how nonhuman nature is implicated in political economic processes and systems. See also below and the next chapters.

[2] 'Aid and trade agenda' is also the name I use in this thesis. With donors similar to the Dutch state, I specifically refer to the so-called DAC-donors. DAC stands for the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD). Many of its members are donor states from Western Europe and North America that have been involved in international development since its beginnings in the late 1940s. Because of that, they are also sometimes referred to as the 'traditional donors' (Mawdsley 2015).

[3] The crisis referred to is the financial crisis that broke out in 2007/8 and lasted until the mid-2010s. The political parties that particularly criticised aid were the VVD and the PVV.

which was itself undergoing change by the twin processes of neoliberalisation and financialisation. But these pathways, and the extensive privatisation and other market-oriented programs carried out as part of it, did not nearly bring about the widely hailed telos of a well-functioning liberal democracy and capitalist market economy. What had been created instead, according to Castel-Branco (2013; 2014), was an economy one-sidedly focused on fossil fuel extraction and a political regime that has extensively used the state apparatus, Foreign Direct Investments (FDI), aid, various types of debts and other resources for accumulating private wealth and social power. This in turn fuelled uneven development and inequality in the country, with the production of wealth benefiting a minority occurring alongside the (re)production of widespread poverty (Cunguara and Hanlon 2012). The exploitation of natural gas could have expanded the economy and could have added billions of dollars to the state coffers. But it would not by itself have changed the workings of this political economy or lifted the poor out of poverty. Neither would have a general increase in trade. Routes to do business in Mozambique are closely entangled with the dominant political and economic classes, most of whom have major stakes in maintaining the political economy as it is (Macuane 2012; Buur 2014).

Secondly, the Dutch agenda for Mozambique was puzzling because of the highly opportunistic imaginary of the Mozambican waterscape and the perseverance to make it more market-oriented. As mentioned, there are major obstacles to subjecting water to market mechanisms. Such obstacles make extensive state involvement and regulation, and hence, intensive power struggles, likely. These are aspects that do not generally encourage the private sector or private investors to step in. Mozambique served as an example. Despite many efforts of International Financial Institutions (IFIs), donors and aid agencies to stimulate water's marketisation in Mozambique, the Government of Mozambique (GOM) and central state entities have remained dominant in shaping the postcolonial waterscape. The most notable neoliberal experiment in the country's waterscape, the privatisation of urban water supply in Mozambique's major cities from the late 1990s onwards speaks volumes; it ignited intensive struggles and antagonism between state- and international private actors, with the latter withdrawing prematurely (i.e. before contract's end).[4] The production of the Mozambican waterscape resembles that of the broader political economy, characterised as it is by uneven development and inequality. In particular the domain of water supply has seen major investments in the past decades, but these have benefited some areas and income groups in the country much more than others, concluded a major study by the World Bank (WB 2018; see also WHO/ UNICEF 2017: 100-101).

These problematic conditions were already widely known in the early 2010s, also among Dutch state actors familiar with Mozambique.[5] Some of them therefore regarded the decision to develop a bilateral (water) relationship exclusively based on trade as morally undesirable and/or practically unfeasible and disputed it. The outcome of this struggle inside the Dutch state was a compromise to combine aid and trade rather than to replace aid by trade altogether. This adapted aid *and* trade

[4] To 'privatise' refers in this case to the outsourcing of water supply production and distribution to private companies via management and lease contracts with public agencies that own the infrastructure. This is different from water privatisation in England and Wales, which involved the handover of both water supply management and infrastructure to the private sector. The term 'privatisation' was commonly used by the time it was introduced in Mozambique, but has later been replaced by terms such as 'outsourcing' or Public-Private Partnership due to the controversial nature of the term privatisation.

[5] This point was made in interviews with a number of Dutch and Mozambican actors involved in the bilateral (water) aid relationship, e.g. interview EKN employee, 27 July 2016; interview EKN employee, 13 April 2017; Interview Dutch consultant/researcher and former embassy employee, 18 December 2015; interview EKN employee, 4 April 2017; interview WB employee, 20 February 2017. See also Manning and Malbrough (2012).

course meant that Dutch (water) aid would not be phased out in Mozambique, and offered those responsible for implementing it more policy space. Still, in the overall spirit of the aid and trade agenda, decision-makers insisted that aid had to become much more oriented towards the market, trade and private finance, and better tied to (Dutch) commercial strategies, processes and agents.

1.3 Contradiction as problem and the problem of contradiction

This thesis sets out to critically examine this (adapted) aid and trade course. It does so by squarely situating this course in the historical development of the Mozambican-Dutch water aid relationship, and in the Mozambican waterscape and political economy in which this relationship is nested. From this perspective emerged the central puzzle that informs the thesis, namely how an aid agenda that offers more of the same neoliberal development recipes should help undo uneven (hydrosocial) development that, I and others argue, has been co-produced by these very recipes. I hypothesised that pursuing this strategy, with even more vigour than before, would be a breeding ground for contradictions. In other words, I figured that specific processes and actors driven by this neoliberal aid agenda would stumble upon actors and processes driven by other, often opposing, agendas.

This is not just a hypothesis based on a brief glimpse into the history of the Mozambican-Dutch water aid relationship; it is also based on broader research. In literatures I engage with, political ecology and development studies, the concept of contradiction is often used to capture the complexity and inconsistencies of addressing socio-environmental problems within the confines of contemporary (neoliberal and financial) capitalism. Li (2007), for instance, identified a contradiction in development actors' "will to improve" the lives of communities in Indonesia. A non-negotiable neoliberal development strategy informed these actors' practices, a pathway that was not shared, and indeed often resisted by, the very communities whose lives ought to be improved by the strategy. Li observed that in the design of improvements schemes she examined "...capitalist enterprise and the search for profits appeared (...) only as a solution to poverty, not as a cause" (ibid: 267). Mansfield (2004) showed how the will to privatise fisheries in the North Pacific had not led to a widely hailed and anticipated 'free' market, but instead led to a highly complex (re)regulatory structure to protect that very market. Bakker (2005) argues how the attempted commodification of water supply in England and Wales has generated various contradictions, such as the water regulator's objective to stimulate competition between water companies while safeguarding water access to all types of consumers. This type of incommensurable processes in water supply, argue others, point at a fundamental contradiction "between water as a commodity and as a basic need" (Ahlers 2010: 226; see also Loftus 2009: 963-964).

These contradictions are often problematic, as they tend to severely complicate socio-environmental development processes and tend to reproduce patterns of uneven development (Ioris 2013; Swyngedouw 2005). But there is also a problem, I argue, with the concept of contradiction as it used in the mentioned literatures. While the abovementioned and other works have taught us much about socio-environmental contradictions and their problematic nature, the concept of contradiction per se often remains poorly explained. Why something is called a contradiction, what its qualities are or how it differs from or relates to terms such as antagonism, paradox, tensions, conflict or simply politics, is often left to the reader to figure out (De Ste Croix 1981). Moreover, contradiction is used to describe and analyse a broad range of situations in the real world, at a variety of geographical (spatio-temporal)

scales. In other words, the ontology of contradictions is not often accompanied by an epistemological statement about what a contradiction entails (Wood 2002).

My aim in this thesis is therefore twofold. Firstly, I want to come to grips with the ontology of contradictions in the empirical case, the Mozambican-Dutch water aid relationship. Secondly, I aim to combine this with a theoretical exploration of socio-environmental contradictions and add another perspective as to how such contradictions can be approached and investigated. In all, the following main research question guides this thesis:

> *How have contradictions within Mozambican–Dutch water 'aid and trade' relations and interventions evolved under contemporary capitalism, and how do these relate to the reproduction and transformation of uneven development in the Mozambican waterscape?*

1.4 The thesis' storyline: water aid and trade contradictions

While the aid and trade agenda was introduced and promoted as a complementary agenda, this thesis argues that its implementation in the Mozambican waterscape can best be understood in terms of 'water aid and trade contradictions'. I define contradiction dialectically and in critical realist terms, as entailing two mutually constituting but opposing (sets of) powers or forces unified in a given social structure (Harvey 2014; Fleetwood 2014). The social structure of focus in this thesis is the Mozambican–Dutch water aid relationship, which is further introduced in the next section.

I distinguish between a primary contradiction and derivative, secondary contradictions at work in the Mozambican–Dutch water aid relationship. The primary water aid and trade contradiction is defined by the dialectical interplay between the 'capitalistic logic of liquid power' and 'territorial logic of liquid power'. On the one hand, the water aid and trade agenda is driven by the logics of contemporary capitalism, which means subjecting various water-related processes to market imperatives and mechanisms, such as competition and outsourcing services to private companies. On the other hand, these capitalistic logics depend on, but also often collide with, the various political and social logics that stem from the governance, management and uses of actual waters found in Mozambican territory. Chapter three examines the origins of both logics as they evolved throughout the relationship's history and emphasises that these logics are historically shaped. The capitalistic logic of liquid power strengthened in the bilateral relationship, along with its progressive integration into contemporary capitalism from roughly the mid-1980s onwards. As it grew strong, it increasingly conflicted with a dominant territorial logic that had already grown strong. This logic is defined by a centralised, state-led approach to governing water affairs Mozambique. The aid and trade course introduced in the 2010s intensified the strain between these logics, which became expressed in contradictory realities, or in what I call 'secondary contradictions'. These are examined in chapters four to six.

In chapter four I contend that the aid and trade course entails various mechanisms of water (aid) marketisation, which had already been introduced in the bilateral relationship in the past. These were aimed at weakening state and bureaucratic power, and at strengthening the power of market forces and relations, in the governance of water (aid). Rather than marketisation transforming and weaken state and bureaucratic power, the contradictory reality was that marketisation attempts were themselves deeply dependent on and often thwarted by state and bureaucratic power that had

remained strong. Chapter five shows how a strong capitalistic logic has translated in a preference for and the use of market-based water access mechanisms. I show how the implementation of one such mechanism based on Private Sector Participation (PSP) unfolded in a terrain of power struggles, in which ideal-based operating principles underpinning this mechanism clashed with different territorial logics, including national and local state politics and between the public water agency and private operators. Chapter six reverses the focus on water access and investigates events with exclusionary effects, i.e. evens that narrow down water (aid) access imaginaries and pathways. One is the 2016 debt crisis in Mozambique, which poignantly illustrated how the set up of the Mozambican political economy causes exclusion in its society and waterscape. The other is the tendency on the part of Dutch state and non-state agents to take the own waterscape and ideas prevalent therein as the point of departure for hydrosocial development in Mozambique. These exclusionary processes are contested and countervailed by agents based on social and political, rather than economic, motivations.

Altogether, the aid and trade course pursued in Mozambique intensified already existing contradictions and hence, power struggles between actors involved in the bilateral relationship. This indeed complicated bilateral water aid relations and processes and made it difficult to realise long-lasting results. Moreover, by intensifying rather than diminishing the strength of the capitalistic logic, and by not challenging the dominant territorial logic in Mozambique, the aid and trade course left the root causes for uneven development very much intact.

1.5 A brief introduction of the Mozambican–Dutch water aid relationship

This section briefly introduces the Mozambican–Dutch water aid relationship as the social structure of focus in this thesis. The Mozambican and Dutch states have been the principal drivers behind this structure, even though it was a Dutch solidarity organisation called the Eduardo Mondlane Stichting (EMS) that had first established relations with Frelimo in the 1960s. Frelimo has been the political party in power in Mozambique ever since independence in 1975. Before independence, Frelimo was established as a united 'front' of various Mozambican resistance groups that fought the Portuguese colonizer. The EMS was supportive of Frelimo's struggle against colonialism and (capitalist) imperialism, which explains their close bonds. The bond between the two only grew stronger after independence, when the Frelimo government officially adopted a socialist agenda, but grew weaker after Frelimo turned towards capitalism from the mid-1980s onwards. By then, the Dutch state had established itself as an important and reliable bilateral donor, one of the first and few Western nations that aided independent and (proto-)socialist Mozambique (AHM and NIZA 1995; Scholtens 2018; Hanlon 1994).

Under Portuguese colonialism, the Mozambican waterscape had been developed in highly uneven and unequal ways, with water (infrastructural) development serving the economic and social needs of the coloniser and its allies, leaving the great majority of African people unserved. The independent, proto-socialist GOM sought to redress this with a highly ambitious, state-led agenda.[6] In its endeavours it was supported by the Dutch state that provided financial aid to projects in water supply, drainage and water resources management and by Dutch individuals working as *cooperantes* (paid or unpaid volunteers) in Mozambican state water entities or in water projects. All this occurred under difficult

[6] The term 'proto-socialism' is borrowed from Jenkins (2003: 122) and refers to "socialism as the declared aim but where no fully developed form of socialism emerged". See also chapter 3, section 3.2.

conditions, and these only exacerbated during the civil war that lasted from 1977 to 1992. Deteriorating social and economic conditions prompted the GOM to open up the country for Western aid agencies in the mid-1980s, and hundreds of them flocked in afterwards. It also adopted structural adjustment packages engineered by the World Bank (WB) and the International Monetary Fund (IMF), and replaced its socialist development agenda for a (neo)liberal one (Hall and Young 1997). By the end of the civil war in 1992, the condition of the national waterscape was in no less a troubling state than upon independence, and the task to develop it was enormous.

In the time after the civil war, the Dutch state developed into the biggest bilateral water donor in Mozambique and the structure of the bilateral relationship expanded rapidly. Until the 2000s, Dutch state entities still carried out quite a number of large (water) projects itself and had non-state agencies such as NGOs and engineering companies carry out specific projects and assignments in various domains in the Mozambican waterscape. The post-civil war era had seen a change in the institutional set up of the Mozambican waterscape, with the introduction of new water laws, policies and public entities—processes in which Dutch actors were closely involved (Alba and Bolding 2016). In the early 2000s, the Dutch state introduced the Sector Wide Approach in which it supported the National Directorate of Water (DNA) in its task to oversee and guide the institutional changes in the waterscape through multi-year programmes. The new millennium also saw the domain of global water governance as well as the world market for water services and products expand. In response to these global developments, new Dutch (aid) initiatives, funding schemes and entities were established to better profile Dutch water expertise and products. The Mozambican waterscape was seen anew and reconceptualised through this 'global lens', namely as a waterscape akin to the Dutch waterscape, in which Dutch water expertise could (continue to) be deployed for development ends, but also increasingly for commercial/ trade purposes. The water aid and trade agenda pre-eminently reflected this approach. The potential for such an agenda was considered high due to a grand, but false optimism about the future of the political economy and waterscape in Mozambique.

In all, bilateral water aid relations and interventions date back to before independence and have continued even through the most troubling of times. This produced a solid structure with a firm historical basis, close-knit networks between actors from both sides and a collective imaginary that is still often mobilized for diplomatic ends today.[7] Even though actors involved in this structure have multiplied and diversified over time, the two states have remained at the heart of the relationship, not least because aid processes and interventions are almost all directly or indirectly financed by the states. This is why due attention is paid to the two states and the role of state entities in this thesis. The next section elaborates on the concept of the state as well as other key concepts in this structure, when discussing the research approach that guided my PhD journey.

1.6 Research approach: relating epistemology and ontology to methodology

I carried out in-depth qualitative research, drawing on two complementary research approaches: multi-sited ethnography (Marcus, 1995; Falzon, 2009) and Burawoy's extended case method (Burawoy 1998; 2009). Both approaches stress the importance of research and fieldwork with an ethnographic

[7] Historical elements of the bilateral relation were referred to in many of the interviews I had with Mozambican and Dutch actors. See also references to this history in the Multi-Annual Plan of the Dutch embassy in Mozambique (GON 2013c: 16).

character, i.e. active engagement in events and processes, and with people and objects related to one's research. But they deviate from conventional ethnography by placing a stronger emphasis on political economic and historical forces and conditions that shape the events under investigation.

Multi-sited ethnography broke with the idea of staying long in one place of choice, as well as with the localised strategies that inform conventional ethnography. It urges researchers to situate oneself in two or more places and following the actors, relationships and connections between those over space. According to Falzon (2009), the Lefebvrian notion that space is socially produced and the product of global–local relations and interactions necessitates such a methodology. The same goes for the idea that contemporary societies are invariably embedded within, and to various degrees shaped by, larger structures. If Berman's (1982) phrase "all that is solid melts into air" indeed applies to modernity, Falzon (ibid: 6) suggests, then "this includes ethnographic space".

The extended case method fits what Burawoy (2009) calls reflexive science. Reflexive science asks the researcher "…to unpack those situational experiences by moving with the participants through their time and space. The move may be virtual, as in historical interpretations; real, as in participant observation; or some combination of the two" (ibid: 13-14). Theory and history are two important features in the extended case method. As regards theory, Burawoy posits that "…there can be no microprocesses without macroforces, nor macroforces without microprocesses" (ibid: 9). Hence, he motivates the researcher to 'dwell-in' theory before, during and after fieldwork, and let theory guide the dialogues with participants (ibid: 20). Regarding history, Burawoy claims that to understand and explain phenomena, one must not only look at present relations and events, but also how they have been produced historically.

Combined, these approaches have helped me making sense of the structure introduced in the former sections. In particular, they have stimulated me to think about methodological implications emanating from concepts and theories I use (i.e. epistemology) to refer to and explain events in the real world (i.e. ontology).

A notable example in the context of this thesis is the concept of waterscape that I prefer to use over the 'water sector'. Waterscape builds on the notion that nature, like space, is produced (Smith 2010 [1984]). The production of a hydrosocial entity is, moreover, an inherently multi-scalar and political affair. With 'multi-scalar' I refer to human ideas about and interactions with water at different scales that co-determine how a particular waterscape is produced. Such ideas and interactions are, from one scalar angle, inherently place-based. Place-based means they are shaped by biophysical properties of H_2O and land, by 'local' climatic and (geo)hydrological conditions as well as by the requirements and desires of various (proximate) social groups. At the same time, questions such as [a] how water ought to be managed; [b] by whom and in whose benefit; [c] with whose and what kind of money; and [d] with what instruments or technologies, are tackled at various other scales. Such questions are tackled in decision-making processes in which the national state usually plays a key role, not least because of the social, political and economic importance of water and the large amounts of financial capital required for water infrastructure (Molle et al. 2009; Parenti 2015; Ioris 2012). Such processes at the national scale are, in turn, interwoven with so-called global water politics, understood as the construction and global circulation of divergent ideas, imaginaries and discourses around water (Mollinga 2008a; 2008b; Molle 2008).

What is common for hydrosocial processes at all scales is that they are political. In other words, they imply more or less intensive power struggles between social agents over questions such as those posed above. What actually gets decided and done in relation to water hinges on the ever emergent outcome of these struggles. Political ecologists, including myself, are particularly interested in the increasingly dominant role that capital has played in shaping ideas and interventions in waterscapes. As Budds and Hinojosa (2012: 124) sum up, the concept of waterscape forces us to "...explore the ways in which flows of water, power and capital converge to produce uneven socioecological arrangements over space and time, the particular characteristics of which reflect the power relations that shaped their production".

These abstract spatiotemporal and political economic properties of waterscapes become more concrete once they are used to make sense of the national waterscape of Mozambique. The maps of Mozambique given in figures 1.3 – 1.5 at the end of this chapter indicate a number of biophysical properties that play their part in producing the Mozambican waterscape. Figure 1.3 is a picture of a hydrogeological map that presents an overview of the hydrogeological composition in Mozambique. Figure 1.4 shows the various sedimentary and river basins in Mozambique, while figure 1.5 lists the overall climatic conditions in the country. Even though these maps were published decades ago, in 1987, they still give an idea of the nonhuman, environmental makeup of the waterscape today. I chose these old maps because they tell another story as well. They were developed as part of a water aid project financed by UNICEF, with the help of Dutch water aid professionals. In an interview I had with a former director of DNA, a large copy of the map in figure 1.3 hung behind him on the wall and he referred to it as a vivid example of what collaboration with Dutch water professionals had brought about in the past. Moreover, the map was made during a time that the civil war intensified in Mozambique, which explains its compilation on the basis of a desk study using existing material only. Nevertheless, the map has according to the former DNA director long been regarded as the standard in its field in Mozambique and had not yet been matched by a map of the same proportions.[8]

This story symbolises something bigger, namely the historical coproduction of the Mozambican waterscape by Mozambican and foreign agents. It indicates that the current state of, and dynamics within, the waterscape cannot be explained or understood by biophysical processes such as flows of H_2O only, nor only by human agents and processes at the (sub)national scale in Mozambique. Numerous foreign agents have coproduced this waterscape prior to and after independence, driven by different political agendas such as colonialism, socialism and capitalism. My investigation into the Mozambican–Dutch water aid relationship provides an insight into this historical coproduction of the Mozambican waterscape, specifically in the period after independence and driven by agendas shaped by contemporary capitalist logics. This is necessarily a partial insight, given that this relationship represents only one 'set' among numerous sets of relations responsible for producing the postcolonial waterscape. But because Dutch water aid has played a prominent role in Mozambique in recent decades, I maintain that this still offers an insight into how the waterscape is produced more generally.

The same relational, historical and multi-scalar lens emphasised in the approaches of Falzon (2009) and Burawoy (2009) is also applied to the concept of the state. First, I view *either* state as a social relation rather than a thing, an agent or a neutral object. The state is not homogenous, but comprises

[8] Interview former DNA director, 13 February 2017.

of an ensemble of forces—related to and representative of forces in broader society—that clash and compete over the use of the state apparatus and the deployment of state power (Jessop 2016: 54-55). The abovementioned struggle within the Dutch state on the aid and trade course to follow can best be understood from this perspective on the state. Second, I apply a relational lens to the interplay between the Mozambican and Dutch states. I assess their mutual relationship as having developed in the modern interstate system, in which capitalist market imperatives as well as national political interests are key drivers (ibid: 42, see also next chapter). Third, I see the Mozambican and Dutch states as variegated states; they have different state forms and state apparatuses, with different capacities. Their power positions in this interstate system and vis-à-vis each other thus also differ. In short, they stand in an unequal power relationship, with important implications that will be assessed later.

1.7 Operationalisation of the research and methodological choices and reflections

1.7.1 How I operationalised the research approach

I operationalised my research by dividing the Mozambican–Dutch water aid relationship up in three distinct, but overlapping case studies that I believe do justice to the multi-scalar nature of this social structure and which facilitated the planning of fieldwork. One case study focused on 'water governance'. With governance understood as power-laden decision-making processes (Bakker 2010a), this case study focused on water governance at the national scale in Mozambique and on the role of Dutch aid (agents, resources, imaginaries) in this sphere. My aim was to obtain a better understanding of how decisions regarding hydrosocial development in Mozambique have come about, how this relates to the broader Mozambican state structure, how the water bureaucracy is organised and how it functions, and how (Dutch) aid is entangled in this state structure and -bureaucracy. Although the findings from this case study are used in all chapters, they are most extensively used in chapter four.

The second case study focused on aid (and trade) interventions. I examined joint projects or 'interventions' with more or less clearly defined time-space boundaries and 'target objects'. I selected a number of projects that I assessed to be characteristic of the aid and trade course pursued in the Mozambican waterscape. One project, abbreviated as PO15, in particular received my attention. In this project financed by the Dutch state, several Dutch aid agencies supported a Mozambican water supply and sanitation state entity (called AIAS) in organising and managing water supply and sanitation services in 15 out of 152 small towns and cities that AIAS is responsible for.[9] This project incorporated a mix of aid activities that interviewees referred to as 'traditional' and 'modern'. 'Traditional' referred to institutional support provided to AIAS and technical assistance to water and sanitation operators. 'Modern' was associated with market-based approaches such as outsourcing water supply to private operators and to the design and implementation of 'innovative business models'. This project allowed me to investigate path-dependent and potentially path-shaping water aid (and trade) processes and how they combined affected access to advanced water and sanitation sources. It also allowed me to investigate practices and politics of daily water management, in local settings, and connecting them with processes at the national scale. Findings from this case study are mainly used in chapter five and, to a lesser extent, in chapter six.

[9] That is why the project was called PO15, the 'project for 15 operators' in water and sanitation services that it aimed to support.

In the third case study, I focused on transnational aid processes and global water politics. It involved investigating relatively remote and distant processes and events, in the Netherlands and elsewhere, that linked up with the bilateral water aid relationship. I aimed to enhance my insight into the emergence of the Dutch aid and trade agenda, how to 'read' this agenda in the recent history of Dutch (water) aid, and the revaluation of water in Dutch aid and the Dutch political economy more generally. I wanted to know how Dutch agencies that were involved in the bilateral relationship, but (primarily) based in the Netherlands rather than in Mozambique, thought and acted in relation to Dutch aid and trade in the Mozambican waterscape. Moreover, strategies and tactics related to the water aid and trade agenda and their implementation in Mozambique were discussed in various types of events in the Netherlands. These provided good opportunities to learn how the agenda was perceived, welcomed and contested by a variety of actors. Lastly, I traced some of the ways in which Dutch and Mozambican state and non-state agents were involved in global water governance networks. Chapter six is in part based on insights gained in this particular case study.

1.7.2 Fieldwork carried out

The foregoing called for multi-sited fieldwork. In general, fieldwork related to the first two case studies took (mainly) place in Mozambique and fieldwork related to the third (mainly) in the Netherlands. Fieldwork in Mozambique covered a year, from April 2016 to April 2017. Maputo, the capital of Mozambique, was the key place for fieldwork related to the water governance case study and also an important one for the aid intervention case. It was here where (my wife and) I settled. Maputo is a key place, because political and economic power is concentrated in the capital, and the scope for change elsewhere in Mozambique is largely defined by agents in Maputo (Jenkins 2012: 161). More specifically, Mozambique knows a highly centralised approach to governing water, which means that the most powerful Mozambican state and non-state agents are located or headquartered in Maputo and that important decision-making processes occur here. The corollary of this is that the international aid community, including IFI's, donors and aid agencies are also generally located/ headquartered in Maputo. Moreover, the majority of important (water) events such as meetings, conferences and trade fairs take place in the capital and this is also the place where key archives are found. In all, Maputo proved to be a place with a large concentration of relevant agencies and processes/events for my fieldwork.

From Maputo, I made what Falzon (2009) dubs 'sojourns'—multi-day/week fieldwork trips—to ten towns elsewhere in the country, chiefly in the context of the aid intervention case study. The selected towns were involved in the PO15 water supply and sanitation aid intervention and are located in the southern provinces of Maputo, Gaza, Inhambane and in the northernmost province of Cabo Delgado. These towns are indicated by red arrows in the map in figure 1.2 at the end of the chapter. In some of these towns I did participant observation as part of short-term technical assistance (TA) 'missions' with a team of Dutch and Mozambican water professionals. In others I did so-called 'transect walks' and interviews with a variety of local and regional actors involved in water supply. The selection of these towns were thus guided by ongoing missions as well as by the type of operators in charge (private and public), relative distance (in the case of the towns in the southern provinces) and contextual conditions, such as a military conflict in the middle of the country that made trips to the center impossible.

Fieldwork in the context of the third case study was mainly (but not exclusively) carried out prior to and after the yearlong fieldwork in Mozambique. I interviewed Dutch actors in the Netherlands and attended various kinds of events related to the bilateral water relationship and the Dutch aid and trade agenda. These events provided good opportunities to grasp associated semiotic dimensions, such as the terminology used, prevalent discourses, visual objects and images, and appearances of contestation. Two events I visited can be seen as preeminent stages of 'global water governance'. These were the 2015 and 2017 editions of the Amsterdam International Water Week and the associated trade fair Aquatech, and the 2016 edition of the biannual conference of the Water Institute of Southern Africa (WISA) in Durban, South Africa. These were stages where the Dutch water sector was branded alongside water sectors of other nations, and where presentations and discussions on global water issues took place. They offered me insights into global water politics and the role of Dutch agents herein. In all, the multi-sited fieldwork comprised of a mix of places in and outside Mozambique that allowed me to grasp the multi-scalar nature of the research.

1.7.3 Methods used for data collection and analysis

I relied on three data gathering methods during the entire fieldwork, namely interviews, (participant) observation and documentary collection and analysis. I did a total of nearly 90 semi-structured interviews with a variety of persons involved in the three case studies (see Annex I). Interviewees included civil servants working for relevant Dutch and Mozambican state entities, such as DNA and AIAS, the Dutch Ministry of Foreign Affairs (BZ) and the Embassy of the Kingdom of the Netherlands (EKN) in Mozambique. Interviews with non-state actors included personnel of NGOs such as Vitens-Evides International (VEI), (private) water operators and various Mozambican and Dutch (water) businesses including consultants. All interviews were 'semi-structured' in the sense that I used an interview guide with topics I was interested in and wanted to probe into (Bricky and Green 2007). That said, interviews in the first stages of fieldwork were generally less (well-)structured than those in later fieldwork stages. This had to do with the iterative learning process I went through; I gained a clearer (in)sight of processes and problems as my fieldwork progressed. Interviews usually took an hour to several hours, depending on the person and his or her agenda. Many of them took place in the offices of these persons and had a more or less formal character, in the sense of making an appointment and doing the interview in the planned timeslot. Others were carried out as part of a diner or lunch. These interviews often had a more informal character; the pattern of me asking questions/probing and the interviewee answering was alternated with more general conversations. These conversations were often linked to the research (objects) and taught me much about the topics under investigation, or the context and history attached to these. Most interviews were conducted in Dutch and English, and some in Portuguese.[10]

I made notes of all interviews, which I worked out in interview sheets as soon as possible after the interview. I shared these sheets with my interviewees and asked them to check the text. Reactions and comments were processed in the sheet or they led to additional explanation. In many interviews, sensitive issues surfaced or were raised by myself. These for instance related to tensions between

[10] I have followed multiple courses in the Portuguese language prior to and during fieldwork in Mozambique. My knowledge of the language was intermediate, which enabled me write and read reasonably well. Engaging in conversation and comprehending speech depended on the discussion partner/ speaker and the clarity and pace in which the speaker spoke.

Dutch and Mozambican actors, to rent-seeking practices or they concerned reflection on the self or statements and feelings about other actors, which I included in the notes. Not all such sensitive statements 'survived' in reviews of my interview sheets and I was sometimes asked to remove or rephrase lines. In other cases I was asked to treat parts of the text cautiously (which I respond to by referring to interviewees anonymously in some places in this thesis). In two cases, interviewees reacted surprised by the length of notes and the inclusion of sensitive statements, saying that what they shared they did in confidentiality and that these did not matter for the subject under investigation. In these cases, I ended up with interview sheets deprived of much of the content shared in the interview, even though I was already aware that these issues played a role.

What helped corroborating and making sense of the views expressed in interviews were participatory observation and observation. These techniques were mainly applied in relation to the aid intervention and transnational aid case studies. They entail embedding and situating oneself in the field, observing (non)human processes in relation to 'things' such as water infrastructure and in the case of participant observation, actively taking part in processes under investigation (Russell 2006). In my case, 'the field' comprised a selection of places summed up above: events such as conferences and workshops in the transnational aid case study, target towns of PO15 in the aid intervention case study and the various offices and venues in Maputo, as the paramount field of 'water governance' in Mozambique. The abovementioned short-term TA missions in which I participated allowed me to gain first-hand insight into: the practices, politics and struggles of water operators in towns; their relations with various other agents such as municipalities, Dutch aid providers or Mozambican state agents; local hydrosocial and political economic conditions in which they operate; and the (condition of) water infrastructure in place. I also closely interacted with Dutch and Mozambican water professionals during these missions, whom provided context to and explanation of the activities, and with whom I engaged in conversations throughout the day and evening.

Next to these missions, I visited towns by myself to do transect walks, engage in talks and short interviews with residents, and to do interviews with key informants. In these walks and talks with people, I was assisted by a local person who knew the town and its neighbourhoods, who helped me gain access to people and local leaders and who spoke the local language and translated it to Portuguese. Through these visits, combined with the TA missions I participated in, I obtained a thorough insight into the local conditions and struggles under which the water supply arrangement in PO15 was carried out. I jotted down my observations, experiences and thoughts gained from (participant) observation in notebooks and captured them in field notes proper as soon as possible after the research activities (cf. Jackson 1995; Sanjek in Russell, 2006). The bulk of field notes were descriptive. I selected moments during my fieldwork to write analytic field notes, which I inter alia used for compiling a mid-term fieldwork report for my supervisor.

Field notes also constituted the data gained by (participant) observation activities at the various events I attended. Such events, as mentioned, included international and national conferences, taking place both in the Netherlands and in Mozambique. At these events, I conversed with people, listened to presentations, engaged in discussion sessions and attended social events. I frequented the booths at international conferences where the Dutch water sector and associated organisations were promoted. I collected documents/ written information as well as a range of other items such as promotional materials used to promote the Dutch water sector. This latter activity, the collection of various types of

documents or 'secondary data', was another activity I undertook throughout the fieldwork period, and related to all case studies. Many documents related to the Dutch (water) aid and trade agenda were available online[11], but this was not the case for the bulk of relevant documents of Mozambican entities. Hence, in Mozambique, I made an extra effort to collect documents which I scanned or took with me. This included historical documents, such as those found in the archive of the National Water Directorate (DNA) in Maputo. I have also attempted to get hold of a list of documents of the Dutch embassy in Mozambique not publically available, and while I managed to gain some of them, others were not provided after several requests.

Rather than inductive or deductive reasoning, I engaged during and after fieldwork in what critical realists call 'retroduction'. Sayer (2010: 72) calls this a 'mode of inference' in which the researcher postulates, identifies and progressively refines deeper causes. These are often referred to in CR as mechanisms, powers or forces[12], which help explain empirical events observed in fieldwork. Such powers are identified by an ongoing process of moving back and forth between one's empirical data and theoretical concepts (Mollinga 2020: 399; Yeung 1997). In sessions I had with other PhD candidates and my supervisor before fieldwork, we discussed this process in the context of each other's research. This helped me think through what my case constituted of in terms of agents and powers, and how these had changed over time.

During and after fieldwork this retroductive process progressed and intensified, and this led me to conceptualise already or newly identified powers (the ones discussed from chapter three onwards) as ones that stand in a dialectical and often contradictory relationship. One illustration of how this process occurred is that I entered the field with the plan to investigate the power of marketisation and its various mechanisms deployed in the bilateral water aid relationship. In the field I realised that while various forms of water marketisation were pursued, they often stumbled upon bureaucratic power and practices that I assessed to be at least of equal strength. This led me to contemplate how the two powers related to one another, which resulted in discussing both powers as standing in a contradictory relationship (ch. 4). Likewise, while my initial focus was on powers of (market-based) access to water, in the field I identified politics and practices with a structural character that countervailed these powers of access. Chapters five and six discuss these powers and how they combined complicate the road towards universal access to water in Mozambique.

What helped this retroductive process were my associations and discussions with researchers at the research institute IESE[13] and the anthropological department of the Eduardo Mondlane University (UEM), both located in Maputo. The preparation of a number of papers that I presented and discussed at international conferences and workshops, and the publishing of two peer-reviewed articles, also facilitated this process.

[11] Although some relevant documents and texts were only temporarily available, which is why I kept a copy of these in my own archive.
[12] See Fleetwood (2011; 2012) for a discussion on the use of powers, mechanisms and forces in CR.
[13] IESE stands for *Instituto de Estudos Sociais e Económicos* , the Institute for social and economic studies.

1.7.4 Doing fieldwork in times of crises: a reflexive note

Preparations for fieldwork in the Netherlands and Mozambique started late 2015. The Netherlands was still recovering from the 2008 financial crisis that had hit its society and economy hard. It was the post-crisis context, characterised by austerity and a persistent power of neoliberal and nationalist political forces, that allowed the aid and trade agenda to be imagined and adopted. Mozambique was by that time only little affected by the global financial crisis. Development trends in the previous two decades very much continued. The country still recorded high economic growth rates and wealth kept being concentrated in the hands of a few all the while poverty persisted or even deepened in some areas (Cunguara and Hanlon 2012). The country's prospects were considered bright, as mentioned above, not least due to the anticipated exploitation of newly discovered gas fields. This was the 'normal' situation when I visited Mozambique in January 2016 for a two-week fieldwork preparatory trip. When I returned to Mozambique for fieldwork proper only three months later, the situation suddenly and radically changed; hidden and illegal debts worth more than $1.4bn. were disclosed, almost instantly plunging its economy in a deep recession.

This crisis, and (austerity) measures taken in response, had immediate effects for my fieldwork in terms of access and positionality. Because the debts were illegally contracted by members of the GOM in 2013 and 2014, i.e. without consent of parliament or the international aid community (IFIs and donors), the debt crisis at once led to a crisis of trust between the GOM and its aid partners. Aid partners, including the Dutch state, suspended all (financial) aid that went directly to the central state of Mozambique. All state agents dependent on aid, not least water entities, were forced to renegotiate aid modalities with their agitated partners.

This produced a hectic and tense context, in which I had to establish contacts on both sides of the bilateral relationship. While certainly not impossible, many potential interviewees were pulled into some form of crisis management and had little time for non-urgent activities. This complicated access to potential interviewees, especially those on the Mozambican side and higher up in state entities. It asked from me a great deal of flexibility and simply more time in arranging appointments, not knowing whether appointments made would indeed take place at the time arranged. More than once I have been at an appointment that was cancelled or rearranged last-minute. Once I managed to gain access to these interviewees, it was up to the person whether he or she felt open to speak about the situation. Some Mozambican interviewees questioned my positionality. They considered me part of the Dutch and international aid community in Mozambique with whom they were in a tense relationship, even though I (thought I) clearly introduced myself as an independent PhD researcher investigating aid rather than being part of it. As a Dutch citizen, I had to repeatedly explain this in order to gain access to agents, processes and sites.

The crisis had a deep impact on the economy and society, negatively affected living conditions for most people and also severely affected water governance and management in the country. This is an event that I did and could not anticipate, but which impacted on me and the subjects implicated in my research. I decided to take it not only as a negative event, but as an opportunity as well; a crisis this big disrupts normality, which allows us to observe things that are normally much more difficult to see. In chapter six, I will even use this crisis to illuminate the Frelimo-led Mozambican political system as a

driving force in the reproduction of wealth and poverty in the country, and specifically as a force of exclusion to water services.

1.8 Thesis structure

This thesis consists of seven chapters, including this introduction. Figure 1.1 below draws the structure and outlines the core themes of chapters two to six. The next chapter (ch. 2) provides a theoretical exploration of the concept of contradiction, drawing on radical political economy, political ecology and development studies. Based on this, I propose a critical realist conceptualisation of contradiction and introduce the territorial and capitalistic logics of liquid power from a theoretical point of view. Chapter three uses a historical political ecology/economy perspective to assess the evolvement and interplay of these logics throughout the Mozambican–Dutch water aid relationship's history. Chapter four deals with the abovementioned contradictory powers of water (aid) marketisation and state and bureaucratic power playing out at the relationship's governance level. Chapter five zooms in on the subdomain of water supply by investigating powers and politics of market-based water (aid) access, using the joint intervention PO15 as a case study. Chapter six looks at exclusionary events and processes impacting on, or playing out in, the bilateral relationship and the Mozambican waterscape, from a multi-scalar perspective. Chapter seven sums up and concludes the thesis, makes cross-linkages between the chapters in the benefit of the overall argument, and reflects on the conceptual premises and framework used.

Figure 1.1—Diagram outlining the structure of the thesis, the key concepts and how these concepts relate to one another. The dashed rectangles and lines at the top indicate what is being discussed in each chapter and from what perspective (theoretical, empirical and/or geographical).

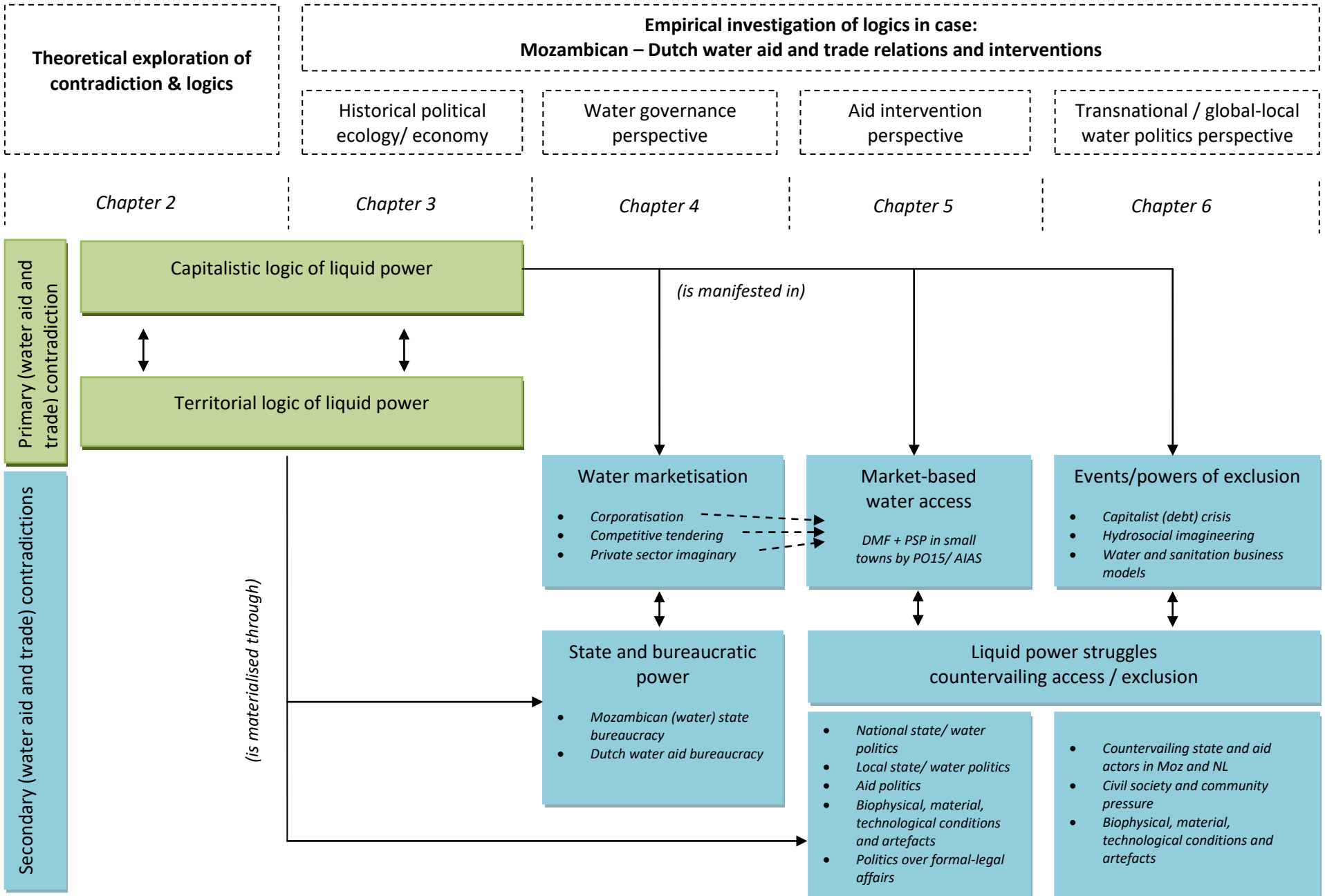


Figure 1.2—Map of Mozambique. The red arrows indicate towns visited by the author, as part of fieldwork on the project PO15. The capital of Maputo in the far south was the main place of residence during fieldwork. Following the 2017 population census, Mozambique has some 28 million inhabitants, spread out over 11 provinces (see names in green) and 128 districts.

Figure 1.3—Hydrogeological map of Mozambique, made in 1987 by B.P.A. Ferro and D. Bouman under the auspices of, and for, the National Directorate for Water Affairs (DNA) (picture by the author). Although over three decades old, and based on 'indirect data', it provides a generic overview of groundwater occurrence around the country, with blue and green areas representing more or less productive aquifers and deep brown (mountainous areas) and light brown ones with no or limited groundwater occurrence. (source: Ferro and Bouman/ DNA 1987)

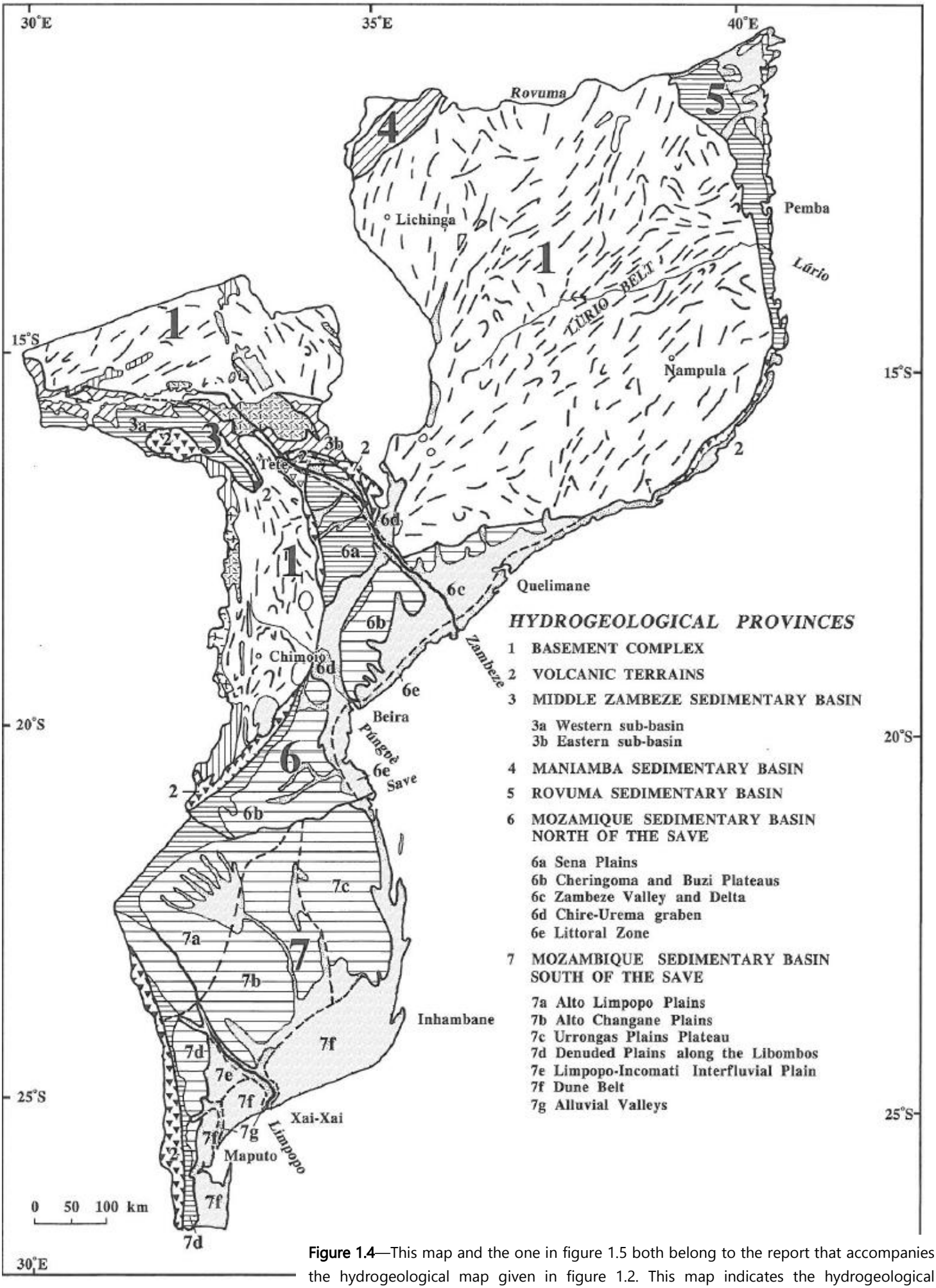
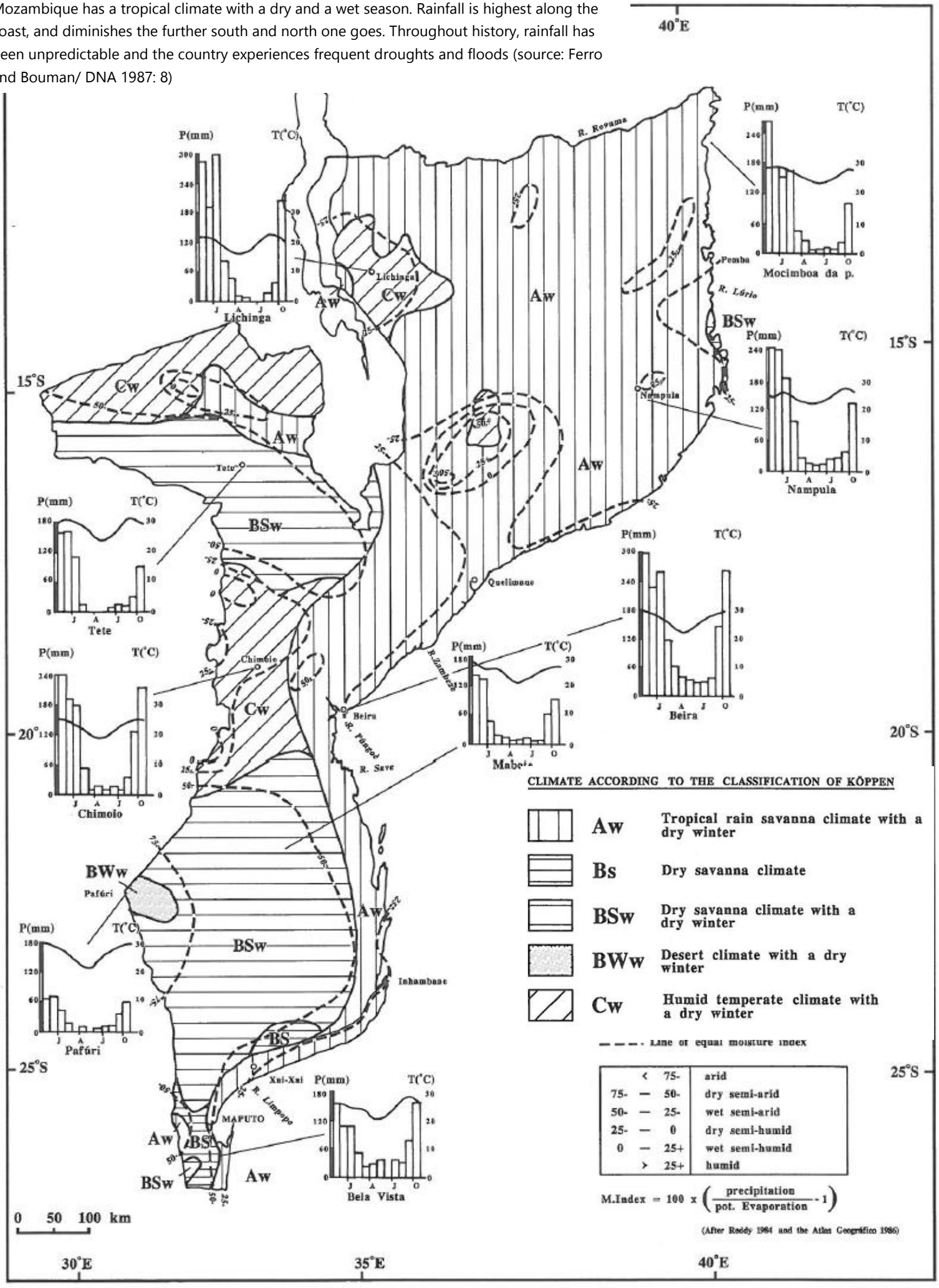


Figure 1.4—This map and the one in figure 1.5 both belong to the report that accompanies the hydrogeological map given in figure 1.2. This map indicates the hydrogeological makeup of the country and combined with the previous map shows that Mozambique is endowed with a number of major surface waters, notably five international rivers such as the Zambezi in the centre that ends up in a delta. (source: Ferro and Bouman/ DNA 1987: 20)

Figure 1.5—This map gives an idea of generic climatic conditions in Mozambique. In general, Mozambique has a tropical climate with a dry and a wet season. Rainfall is highest along the coast, and diminishes the further south and north one goes. Throughout history, rainfall has been unpredictable and the country experiences frequent droughts and floods (source: Ferro and Bouman/ DNA 1987: 8)



Chapter 2

Contradictions in the political ecology of development

2.1 Introduction

This chapter discusses the key theoretical concepts and premises of this thesis and proposes a critical realist approach to studying contradictions in the political ecology of development. It argues that 'development' is simultaneously a social and environmental process that is largely shaped by the imperatives and contradictions of contemporary capitalism. However, what exactly constitutes a contradiction in capitalism is subject to debate. This chapter reviews this debate and, based on this review and on principles of critical realism, makes clear how contradiction is approached in this thesis.

The chapter is structured as follows. I introduce the phrase 'political ecology of development' in the next section. In sections 2.3 and 2.4, I review the concept of contradiction using literatures of radical political economy, political ecology and development studies. Based on these insights, as well as on the main principles of critical realism, section 2.5 discusses how I conceptualise socio-environmental contradictions. Section 2.6 introduces the capitalistic and territorial logics of liquid power from a theoretical point of view—the two logics that make up the primary water aid and trade contradiction. The last section concludes.

2.2 On the political ecology of development

The point of this section is to make explicit what I mean by political ecology and development, and how I interpret their interplay. In brief, I approach development as a socio-environmental process shaped most prominently by conditions of contemporary capitalism.

2.2.1 On political ecology

Political ecology is a broad literature with deep roots and divergent perspectives (see e.g. Robbins 2012). Most political ecologists do share some general, foundational assumptions, which are aptly summarised by Robbins (2012: 11-24):

- Political ecologists treat processes related to nature, or the nonhuman environment, as imbued with power and politics rather than as neutral or natural;
- Amongst the most influential forces shaping nature are political economic ones such as progressive capital accumulation;
- Such forces explaining environmental change are not merely local, but extent from the local to the global scale, and these multi-scalar dynamics need to be taken into account;
- Our ideas of nature are themselves mediated by political and economic processes;
- Questions of environmental change have a normative dimension that needs to be acknowledged and critically reflected upon. This includes the assumption that some ideas and

> theories on the human-environmental relationship are better than others, not only in the sense of better approximating how 'real world' processes work, but also in their ability to strengthen or weaken the potential for human flourishing and environmental sustainability (Sayer 2010).

Political ecological research is critical in the sense that it challenges hegemonic and mainstream thinking, and associated conduct, on the relation between humans and (nonhuman) nature. A prime example of hegemonic and mainstream thinking on this relation is the idea that an external, non-human nature exists independently of human nature (Moore 2015). Another is the intensification of capitalism as a condition for 'saving nature' (McAfee 1999; Katz 1998; Smith 2007; Castree 2010).

In contrast to the latter idea, research in political ecology (including this thesis) does not take capitalism and its assumed capacity or potential to care for the environment for granted. It challenges this thinking, often drawing on radical political economy. This branch differs from orthodox and other heterodox approaches to economics such as liberal institutionalism or critical reformism in two main ways. Firstly, it places (much) more emphasis on the role of history, politics, (unequal) power relations and social struggle in economic processes and structures as they are shaped under capitalism (Hudson 2015: Milonakis and Fine 2009). Secondly, it is committed to exploring alternative, more emancipatory and sustainable futures (Van Apeldoorn and Horn 2018: 6). Marx' analyses of capitalism continue to be a rich source on which many political ecologists draw, and they have taken the field of political ecology forward on this basis. These works will be important sources for this thesis (e.g. Marx (1976 [1867]; Harvey 1993; Smith 2010 [1984]; O'Connor 1988; Swyngedouw 2004; Bakker 2003).

In contrast to the former idea, political ecology claims that human and nonhuman nature, or the 'social' and 'natural', are related and inseparable ontological realms. Marx (1976: 283), for one, famously declared that human labour changes (non-human) nature, which in turn mediates and changes human's own nature in a continuous, metabolic, socio-natural process. Harvey built on this claim by arguing that "...all political economic projects (and arguments) are simultaneously ecological projects (and arguments) and vice versa" (1993: 25). Moore (2015) stretches this claim to an extreme by arguing that the 'Cartesian divide' between humans and an external nature, rooted in common sense, is the quintessential driver of the global environmental crisis facing us now. One departure point for combating this crisis is, according to him, finding a new language and set of categories that does justice to the inseparability between humans (and their political ideas and projects) and nature. This latter point is in turn criticised, for while humans and nature are ontologically entangled, there remain important differences between the two that matter for analytical and political purposes (see e.g. Foster and Burkett 2018).

How to approach and label the relation between humans and nature (rightly) remains subject to debate. That said, it is common in political ecology to hyphenate the social and the natural to 'socio-natural' in order to stress their entanglement and mutual influence.[14] The social in this context is a preferred umbrella term for all processes related to human nature writ large. The social thus also

[14] In line with this, natural resources such as water, air, forest or coal are often referred to as 'socionatures'. I use the two interchangeably.

includes 'political' and 'cultural' processes, although this often remains implicit. Likewise, the natural involves all (physical) things and (material) processes of nonhuman nature. 'Natural' is often substituted by the terms 'ecological' or 'environmental', to avoid confusion with the use of natural/ nature as a way to claim something with universal validity (e.g. as in the nature of a thing or process). In this thesis, I also use the terms *socio-environmental* to consider human and nonhuman nature together as a metabolic entity. The derivative term 'hydrosocial' is used to refer to the co-constitutive relation between water and society.

2.2.2 On development, in contemporary capitalism

Applying a political ecology lens to development means I treat development as a socio-environmental process. This deviates from radical and other political economic perspectives on development, which are often preoccupied with the social and economic aspects of development. That is, the environment often figures as passive 'input' for production or as necessary condition for human development when themes such as poverty, inequality, labour, finance, industrialisation and trade are addressed in political economic accounts. In contrast, a political ecology lens attributes a more decisive role to (the properties of) nonhuman nature, sees it as being reproduced or transformed simultaneously with human/ social/ political economic processes, and acknowledges that such processes may be more or less emancipating for (or harmful to) humans and nonhuman nature (Benton 1989; Castree 2003; Loftus 2009).

Where political ecology and radical political economy agree is on the complex and contested nature of the very term development itself. The tripartite definition of Thomas (2000) is one amongst others that does some justice to this complexity. He distinguishes between development as:

1. A *vision, description or measure of the state of being of a desirable society*,
2. An *historical process of social change* in which societies are transformed over long periods;
3. Consisting of *deliberate efforts aimed at improvement* on the part of various agencies, including governments, all kinds of organizations and social movements.

ibid: 777, italics in original

Thomas (ibid) argues that the third meaning, abbreviated 'development-as-practice' or 'intentional development', has become the dominant view on development. The dominance of this utilitarian view is unfortunate, he thinks, as it reduces development chiefly to policies aimed at poverty reduction and the like, as well as to what development agencies do or the targets they set. That is why many scholars in development studies take the second meaning as the point of the departure. One such scholar is Bernstein, who makes explicit why he departs from Thomas' second meaning:

> I start here because this is the original source of any meaning of modern 'development' in effect: that established by the initial (and long) transitions to capitalism of north-western Europe, and especially that epochal moment marked by the event of modern industrialisation in Britain from, say, the mid- or late eighteenth century onwards.
>
> Bernstein 2006: 45

Indeed, this meaning of development motivates one to assess how (non)human environments have

developed over the longer run and in relation to capitalism as a key political economic system in modern history.[15]

The relationship between development and capitalism can be approached in different ways. Thomas (2000) argued that the third meaning—the dominant view on development according to him—is predominantly interpreted and operationalised in ways that take (neo)liberal capitalism for granted. In other words, the mainstream interpretation of this meaning is one that is focused on development *of* capitalism or alternatively, on development *alongside* capitalism, for instance by making sure markets run efficiently or ensuring a level-playing field. He stresses the importance of acknowledging this, as "...only then can we move on, either to contest that meaning or to work through the implications" (ibid: 782). This view on development is also very much prevalent in the aid and trade agenda pursued in Mozambique. It is my aim indeed to contest that meaning and work out its implications. I do so by situating the intentional development processes related to the Dutch–Mozambican bilateral relationship in a development perspective akin to Thomas' second meaning. That is, I situate these processes within the historical development of Mozambique's political economy and waterscape and how they have evolved under contemporary capitalism.

When this thesis talks of 'contemporary capitalism', it specifically refers to how imperatives of the capitalist market (Wood 2017 [2002]) tend to operate under influence of the intertwined processes of neoliberalisation and financialisation. Such imperatives notably include progressive capital accumulation, profit-maximisation, competition and increasing labour-productivity (ibid: 6-7). Wood argues that these imperatives "regulate not only all economic transactions but social relations in general" (ibid: 7) and they have also fundamentally shaped our relationship with nonhuman nature (Smith 2010; Moore 2015).

Neoliberalisation refers to various kinds of mechanisms associated with the neoliberal political ideology. This ideology views the institution of the 'free' market not only as the supreme way of organising the economy, but crucially, of the human and nonhuman environment at large (McCarthy and Prudham 2004; Harvey 2005; Castree 2010). Such mechanisms include privatisation and marketisation, aimed at removing obstacles to capital and extending the scope of the abovementioned imperatives, expanding existing markets or developing and exploiting new frontiers. Financialisation is driven by the neoliberal ideology and specifically refers to how financial markets, actors, logics and cultures have come to play an increasingly powerful role in the world economy since the 1970s (Christophers 2015; Sawyer 2014; Jessop 2014). The rising social power of financial actors and logics is not confined to the financial sector itself. Crucially, it has also shaped the way we look at and have organised daily life and non-financial sectors, including those of concern in this thesis: aid and environmental governance (Martin 2002; Mawdsley 2015; Soederberg 2013; Sullivan 2013; Loftus and March 2015).

Yet, how socio-environmental relations have been and are shaped by contemporary capitalism—positively or negatively—differs in time/space. Hence, argue Peck and Theodore (2007), we should

[15] This thesis mostly uses the term *aid* to refer to the third meaning of development (intentional development/ development-as-practice) and uses *immanent development* to refer to the second meaning of development.

approach capitalism as a global and singular, but geographically variegated system. Likewise, argue Brenner et al. (2010), we should consider neoliberalisation and financialisation as geographically variegated processes. They involve generic mechanisms with 'family resemblances' that have similar patterning effects across space and time (ibid; C.H. Büscher 2019). At the same time, they have a polymorphic character and produce differentiated outcomes (if any) depending on place-based conditions, the power of (local) agency and the likeliness of resistance and social struggle against these mechanisms. These latter aspects render neoliberal policies or projects difficult to implement. On the one hand, therefore, omnipotent powers cannot be ascribed to neoliberalisation and financialisation. On the other hand, it is simplistic to conclude that these processes lack force when the implementation of policies or projects are not in accordance with the (neoliberal) ideology according to which they were designed (Fletcher and B.E. Büscher 2017; 2019). The implementation of neoliberal and/or financialised development agendas is always messy and often deeply problematic, but this does not necessarily make them less neoliberal (ibid; Eagleton-Pierce 2016; Li 2007).

On the contrary, as this thesis will show, socio-environmental development agendas and processes remained rooted in or driven by the neoliberal ideology *despite* their deeply problematic features and implementation. And this, scholars in political ecology and radical political economy argue, is a breeding ground for contradictions (Harvey 2014; Bakker 2005). In the next three sections, I elaborate my approach on contradictions in capitalism through three prisms: radical political economy, political ecology and critical realism.

2.3 Contradictions in capitalism

A while ago, Ellen Meiksins Wood scrutinised the use of contradiction by scholars in radical political economy. She observed that this use, including her own,

> ...has tended to oscillate between the absurd and the trivial, between pretentious and empty theoretical verbiage and ritual cliché, vague enough to cover almost anything we Marxists happen not to like. That would be reason enough to be nervous about using it, not only in relation to class struggle but altogether, and I have more than once been accused of ignoring 'contradiction' or at least of avoiding the word when clearly alluding to something that other Marxists would call a contradiction. Still, I have used the word, probably far too often, and my usage has been as vacuous as anyone else's.
>
> Wood 2002: 276

Wood defined the problem this bold, so as to encourage herself and others to get more out of the concept, convinced that contradiction"...as a key to social explanation, may in fact have more meaning today than at any other time in history" (ibid: 276). I think her message still has relevance today and I take it as an incentive to first review how scholars in radical political economy look at and use contradiction in their work. My aim is to distil from these works a first set of substantive and conceptual building blocks that inform my approach to contradiction.

2.3.1 Contradictions in capitalism: a conceptual and substantive exploration

Marx is a good place to start a review on contradiction. Marx used contradiction in all of his works, both in a narrow and broad sense. He starts his analysis of capital with the most fundamental building

block, the commodity. It is the commodity, writes Nicolaus (1973) in his foreword to Marx' Grundrisse, that "...contains within it (is the unity of) a key antithesis (use value *v.* exchange value) whose development involves all the other contradictions of this [capitalist] mode of production". As such, he continues, capitalist production according to Marx "...*contains* contradiction from the outset, in embryo" (ibid). From this insight follow numerous other contradictions, to the point that it led Marx elsewhere to claim that "...in capitalist production everything seems and in fact is contradictory" (Marx 1963: 218). Contradiction in Marx is therefore a category that, according to Harvey (2010: 11-13), fits a dialectical way of reasoning in the sense that something (or a process) contains a unity of opposites.

In line with Marx, both Harvey (2014) and Sum and Jessop (2013) treat use value and exchange value as the 'foundational' or 'basic' contradiction of capital. That the two constitute a contradiction that could end up in crisis is explained by Harvey (2014: 15-17), using the house as example. A house is a basic need, providing the proverbial roof over one's head. This is the house's use value. A house is also worth money in capitalist society, and this represents its exchange value. In contemporary capitalism, the exchange value of houses has tended to become increasingly important to people, as have exchange value considerations. This can take extreme forms such as in London, where an increasing number of houses are not being used to live in, but are standing empty and solely serve as financial assets in a broader context of housing shortage (Sassen 2001). From the contradiction between use- and exchange value follow various other contradictions, argue Sum and Jessop (2013: 244), such as between money as a store of value and a means of exchange/ interest-bearing capital, between land as an indispensable form of nonhuman nature and as a source of rent and, as we will see, between water as a fundamental need and as an economic product.

Mao, in his essay *On Contradiction* (Mao 1937), adopts a similar distinction, differentiating between principal and non-principal (or secondary) contradictions. Mao departs from the assumption that each and every process (capitalist or not) not only contains, but exists by the virtue of contradiction, and there are always multiple contradictions. In every situation or process, therefore, there is one principal contradiction, all other contradictions are derivative of this principal one. Moreover, he argues, the two opposing forces constituting a contradiction (whether principal or secondary) are not equal either. He therefore distinguishes principal from non-principal 'aspects' of a contradiction. Mao adds that contradictions are not static, but evolve over time. Hence, what is considered a primary contradiction, or primary aspect of a contradiction in one point in time, may well change in the order of importance later on. This becomes clearer when considered in the context of the struggle then going on in China. What was once a principal contradiction between the communists and the nationalists in China, turned into one between a united front of both communists and nationalists against the Japanese imperialists (Liu 1971). This contextual consideration reveals Mao's take on contradiction, namely as a struggle amongst opposite agents rather than as two opposing, but mutually dependent forces that consist of more than only agents (Žižek 2019).

Giddens (1979) also distinguishes between primary contradictions and secondary (derivative) contradictions, but would disagree with Mao's take on contradiction. Giddens, in his theory of structuration, speaks of social contradiction as "...an *opposition or disjunction of structural* principles of social systems, where those principles operate *in terms of each other* but at the same time *contravene one another*" (ibid: 141, italics in original). Applied to capitalism, he argues that this system is "...intrinsically contradictory because the very operation of the capitalist mode of production (private

appropriation) *presumes* a structural principle which negates it (socialised production)" (ibid: 142). Other than Mao, Giddens (ibid) makes a distinction between contradiction proper and antagonism or conflict in his theory of structuration. According to him, contradiction often, but not necessarily, involves conflict, understood as "relations of antagonism or struggle" (ibid: 145).

This is in line with De Ste. Croix (1981) who, in his book *Class struggle in the Ancient Greek World*, says he had rather not talk about contradictions, given his discontent with Marxist discussions on the concept. He prefers to speak of "'class 'struggles', 'conflicts', 'antagonisms', 'oppositions' or 'tensions', arising as (in a sense) the *result* of 'contradictions'" (ibid: 49-50). According to him, class struggle is not in itself a contradiction as is, for instance, the contradiction between the relations and forces of (capitalist) production. Triggered by this comment, and herself dissatisfied with the use of contradiction by Marxists, Wood (2002) reviews what a contradiction in capitalism is and does, and how it sets capitalism apart from other (or previous) political economic systems.

Wood agrees with De Ste. Croix that class struggle does not in itself constitute a contradiction, as many Marxist scholars had claimed. Words such as conflict, struggle and antagonism often suffice to describe (collective) agents opposing each other. Class struggle must, according to her, be distinguished from structural contradictions, such as that between the forces and relations of capitalist production. In this contradiction, a constant revolutionising of the productive forces, for instance expressed in an advanced technological work system that requires other forms of cooperation, tend to contradict with constant changes in production relations between capital and labour, aimed at gaining a better hold on and planning of the production process. What makes the forces and relations of production a contradiction proper, according to her, and one that is unique to capitalism, is capital's simultaneous self-expansion and self-subversion. Thus, argues Wood, the unique forces and relations of capitalist production at the same time "...produce an irreducible systemic need (...) and constitute a barrier to the fulfilment of that need. The imperative to overcome that self-imposed barrier drives capital relentlessly forward, only to throw up another obstacle in its place" (ibid: 278). As such, contradiction serves as "capitalism's basic operating principle", incorporating an unprecedented power not witnessed in other political economic systems (ibid: 278). Other contradictions that according to Wood set capitalism apart from other systems include those of market dependence. That even social reproduction, or the "access to the means of survival and self-reproduction", depends on markets and "the imperatives of competition and profit-maximisation" has been true for no other system than capitalism, Wood argues (ibid: 283-286).

Ollman (2015) contributes to this debate by specifying how Marx used contradiction based on the philosophy of internal relations. In this philosophy, a thing is treated as simultaneously a process and a relation that evolves and changes over time vis-à-vis other things. He contrasts this with the philosophy of *external* relations, in which things are generally seen/treated as static and independent from other things, so that change appears to happen external to (qualities of) things themselves (ibid: 10). The latter philosophy is dominant in much of our thinking, Ollman argues. This is problematic, he thinks, which he explains by juxtaposing the concept of 'contradiction' (associated with the philosophy of internal relations) with that of 'paradox' (associated with the philosophy of external relations). Although their meaning is similar, a paradox is often taken as something external to ourselves, in which we play no role and on which we have (had) no influence. In contrast to a contradiction, a

paradox does not therefore trigger us to contemplate our own position or role in that situation, or what can be done about it. This is what Ollman finds problematic about paradox.

To better illustrate this, he uses an example familiar to both emerging and late capitalist societies, namely expanding and concentrated wealth alongside growing poverty. Seeing this as a paradox may trigger a shock effect, but the two phenomena are mostly treated as unrelated, and perceived as processes in which we as individuals or collective agents play no role and/or which we cannot change. In contrast, treating it as a contradiction means that the simultaneous production of wealth and poverty is not a shock so much as it is intrinsic to combined and uneven development under capitalism in which we, ourselves, play a part. Whether we want it or not, we co-constitute (are already inside) a system called capitalism, a system that tends to translate most of our actions into the concentration of wealth alongside spreading poverty. This relational way of seeing the problem brings it closer to ourselves, Ollman argues, triggers us to contemplate our own position in it and it may even cause us to think and act differently. In Ollman's own words:

> By studying the internal relations between the opposing processes in a contradiction as they have unfolded over time, we also learn how what we do or don't do (a form of 'doing') will influence the eventual outcome. Practice, here, becomes an extension of the contradiction itself as well as of the theory that comprehends it, just as the theory, in so far as it becomes part of people's consciousness, enters into their practice as a guiding force.
>
> Ollman 2015: 21-22

Consider now Gramsci's perspective on contradictions, rooted in his (interpretation of the) philosophy of praxis:

> For the philosophy of praxis the superstructures are an objective and operative reality (or they become such when they are not pure individual machinations). It explicitly affirms that men become conscious of their social position and therefore of their tasks on the terrain of ideologies, which is no small affirmation of reality; the philosophy of praxis is itself a superstructure, the terrain on which specific social groups become conscious of their own social being, their own strength, their own tasks, their own becoming. In this sense what Croce asserts is correct (...) namely that the philosophy of praxis is 'history made or in the making'. There is however a fundamental difference between the philosophy of praxis and other philosophies: other ideologies are non-organic creations because they are contradictory, because they aim at reconciling opposing and contradictory interests; their 'historicity' will be brief because contradiction appears after each event of which they have been the instrument. The philosophy of praxis, on the other hand, does not aim at the peaceful resolution of existing contradictions in history and society but is rather the very theory of these contradictions.
>
> Gramsci 1995: Q10II§41xii

2.3.2 Substantive and conceptual building blocks for my approach to contradiction

From these works and scholars, I derive a first set of substantive and conceptual building blocks pertaining to contradictions in capitalism that informs how I interpret and use this concept. I also raise two questions that I tackle in more detail later on in this chapter.

In substantive terms, I consider capitalism as an intrinsically contradictory political economic system, with the perpetual accumulation of capital for private appropriation structurally opposing principles of production and social reproduction. Not only luxurious items, but indeed the most essential needs such as housing, land and food are mediated through the capitalist market. This generates numerous dilemmas and conflicts that pertain to the contradiction between use and exchange values of things and processes. Contemporary capitalism as defined above only intensifies these contradictions, as the imperatives of the capitalist market are extended rather than checked or abolished.

In conceptual terms, firstly, I will approach contradiction in the dialectical tradition as a process or object constituting two opposing, but mutually constituting (sets of) powers. Secondly, I assume a contradiction is never 'alone', there are always multiple contradictions in any structure. These multiple contradictions do not exist in isolation, but to various degrees relate to and co-constitute one another. However, there seems to be an order of importance among contradictions. The reviewed scholars distinguish between 'foundational' (Harvey 2014), 'principal' (Mao 1937; Žižek 2019), 'primary' (Giddens 1973), 'fundamental', 'core' (Sum and Jessop 2013) or 'structural' (Archer 1995) contradictions on the one hand, and secondary contradictions on the other. Similarly, in this thesis, I am concerned with a 'primary' water aid and trade contradiction and contradictory realities that derive from and depend on this primary contradiction. In other words, without the primary contradiction, the other contradictions would not exist. The third point relates to the time/space dimension of contradiction. Temporally, I treat a contradiction as a product of history, which evolves over time. It may take different forms over time, can be more or less stringent, or even be resolved. The same applies to each of the powers constituting a contradiction: over time, the strength of one power vis-à-vis the other may differ. Spatially, contradictions manifest themselves differently over space. Each contradiction emerges from different structural settings and is thus expressed differently. Or, as Sum and Jessop (2013: 245) posit, "...there is no contradiction in general, there is also no general contradiction".

This brief review also throws up questions or matters that I will return to in the next sections. A first one concerns the 'outcome' of contradictions and the question whether and how contradictions can be resolved. In Marxist accounts, a contradiction generally represents an increasing strain between two opposing forces that ends up in an economic crisis. The most prominent example is a crisis of overproduction or overaccumulation caused by the contradiction between the forces and relations of production. These types of crises refer to the production of too many goods or surplus capital that cannot be consumed and/or productively re-invested in a particular space economy, possibly leading to large-scale devaluation of capital and labour power (Harvey 1982; 2003). Solving an economic crisis often involves a spatial fix: reorganising a particular space economy or relieving stress internally by looking at (investment) opportunities outside a space economy (Harvey 2003). One might conclude that when an economic crisis is over and growth restored, a contradiction of capital is resolved. However, to quote Harvey (2014) once more, contradictions of capital "...have the nasty habit of not being resolved but merely moved around" (ibid: 4). They may be temporarily resolved in one space economy, but emerge elsewhere, or later in the same space with more force.

Notwithstanding this, Harvey claims that contradictions "are by no means all bad", and he warns against apocalyptic ideas and visions of crises as a result of contradictions (ibid). On the contrary, contradiction can, and often is, "the mother of invention", he argues—a driver for innovation and creativeness as well as "...a fecund source of both personal and social change from which people

emerge far better than before" (ibid: 3). This is in line with Giddens, who claims that contradictions may prompt both "retrograde and progressive movements of historical change" (1979: 143). Wood (2002) argues that contradictions provide capitalism with its "unprecedented strength and dynamism", yet "they are also the source of vulnerabilities", creating space for struggle and opposition (ibid: 291). In short, as O'Connor (1988: xx) summarises, contradictions turn capitalism into a crisis-ridden system, but capitalism also depends on contradictions and crisis for its own renewal and reproduction. Lastly, contradictions and crisis constitute a source for struggle against capitalist ways of organising the economy and society.

A second question relates to the structure–agency dimensions of contradiction. In relation to this debate we can clearly distinguish between approaches, such as between Marx and Mao. Mao relates contradiction mainly to class struggle, i.e. political agency, something that is unusual for Marx, according to De Ste Croix (1981). Marx used contradiction predominantly in relation to structural features of capital(ism). The accounts of Gramsci and Ollman point at contradictions manifesting themselves in the structure of societies and differentiate this from agents' awareness or theorising of contradictions.[16] Such awareness, they argue, is essential to position oneself in relation to contradictions. However, they do not specify how these structural and agential dimensions of contradictions interact. Likewise, in discussing contradictions intrinsic to capital, Harvey (2014) acknowledges the agential dimension of contradiction, stating that there is a "powerful subjective element in defining and feeling the power of contradictions" and "what is unmanageable for one may mean nothing special for another" (ibid: 3). This raises the question where these agential and cultural (semiotic) elements of a contradiction stem from, a question which he leaves unanswered. The same goes for De Ste. Croix (1981), when he says that he prefers to speak of 'struggle', 'conflicts', 'antagonisms', 'oppositions' or 'tensions', arising as (in a sense) the *result* of 'contradictions'" (ibid: 49-50). In defining my position regarding this question, I find critical realism helpful. What CR is, and how it helps me conceptualising this and other aspects of contradiction, will be dealt with below.

Before turning to this, however, it is imperative to tackle a gap in this political economic literature, related to the position of nonhuman nature in contradictions. The next section examines the environmental, next to social and economic, dimensions of contradictions in capitalism.

2.4 Socio-environmental contradictions

This section contains a brief review of work in political ecology and development that focus on socio-environmental contradictions. It argues that when the nonhuman environment is taken into account, the concept of contradiction in capitalism is enriched with crucial other insights.

Firstly, O'Connor's (1988) thesis on capitalism's 'second contradiction' directs our attention to socio-environmental conditions that get compromised by progressive capital accumulation and the political crisis that this contradiction tends to trigger. O'Connor builds on what he calls the 'first' contradiction of capitalism between the forces and relations of production (see above). It is this contradiction that drives capital accumulation. Yet this contradictory process, he argues, structurally undermines the conditions on which human and nonhuman well-being *and* progressive accumulation itself depends.

[16] This is the 'superstructure' Gramsci talks about. The term superstructure derives from Marx, but in Gramsci's work, superstructure and ideology are attributed a much more prominent role than in Marx.

His second contradiction is therefore one between production relations (and forces) on the one hand, and the conditions of production and social reproduction on the other. With production conditions, O'Connor refers to material conditions ('external nature'), labour power, communal conditions and urban space (ibid: 15), or what Ekers and Prudham (2017: 14) refer to as socio-environmental conditions. O'Connor adds another type of outcome from contradictions to the one mentioned in the previous section. Rather than a crisis of overproduction or overaccumulation resulting from the first contradiction, he points at capitalistically produced barriers to [1] further accumulation and [2] socio-environmental reproduction resulting in the *under*production of capital or nature.

The undermining of socio-environmental conditions by this process manifests itself in numerous ways, such as: deteriorating environmental conditions and human health as a result of emissions of toxic substances caused by industrial capital (Boudia and Jas 2014); the growing influence of (global) finance capital on producing essential socionatures like food crops and water, making this production ever more prone to the vulnerabilities of financial markets and actors (Smith 2007; Fairhead et al. 2012; Loftus et al. 2018); or the accumulation of real estate and stimulation of urban growth and renewal by landed capital, affecting people's ability to pay for decent housing while raising congestion costs (Sassen 2001; O'Connor 1988). Because these and other socio-environmental conditions constitute the very necessities for human- and nonhuman life itself, the crisis that this contradiction set in motion is first and foremost a political crisis, argues O'Connor (1988). Jeopardising such conditions essential for life raises ideological questions, sparks unrest and intensifies social struggle. It therefore calls forth the state, for its legitimacy is potentially at stake. According to O'Connor, it is only an economic crisis in the second instance—unlike the overproduction crisis that manifests itself primarily as an economic crisis, due to the less politicised character of the production process (ibid).

Secondly, and building on O'Connor, political ecologists suggest that socio-environmental contradictions have intensified and multiplied under contemporary capitalism. The renewed spirit and pace with which nonhuman nature is subjected to market forces, driven by the neoliberal ideology and made possible by novel organisational and technological means, has fuelled this (Smith 2007). This is not to say that such contradictions were previously non-existing. O'Connor's second contradiction point at how our nonhuman environment has changed through centuries of (industrial) capitalism, and how this has generated innumerable political crises, social struggles and indeed, contradictions over that same period of time.

McAfee (1999) aptly summarises a prominent socio-environmental contradiction in contemporary capitalism as "selling nature to save it". She argues that "...overcoming barriers to accumulation caused by toxic build-up, unstable climate, urban congestion, impaired worker health, degraded soil (...) and loss of biological diversity" has become a key concern of "far-sighted capitalists" (ibid: 134). Other than 'new social movements' whom O'Connor (1988: 15-16) argued would fight for improved socio-environmental conditions, these capitalist agents find solace in a neoliberal approach to overcoming these barriers. This means strengthening and extending private property (i.e. selling nature), putting a price tag on nature and extending market relationships into nonhuman environments. McAfee calls this 'green developmentalism', a win-win approach to saving nature that according to her "fosters the fantasy that we can 'green the planet' while continuing to grow along demonstrably unsustainable trajectories" (ibid: 151).

According to B.E. Büscher and Fletcher (2015), the grand contradiction in this neoliberal approach to conserving nature is that "...capitalism is now seen as the grand saviour of its own negative ecological contradictions (...) that is, the disjuncture between an economic system predicated on continual growth and the reality of finite natural resources" (ibid: 274). This contradiction plays out in the implementation of various concrete approaches and endeavours across the globe to protect a variety of socionatures, such as carbon- and ecotourism markets, wetlands banking, Payments for Environmental Services and the REDD+ approach to combat deforestation.[17] That such market-based approaches are not only seen as desirable but necessary in environmental governance points according to these scholars at a strong consensus amongst the most powerful global institutions, including the World Bank, various United Nations (UN) departments and global corporations (ibid; see also McAfee 1999; MacDonald 2010; Goldman 2007).

Li (2007) makes a similar point in the context of development. Focusing on landscapes and livelihoods in Indonesia, Li examines improvement schemes and the intentions and practices of what she calls 'trustees' like state and development agencies intended to make the lives of others better. In so doing, she identifies a couple of contradictions "intrinsic to the will to improve" (Li 2007: 29). These are enduring contradictions with a long history, she argues, which are noticeable in colonial improvement schemes up to contemporary development projects based on neoliberal principles.

One such contradiction is that between "the promotion of capitalist processes and concern to improve the condition of the dispossessed" (Li 2007: 31). Li traces the successive schemes introduced in the then Netherlands East Indies empire that were aimed at making profits for the Dutch coloniser by crop production (e.g. sugar, coffee) and at the same time improving welfare for local people. The strategy for making profits lay in extending free market forces—that was, in practice, free for the colonial ruler and allies, not for the ruled. The latter were disciplined in many ways or simply forced into 'free' wage labour in service of chasing and maximising profits to the benefit of the former. The various liberal schemes introduced to improve conditions of 'natives', from the *Cultuurstelsel* in the 1830s to 'Ethical Rule' later in the 19th century, achieved little; they were introduced under the conditions that neither profit-making through an expanding capitalism, nor Dutch colonial rule, were to be abandoned. Li moreover juxtaposes the ethical policy introduced by the Dutch colonizers with a major development project by the World Bank in the 21st century. She found the same contradiction at work, i.e. the will to improve lives under highly unequal power relations between trustees and citizens and ditto conditions of political economy. She argues that in either narrative "...capitalist enterprise and the search for profits appeared (...) only as a solution to poverty, not as a cause" (ibid: 267).

The natural resource of focus in this thesis, water, illustrates the point about the intensification and multiplication of socio-environmental contradictions in contemporary capitalism particularly well. It also adds another crucial insight, namely the role of materiality and unique spatial properties of (nonhuman) nature in socio-environmental contradictions.

Mansfield (2004), for instance, teased out contradictions in neoliberal regulation of fisheries in the United States North Pacific. 'Neoliberal' in this case entails the privatisation and marketisation of pollock fishery. A competitive market was planned to be developed for this type of fishery, as a

[17] REDD stands for Reducing Emissions from Deforestation and Forest Degradation. The plus sign refers to actions aimed at enhancing forest carbon stocks.

response to a complicated history of settled interests by fishers and a tendency of overfishing pollock. To this end, various kinds of measures were taken such as setting up fisher cooperatives and introducing allocations or the leasing of quotas, each of which came to be 'micromanaged'. As a result, various kinds of protective regulations were introduced that, according to Mansfield, "...explicitly restrict the competitive market to protect the competitive market" (ibid: 575). Based on this case, Mansfield argues pollock has biophysical traits that complicates privatisation: they swim around in an ocean that is public(ally accessible), are 'fugitive' and cannot therefore be privately owned except when they are caught. Privatised in this case therefore means privatising *access*. Such specificities translate into detailed regulatory frameworks and dense rules, all in the service of creating the desired competitive 'free' market. This provides 'geographical specificity to the forms of contradiction', Mansfield concludes (ibid: 579).

Mansfield's analysis resonates with Bakker's work on water supply. Bakker and other political ecologists have shown that applying market imperatives to the governance and management of water supply, as has been attempted in many parts of the world in recent decades, is a recipe for contradictions. Bakker (2003; 2005) singled out such contradictions in the context of water privatisation in England and Wales. Her key argument is that "...water's geography—specifically its spatiality and biophysical characteristics—underlies the contradictions faced by the architects of market environmentalism (...) and these violate the conditions necessary for well-functioning markets (...) or resist commodification" (Bakker 2005: 543-545). Similar to Mansfield's argument, Bakker argues that contradictions with regard to water privatisation take a specific form in view of the spatiality and biophysical properties of water.

Regarding the spatiality of water supply in England and Wales, the idea of the privatisation policy was to stimulate competition by introducing so-called inset appointments[18] and to unbundle prices. This meant eliminating, or at least reducing, cross-subsidization, e.g. between urban and rural customers, which would have likely raised prices for the latter group. This objective by Ofwat contradicted with the UK environment ministry's (DEFRA) objective to protect rural customers and prevent 'cherry-picking' by water companies. Water's biophysical properties refer to [1] water's 'heaviness': water being "cheap to store but expensive to transport relative to unit volume" (Bakker 2005: 555) and [2] water as a flow resource that fulfils essential ecological and social functions. These properties formed important obstacles to introducing competition by 'common carriage', whereby different water companies use the same infrastructure. From ecological risks resulting from integrating supply networks and thus integrating varying qualities of H_2O from different catchments, to rising capital requirements for common carriage that would translate into higher customer prices; competition proved irreconcilable with water supply under the conditions set by various public entities (ibid). Bakker (2005) raises various other contradictions, inter alia related to water valuation and full-cost pricing on the one hand and social equity and political acceptability on the other. These contradictions could not be resolved in the post-privatisation regulatory framework, which led to endless adaptations and reconsiderations, an ever-changing mix of state-led and market-based approaches, and a reconfiguration of power amongst the many agents involved in water supply. In short, they did not lead to deregulation, but a constant *re*regulation of the resource (ibid: 546).

[18] Inset appointments refer to companies that are entitled by the water regulator of England and Wales (Ofwat) to supply water services in a specified geographical area, thereby replacing the water company that was originally entitled to service that area (Ofwat: website).

Furlong (2010) reviewed the broader literature on neoliberal water management, and her key finding is that "...contradictions exist in the program between the prescriptions and the predicted outcomes, among the reforms themselves, and between the ideology and the ability to impose it" (ibid: 65). She (also) points at the 'incompatibility' between "full cost recovery and declining prices, between PSP (private sector participation) and increased investment in infrastructure, and between business-driven management and improved water conservation" (ibid: 65). Another recurring theme is the continued need for regulation after increased PSP in, and applying market mechanisms to, water supply. As to the question what these contradictions do, Furlong uses Ferguson's (1994) insight that it is not about the failure of neoliberal measures applied to water management so much as it is about the unintentional 'side effects' they bring about. These include the 'downscaling' of market-based water management from the global to regional and national scales, and the changes in agents involved, such as local private entities taking the place of multinationals in water supply management (Furlong 2010). Both the works of Bakker and Furlong point at a fundamental contradiction "between water as a commodity and as a basic need" (Ahlers 2010: 226; see also Loftus 2009: 963), which in turn gives rise to various other contradictions. It will come back to this particular contradiction below.

In all, this section complements the former by emphasising the environmental, next to social and economic, dimensions of contradictions in capitalism. It has pointed out that capital accumulation tend to undermine socio-environmental conditions, forming an obstacle to further accumulation while producing all kinds of complications (next to benefits) for human and nonhuman nature alike. In terms of outcomes, these scholars stress the political and state regulatory (next to economic) dimensions of crisis that socio-environmental contradictions tend to generate. What is all the more contradictory, is that many powerful actors try to tackle these complications by extending (rather than diminishing) the reach of capitalist market forces and mechanisms. However, this is not easily, if at all, accomplished; material properties of nonhuman natures providing another potential obstacle to such endeavours, next to social struggle. Water pre-eminently reflects this.

The next section deals with the question that I left unsettled in the previous section: the structure-agency dimensions of contradictions. I turn to a third area of inquiry that I think is helpful in specifying these dimensions: critical realism.

2.5 A critical realist approach to contradictions in the bilateral water aid relationship

Critical realism (CR) is an approach to social science that has nothing substantive to say about contradictions, but its view on ontology and epistemology helps me conceptualise contradiction. In relation to this, a critical realist approach distinguishes between what actually happens in the real world (ontology) and our ability as researchers to grasp, analyse and theorize what happens in the real world (epistemology). The latter is always partial, incomplete and fallible, as we cannot possibly comprehend all that is going on. This leaves open the possibility for continuous and progressive improvement of our knowledge and the concepts we use, such as contradiction. In particular, I maintain, CR provides building blocks for specifying the structure–agency dimensions of contradiction that I already briefly referred to in section 2.3. In this section, I briefly outline what these building blocks are in relation to the Mozambican-Dutch water aid relationship as central case study, and apply them to the notion of contradiction.

A distinctive feature of CR, and of particular relevance to my approach, is acknowledgement of a depth ontology. Critical realists thus approach the world as ontologically stratified, made up of (more or less) specific and relatively short-lived events next to (more or less) generic and enduring socio-material structures. Structures constitute a relatively close-knit and 'structured' set of relations between human agents, and between agents and nonhuman resources/things. Applied to my case study, the 'Mozambican-Dutch water aid relationship' has a generic structure emergent from relations between the two states, between state agencies and various type of non-state actors, and between them and various nonhuman resources and things, such as H_2O or water infrastructures. This structure has various substructures, for instance those related to different uses of water (e.g. water resources or water supply) or those related to either side of the bilateral relationship (e.g. the Dutch aid or Mozambican state substructures). The Mozambican-Dutch water aid relationship is in turn nested in, and shaped by, broader structures, such as the Mozambican waterscape or political economy.

Structures such as these must thus be distinguished from events and human agency. Or, as Fleetwood (2014: 129) argues, structure and agency are treated in CR as 'different classes of thing'. A structure is inter alia made up of human agents, which allows a structure's 'make-up' to be changed by human agency. Vice versa, structures shape events, and enable and constrain human agency, through causal powers (Sayer 2010). These multidirectional influences, however, are not equally strong. As Newman (2018: 112) argues, the 'whole' of a (sub)structure exert powers that are qualitatively different than those of individual constituents (agents and things) making up this whole. Structures are also more enduring and their forces more powerful, because they are constructed historically. This means they exist not solely by the (collective) actions of living agents in the here and now, but as Archer (1995) argues, also by the labour and actions of (dead) agents in the recent or more distant past. So while individual acts of human agency matter greatly in specific events, they do not necessarily or easily change the make-up of an entire (sub)structure. Human action per definition occurs in an already meaningful water- or landscape (structure), and such pre-structured land/waterscapes can only be reproduced or transformed. This notion, I will argue, is important for understanding the place of the water aid and trade agenda as an event vis-à-vis the broader structure of the Mozambican-Dutch water aid relationship as it has evolved in recent decades.

About agency, Archer (1995: 2) posits that "...we [human beings] *are* simultaneously free and constrained and we *also* have some awareness of it". In other words, agents (inter)act in restricted freedom, being motivated, enabled and constrained by structures. These (inter)actions add to structuration in the sense of emergent material social relations. Material relations in this sense must not be equated with something physical, but "instead refer to their independence from human understanding" (Porpora in Newman 2018: 117). Moreover, how agents (inter)act is also enabled and constrained by how they make sense of and attach meaning to agents (including oneself), processes and things. This sense- and meaning making, or semiosis, must be part of CR analysis, because meanings, reason, beliefs, theories and other semiotic expressions exert a force on the world, that is, they may act as 'causes', and such causes may be more or less beneficial to humans (Sayer 2009; 2010: 74-75; Sum and Jessop 2013: 4). Applied to the case, I will argue that the aid and trade agenda has spurred agents responsible for implementing it to *think* in particular ways (i.e. more market-oriented) and *act* accordingly (e.g. stimulate PSP). Yet, they are also free and may choose not to do so, or choose to contest that (as was done in the aid to trade course).

Having briefly outlined these critical realist dimensions of structure–agency, I now turn to the implications for understanding contradiction in the context of my case. I will approach a primary contradiction as 'existing' at the (critical realist) level of structure. In line with Archer (1995: 215), a primary contradiction "...represents a systemic fault line running throughout the social structure", or more accurately, throughout the socio-*environmental* structure underpinning the Mozambican-Dutch water aid relationship. Derivative (or secondary) contradictions intimately relate to this primary contradiction, but manifest themselves in more confined ways, in parts of a larger structure (substructure). As mentioned, a contradiction is defined by two (sets of) opposing powers and it is these powers that connect structure with human agency; these powers are constitutive of, and they condition, human agency. These powers, moreover, act *tendentially* on agents, meaning they may or may not become manifested in specific events.

The notion that human agents can be or are conscious of contradictions, as alluded to by Harvey, Ollman and Gramsci, now makes more sense: because human agents constitute a given structure, by implication their agency is conditioned by (the powers making up) a contradiction in that structure. Fleetwood (2014) argues that contradictions exert a twofold causal influence on agents. First, he posits that "...contradictions can be experienced *consciously* as constraints or enablements on agents' decisions and actions". Alternatively, "...contradictions can be experienced *unconsciously* as institutions[19] that, via a process of habituation, become internalized as habits" (ibid: 133). The notion of Ste Croix also makes more sense now. Indeed, if contradictions exist at the CR level of structures, then they cannot be equated with categories like 'conflicts', 'antagonisms', 'oppositions' or 'tensions'. These are categories that apply to human agency, indeed "...arising as (in a sense) the *result* of 'contradictions'" (ibid: 49-50).

But agents are not only motivated/constrained by contradictions, they can also exert influence on them. This inverted relation of how agents (can) shape contradictions is particularly important in Ollman's and Gramsci's accounts discussed above. They argue that agents' awareness of contradictions enables reflection on contradictions, which in turn facilitates thinking about how to position oneself in relation to contradictions. This is important for contradictions to be tackled and perhaps resolved, but because contradictions exist at the level of structures, it is difficult for a single agent to tackle and overcome them. The powers making up a contradiction are indeed powers because they exist by the virtue of past and present (collective) human action and long-lasting material properties of structures. Single agents deal with realities arising from contradictions such as dilemmas or conflict, but it requires collective action and social struggle, perhaps even radical reforms, to alter the evolvement of (the two powers making up) a contradiction.

In all, these structural and agential dimensions of a contradiction and their interplay reveal my conceptualisation of contradiction *as a process* —more specifically, as a historical, political and variegated process rather than as a static, neutral or universal thing or statement. This process-based view of contradiction is the departure point of the next chapter, in which I trace the rise or evolution of the primary contradiction in the Mozambican-Dutch water aid relationship. This contradiction is made up of two powers that I introduce, from a theoretical point of view, in the next and penultimate section.

[19] Fleetwood briefly defines institutions as "sets of tacit rules or norms" (2014: 133).

2.6 The primary water aid and trade contradiction: two logics of liquid power

In section 2.3, I mentioned that applying market imperatives to the provision of water generates a fundamental contradiction "between water as a commodity and as a basic need" (Ahlers 2010: 226; see also Loftus 2009: 963). This relates to what Marx, Harvey and other critical scholars treat as the basic contradiction in capitalism, between use value and exchange value (see 2.2). In this subsection, I build on and expand these notions in introducing the primary water aid and trade contradiction that, I argue, defines the structure underpinning the Mozambican-Dutch water aid relationship. I call the two powers that constitute this primary water aid and trade contradiction the 'territorial logic of liquid power' and the 'capitalistic logic of liquid power'. I derive these logics from works in the same literatures that I employ above, radical political economy and political ecology. I first briefly review these works based on which I define these logics in relation to the case study.

Arrighi (2010: 34) introduced the territorial and capitalistic logics "as opposite modes of rule or logics of power" in his analysis of the relationship between capital and state formation over the past 700 years. He argues that during this period, a focus on territorial conquest and control over population by European powers began to 'compete' with a focus on capital accumulation. A focus on accumulation required another set of strategies than a focus on territorial expansion; not necessarily war and coercion (although it often involved this), but innovative ways of controlling trade routes or funding schemes. The two logics evolved in a contradictory relationship within subsequent hegemonic city-/ nation states he discusses, each logic backed up by (a group of) agents pursuing competing objectives.

Harvey (2003) uses these logics of power as a way to analyse what 'the new imperialism' entails:

> I here define that special brand of it called 'capitalist imperialism' as a contradictory fusion of the politics of state and empire (imperialism as a distinctively political project on the part of actors whose power is based in command of a territory and a capacity to mobilize its human and natural resources towards political, economic, and military ends) and 'the molecular processes of capital accumulation in space and time' (imperialism as a diffuse political-economic process in space and time in which command over and use of capital takes primacy). With the former I want to stress the political, diplomatic, and military strategies invoked and used by a state (or some collection of states operating as a political power bloc) as it struggles to assert its interests and achieve its goals in the world at large. With the latter, I focus on the ways in which economic power flows across and through continuous space, towards or away from territorial entities (such as states or regional power blocs) through the daily practices of production, trade, commerce, capital flows, money transfers, labour migration, technology transfer, currency speculation, flows of information, cultural impulses, and the like.
>
> Harvey 2003: 26-27

In short, he treats the territorial logic of power as encompasses strategies of state formation, while the capitalistic logic of power refers to the "the politics of production, exchange and accumulation" (Ashman and Callinicos 2006: 111). Other than orthodox Marxist theories on imperialism and empire, Harvey does not assume 'an easy accord' between the two logics. That is, he does not a priori assume "...that political-economic processes are guided by the strategies of state and empire and that states and empires always operate out of capitalistic motivations" (Harvey 2003: 29). It is more apt, he argues, to see them as distinct logics standing in a relationship viewed as "problematic and often contradictory (that is, dialectical) rather than as functional or one-sided" (ibid: 30).

According to Harvey (ibid), the strategies and politics associated with these logics differ in various respects. For instance, in terms of motivations and interests, agents related to capital are primarily focused on investing their money profitably, whilst politicians and state managers are often preoccupied with maintaining state power and influence vis-à-vis other states and over their population. In terms of responsibility and accountability, capitalists usually have a smaller circle of agents for whom they are/feel responsible or to whom they are accountable than state agents. The latter have to meet collective, public demands and are accountable to citizens—albeit of course to varying degrees, depending on the type of state, the power of elite groups, etc. In geographical terms, capitalists' operations are not generally bound by any particular territory or temporal system (notwithstanding the possibility of bankruptcy, take-overs or mergers or capitalists' dependency on states for enforcing the law etc.), while politicians and state agents operate in territorial space. Moreover, in democracies, politicians are temporally bounded by electoral cycles (ibid: 27).

Kim and Gray (2016) applied the territorial and capitalistic logics of power, as defined by Harvey, to the field of international development. They investigated the claim of orthodox political economists that South Korean's ODA to Africa is mainly an economic program, in which the South Korean state and capital are mutually reinforcing. They use the two logics to present a more nuanced analysis of South Korean's ODA in Africa, arguing that this that does more justice to the complexity and indeed, contradictory dynamics going on in this programme. They identified a number of more-than-economic, that is to say territorial, logics in this programme that not seldom clashed with capitalistic ones. These encompassed (geo)political and state motivations, including: portraying the ODA programme as representing a break with the state's previous authoritarian rule; to improve South Korea's reputation internationally and raising its prestige by entering the OECD's DAC; to present its allegedly unique model of (intentional) development; and to gain political influence in the UN system through support of African states (ibid: 655-658).

My use of the two logics is inspired by these works, but I adjust them to water using a political ecology lens. Hence, I speak of the territorial and capitalistic logic of *liquid* power. Liquid power is a term I derive from Swyngedouw (2015) and refers to the central role of water (politics) in long-term modernisation and development processes. Liquid power departs from the assumption that humans shape nonhuman nature, in this case water and the landscapes, aquifers or basins through which water flows. Such transformed natures (waters) in turn shape human processes in a continuous metabolic process. How humans shape water is not a neutral process devoid of power and politics, but occurs through political economic processes and projects at various scales. Power struggles between social forces co-determine environmental change and outcomes, such as who gets access to water and who gets not, how nature is valued and in whose benefit, etc. (ibid: 36). In analysing liquid power in Spain's modernisation from the late 19th to the 21st century, Swyngedouw (ibid) argues that capital has become a major power shaping water and other socionatures, a point that is substantiated by the review in section 2.3. However, exactly how water is shaped by capital, and to what extent in actual contexts, is a highly complex matter and subject to debate (Bakker 2003; 2010b; Castree 2010).

The introduction of the water aid and trade agenda, I suggest, clearly points at a capitalistic logic of liquid power at work in the Mozambican-Dutch water aid relationship. How exactly this power manifests itself in this relationship is examined in the next chapters, but suffice it to say here that while

it has grown into a powerful logic, it is not all-powerful, nor the only type of logic at work. On the contrary, in various ways this logic has been thwarted by the territorial logic of liquid power.

In abstract terms, the two logics can be characterised as follows. The territorial logic of liquid power refers to place-based waters found in national territories, that is, H_2O flowing over or under the surface of pieces of earth known as nation-states. This logic revolves around various use values of these waters, such as for social reproduction or production. Because water flows over national territories, because of water's indispensability and because of the large amount of resources often needed for water interventions, this logic calls forth the state as a key social relation, the state apparatus as a key resource and state and non-profit entities as key agents in struggles over the (desired) uses of water and in mediating hydrosocial relations and processes. As Parenti (2015: 830) argues, the "...modern state is fundamentally geographic; it *is* territory, which is to say, it is environmental" and "...few forces call forth the state so consistently as does water" (ibid: 841). The essence of water for human and nonhuman life renders water among the most politically significant and sensitive socionatures, another reason for the state to be closely associated with this logic. All this renders water an important element in state formation (Molle et al. 2009).

The capitalistic logic of liquid power, on the other hand, revolves around the (potential) exchange values of water and subjecting various water-related processes (such as water supply) and things (such as water technologies) to market imaginaries and mechanisms. The key social relation here is capital, understood as value in motion, key institutions and resources are markets and (private sources of) money, and key agents are private sector agents and various types of non-state agents, but also certain entities within the state. At stake here is the question whether, and how, exchange values of water-related processes and things can be realised in markets, and specifically in the context of aid, be mobilised as catalyst for triggering private sector-/ private investor-led development. Use values are relevant, indeed necessary, insofar they work in the service of exchange and accumulation. Economic or (world) market prospects in relation to water products and services are major reference points pertaining to the capitalistic logic of liquid power, just like flows of water/ physical H_2O is the defining reference point in the territorial logic of liquid power (see e.g. Goldman 2009; Loftus 2009; Budds 2013; Ioris 2013).

The two logics of liquid power have different spatiotemporal qualities. The territorial logic is generally more restricted or fixed in space and time than the latter, as it revolves around place-based waters, within or across a politically defined territorial boundary. The capitalistic logic is a more diffuse logic, revolving around water 'in general'. With this I do not mean to say that place-based waters are not important in the capitalistic logic, on the contrary. The point is that if water's exchange values take precedence, actors interested in realising these are generally not, or at least less so than state agents, bound by specific place-based waters. Their choice of place and their strategies are subject to more fluid decision-making than those guided by a territorial logic. Notwithstanding this, how exactly water becomes an object of market imaginaries, market mechanisms or accumulation strategies obviously depends on specific actors, in specific contexts.

The two logics are dialectically related in that they are mutually constitutive and mutually conflicting at the same time. I do not therefore reduce the state to an instrument of capital, as Parenti (2015) seems to do. He argues that the capitalist state facilitates accumulation, with its 'core feature' being to deliver

nonhuman nature's use values, found on a state's territory, to capital (ibid: 830). By arguing this, he downplays the deeply politicised nature of natural resources, notably water, and the ever-present possibility of a political crisis when availability or use of water for social ends is compromised (O'Connor 1988). Just as state agents have opportunities for delivering value to capital, e.g. by enforcing private property laws or through specific accumulation strategies, they could also mobilise state power for hydrosocial ends that defy such capitalistic motives. Indeed, this is precisely what the next chapters will show.

Moreover, the state is not some homogenous entity. The state comprise of different entities whose interdependence and mutual power relations reflect a structured, but always contested, balance between classes in society (Poulantzas in Jessop 2008: 125). This means that even within a 'capitalist state', state agents need not necessarily, let alone unproblematically, deliver value from (nonhuman) nature to capital. The state can therefore also not be seen as a neutral entity, and state agents not as neutral providers, of services.[20] State agents respond to and make use of what Jessop (2008) calls 'strategic selectivities' inscribed in the state and the broader society. As capital has grown into an increasingly powerful social force under contemporary capitalism, the associated capitalistic logic of (liquid) power exerts an increasingly strong pressure on state agents. Yet again, what makes water such a special subject/object in relation to this, is its indispensability for life as well as its peculiar material properties; these make subjecting water to capitalistic logics an often difficult and politically risky undertaking—a point clearly demonstrated during the height of water privatisation projects and experiments in the 1990s and early 2000s (Bakker 2003; 2005; Budds and McGranahan 2003; Swyngedouw 2004; 2005). Precisely this confirms the unlikelihood of an 'easy accord' between the two logics and why I rather view them as existing in a problematic and contradictory relationship.

2.7 Conclusions

In this chapter, I clarified my position on development and associated key concepts mobilised in the thesis. The key argument is that development must be considered simultaneously a social and environmental process, shaped to a large extent by the imperatives and contradictions of contemporary capitalism. I reviewed literatures of radical political economy, political ecology and development studies to do three things in this chapter, related to this argument.

Firstly, I distilled insights from these literatures about how contradictions manifests themselves ontologically, in the 'real world'. I conclude that contradictions are intrinsic to capitalism, and that fundamental contradictions such as between the use and exchange values of commodities or between the forces and relations of capitalist production become expressed in a myriad of ways. I paid special attention to the nonhuman environment and noted how environmental next to social conditions necessary for production and social reproduction tends to be compromised by progressive capital accumulation. While this is contradictory in itself, the solution to protecting socio-environmental conditions for human and nonhuman needs is often found in the same system that tends to compromise these conditions: capitalism. This, scholars argue, is characteristic of *contemporary* capitalism. Contemporary capitalism is shaped by processes of neoliberalisation and financialisation, I argue, in which market imperatives and market mechanisms are seen as the supreme means of solving

[20] Ferguson's (1994) analysis of and perspective on the 'anti-politics machine' remains a very forceful explanation of this argument in the context of aid.

development and environmental problems. Yet, applying these means only tend to intensify contradictions that co-produced these problems.

Secondly, I used these literatures to come to terms with the epistemology of contradictions, i.e. how contradiction as a scientific concept can be used to explain real world events. I complemented these insights with principles of critical realism to spell out my conceptualisation of contradiction in this thesis. Thus, I define a contradiction in the dialectical tradition as encapsulating two opposing, but unified (sets of) powers.[21] I distinguish a primary contradiction from secondary contradictions, with the former existing at the (critical realist) level of structure, in my case, in the structure underlying the Mozambican-Dutch water aid relationship. I consider the latter as derivative of the primary contradiction, which become empirically expressed or manifested in parts of the entire structure (i.e. in substructures). Crucially, I consider contradiction as a process. This means that a contradiction, and the powers that it encapsulates, evolve historically in tandem with the development of a social structure. A contradiction can be more or less stringent, and can generate dilemmas, conflict and even crisis, depending on the structure's development over time. The contradictory powers enable and constrain human agency, but the form and strength of these powers can also be (and is) transformed by human agency, through political struggle.

Thirdly, I mobilised selected works in these literatures to introduce and define the two powers that constitute the primary water aid and trade contradiction in the Mozambican-Dutch water aid relationship. I call these powers the territorial and capitalistic logics of liquid power. In generic terms, the territorial logic of liquid power revolves around the multiple use values of water, whereas exchange value considerations take primacy in the capitalistic logic of liquid power. The territorial logic relates to water(ways) found in national territories and their proximate social environments, while the capitalistic logic is a more fluid logic, focused on waters with the highest potential to realise exchange values. The state is the key social relation and state entities driving agents in the territorial logic, whereas capital is the key social relation and private sector and other non-state actors considered key agents in the capitalistic logic. The two powers rely on each other, but also potentially collide. In the next chapter, the two powers will each be examined in detail, as they evolved over time in tandem with the historical development of the Mozambican-Dutch water aid relationship. This empirical investigation makes it possible to render the abstract characterisation of the two logics, as was done in this chapter, more concrete.

[21] I use the two terms interchangeably.

Chapter 3

Territorial and capitalistic logics of liquid power in the Mozambican–Dutch aid relationship's history

3.1 Introduction

On the 3rd of November 2015, the Netherlands and Mozambique celebrated forty years of bilateral water aid relations with a cocktail reception in Amsterdam. The gathering was well-attended, with the Mozambican Minister of Housing, Public Works and Water Resources leading the Mozambican delegation, while the Dutch side was represented by the (former) ambassador for Mozambique and the Deputy Director-General of DGIS.[22] From both sides, prominent water experts and (aid) professionals then or previously involved in the Mozambican–Dutch water aid relationship also attended. This gathering marked the start of my fieldwork, being the first event that I attended as a PhD researcher investigating this relationship. It was an insightful event; not only did I meet prospective informants and interviewees, I also picked up various clues about important historical and contemporary dimensions of the Mozambican-Dutch aid relationship.

The reception was held in a wooden, beach-like pavilion with wooden furniture, simulating a tropical atmosphere in an otherwise dark and winter-cold Amsterdam. The atmosphere was cheerful, even family-like at times, with a constant buzz of conversations and chitchatting between Dutch and Mozambican individuals who seemed to know each other very well. Many indeed knew each other well, as they had typically worked together on water issues in Mozambique, with some such experiences going back as far as the late 1970s. It is true that ever since independence, numerous Dutch professionals have worked for a shorter or longer period of time in the Mozambican waterscape. Many have maintained links with Mozambique and have kept coming back on a regular basis for private and/or professional reasons. Some have even settled in Mozambique permanently. Vice versa, many of the Mozambican visitors had already visited the Netherlands in the context of one or another bilateral water aid event or project.

Only later did I learn that the 'good vibe' was attributable to these historical ties, personal bonds and shared anecdotes more than to contemporary water aid relations. Formal bilateral water aid relations had been under pressure in the period prior to the reception[23], but this was not noticeable just by being present and having quick talks with attendants. Neither of course did the usual exchange of courtesies that are part of such diplomatic events, or the signing of a contract for another water aid project, give a sign that the relationship, in the words of one interviewee, was not "as special anymore as it once was"[24]—hinting at times that the Dutch state was still the largest bilateral donor in the Mozambican water sector and Dutch experts the ones where Mozambicans turned to in pursuit of

[22] DGIS is the Directorate-General for International Cooperation and is part of the Dutch Ministry of Foreign Affairs (BZ).
[23] Field notes, 3 November 2015; interview former EKN employee, 8 November 2016.
[24] Interview Dutch consultant/researcher and former embassy employee, 18 December 2015.

water expertise.[25] In short, there is a relatively brief, but rich history to the bilateral (water) aid relations, which has its roots before independence of Mozambique.

This chapter examines this history. It has two aims. First, it reviews the reproduction and transformation of the postcolonial Mozambican waterscape[26] since independence in 1975 until 2018, with a focus on the (changing) role of Dutch aid within it.[27] In doing so, important national and international political economic and political ecological events are considered. Secondly, the chapter seeks to unravel the changing structure (in critical realist terms) of the Mozambican–Dutch water aid relationship over the same period of time. It focuses on how the territorial and capitalistic logics of liquid power, as introduced in the previous chapter, have each evolved in this structure and it specifies the form and content of these logics. The chapter notes, firstly, how the structure expanded and grew more complex over time, e.g. in terms of aid volume and the number and types of actors involved. Secondly, it shows how a capitalistic logic of liquid power has grown increasingly influential in this relationship in recent decades, in tandem with the rise of contemporary capitalism. The rise of this logic went hand in hand with the reproduction of a dominant territorial logic of liquid power that had rooted after independence, characterised by a centralised and state-led approach to water affairs. The chapter tentatively concludes that the two logics have grown into an increasingly contradictory relationship over time.

3.2 Hydrosocial development in Mozambique and Dutch (water) aid until the 1970s

This section examines how the Mozambican hydrosocial and political economic context as well as Dutch (water) aid had been historically shaped and patterned prior to the establishment of the bilateral relations in the 1970s. I make two points. First, I conclude that late Portuguese colonialism produced a political economic and hydrosocial context in Mozambique characterised by uneven development and inequality. Transforming this deeply problematic land- and waterscape was the task that the independent Mozambican government and its aid partner, including the Dutch state, would come to face. The second subsection argues that Dutch water aid from the late 1940s until the 1970s became increasingly shaped by a capitalist logic, but one embedded in a state-led development paradigm one-sidedly focused on technical expertise and big infrastructure in the benefit of economic growth.

3.2.1 Uneven development in Mozambique's political economy and waterscape during colonialism

Mozambique's political economy was strongly shaped by colonialism and imperialism prior to the country becoming independent in 1975. The colonial ruler, Portugal, first arrived in present-day Mozambique around 1500 AD. At that time, Mozambique was home to many larger or smaller, more or less powerful African and Arabic chieftaincies/ kingdoms. Rather than the Portuguese imposing their will on these societies in the first centuries after their arrival, "...it was the Portuguese who largely adopted African material culture and African ways", argues Newitt (1995: 100). Indeed, from the arrival

[25] Interview water specialist UNICEF, 7 September 2016.

[26] 'Postcolonial' (rather than post-colonial) is used by scholars to emphasise important continuities between colonial regimes and succeeding regimes after independence (Mbembe 2001; Bertelsen 2016: 23). As this chapter shows, this is very much applicable to the Mozambican waterscape, hence the use of 'postcolonial' in this thesis.

[27] I cover the period until 2018, when I ended my field work activities. Late 2017 also marked the end of the Dutch cabinet (2012-2017) that had designed and implemented the aid and trade agenda. This agenda was by and large pursued by the following cabinet, from the end of 2017 onward (GON 2018).

of the Portuguese around 1500 until the late 19th century, Portuguese presence and influence in present-day Mozambique was restricted in space. The Portuguese occupied various settlements and fortresses along the northern coast of present-day Mozambique, infiltrated (slave) trade routes and established some strongholds inland, but their presence had not fundamentally transformed human dynamics and landscapes in the interior and the southern part of Mozambique. Save for advanced ships and guns, the Portuguese had also hardly introduced high-end technologies or modern statecraft common or emerging in Europe (ibid: 100).

This situation changed dramatically from the late 19th century onwards. Major events such as growing merchant capital from India, rising pressure from the British to abolish slave trade and promote liberal free trade, changing imperial policies in Lisbon and above all, the rapid expansion of mining and industrial capitalism in South Africa prompted economic integration of the various regions and peoples in Southern Africa (ibid). It also triggered the Portuguese, if they were to hold on to their colony, into conquering and controlling the interior of Mozambique and its peoples, establishing a modern colonial state and developing social and material infrastructure for the development of the colony. This was a long and complicated, messy and contested process, in which a weak Portugal nearly lost its claims to territory to other, far more powerful colonizers (notably the British).

In the 'partition of Africa', the borders of present-day Mozambique were drawn in 1890-91. Portugal contracted out the use and exploitation of entire areas in central and northern Mozambique to (foreign) private companies until the 1920s/1930s. The southern part, after defeating and subordinating African chieftaincies, came under control of the Portuguese colonial state. The Portuguese designated Lourenço Marques (now Maputo) in the extreme south of the country as the new capital. This facilitated its integration with and dependence on the South African economy, for instance by Southern Mozambique becoming a labour reserve for the mines in Johannesburg. After the concessions ended in the 1930s, Portugal extended the reach and power of its colonial, bureaucratic state to the central and northern parts of Mozambique. Efforts to develop the colony were scaled up through all-encompassing development plans. With these plans, the authoritarian Portuguese government led by Antonio Salazar sought to integrate its Portuguese colonies into its own economic sphere. Mozambique had to be turned into both an importer of goods made in Portugal and a producer and exporter of commodities, including electricity, cotton, rice, cashew, mineral water and tobacco (Isaacman and Isaacman 1983; Azevedo et al. 2003: 184).

Water had been a major source of development, impediment and struggle throughout this history. Mozambique knows a very long history of challenging hydrological conditions. This involved recurring and prolonged periods of very little rainfall. According to Newitt (1995), the many droughts throughout the (distant) past often forced African groups of people to migrate in search of water, inevitably coming into conflict with one another. This gave rise to great social instability as well as war and banditry. Major floods also regularly occurred in river basins, which created fertile lands, but also caused such lands to be infested with mosquitoes carrying malaria and other diseases. As we will see, droughts and floods have continued to be major sources of struggle in the more recent past. But the nature of these liquid power struggles, and of hydrosocial development more generally, would profoundly change during the late colonial period.

One major change was the introduction of a modern (colonial) state form in Mozambique in the image of, and subordinated to, the state in Portugal. Once established, this colonial state had become a powerful entity in liquid power struggles in Mozambique, defining the objectives and means of hydrosocial development in the country. Another change was the introduction of imperialist-capitalistic principles as a driver behind hydrosocial development. The pursued modernisation of Mozambique relied on large-scale exploitation of the African peoples and on profit-making enterprise, in the sole benefit of the Portuguese ruler and its allies. The grand development plans required major amounts of water and electricity, and this in turn required advanced water infrastructure such as (hydroelectric) dams and irrigation schemes. Many of these were built across the territory, not least as part of state-driven, grand engineering schemes known as *colonatos*.

This type of hydrosocial development in Mozambique is arguably best illustrated through the Cahorra Bassa Dam (Mondlane 1969: 97-98). This major dam was built between 1969 and 1974 in the Zambezi river valley in western Mozambique. It involved forced labour to build the roads to the construction site, harsh working conditions and violence in the dam construction itself, the displacement of more than 30,000 peasants, and many others impacted by the altered flows of the Zambezi River. Moreover, the dam's majority ownership and management were in the hands of a Portuguese parastatal, which thus effectively controlled decision-making over processes such as water outflows and energy sales. Nearly all energy generated by the dam was sold to South Africa instead of using it for domestic ends. Ownership and management would only be granted to the postcolonial Mozambican government after repaying the 550 million US dollar debt that went into constructing the dam. Only in 2007 did the (independent) Mozambican government gain majority ownership over the dam, for 700 million US dollar (Isaacman & Isaacman 2003).

Water supply also reflected this colonialist hydrosocial development. The construction and management of water supply systems were generally assigned to private companies. They were placed in cities and in (small) towns that were typically established during the late colonial period as a hub for industrial or agricultural development (Andersen et al. 2015: 336; Jenkins 2003).[28] Water distribution (and in fact all other kinds of modern infrastructure) was limited to the central part of these cities and towns known as the 'cement city'. This meant that water distribution was restricted to those holding rights as citizens, which were the Portuguese and *assimilados*.[29] African people were classed as 'natives' who had no right to live in these parts of the city under colonial legislation (Jenkins 2000). The latter were thus excluded from such advanced infrastructures. Public water supply in rural areas was virtually non-existent under colonialism and upon independence, more than 95% of the rural population relied on the nearest, unprotected water source.

In all, this subsection argues that race, class and capital were key determinants in the state-led production of the colonial waterscape in Mozambique. Independent Mozambique thus 'inherited' a

[28] These later became provincial administrative towns, and are now labelled by the state as 'secondary cities'. The rehabilitation and extension of water supply systems in these secondary cities is the central objective of one of the Dutch-Mozambican aid projects investigated in this thesis, the so-called PO15 project (see chapter 5 and 6).

[29] *Assimilados* is the Portuguese term for a small class of African people with privileged rights under colonialism. Members of this class were allowed to live in cities, unlike other African people, and thus be distributed water. In practice, they often lacked such services (Azevedo 2003).

highly unevenly developed waterscape that benefited a privileged minority. A giant task lay ahead to transform this situation.

3.2.2 Dutch (water) aid and trade avant la lettre

Dutch foreign aid existed for more than two decades by the time aid relations with Mozambique became formally established in the mid-1970s. The direct trigger for establishing Dutch aid is generally considered to be 'Point Four' of the 'Four Point Speech' that former US President Truman delivered in January 1949. This comprised a 'bold new program' by developed countries for the 'improvement and growth of underdeveloped areas' (Truman 1949). The White House stressed that "…this technical assistance (TA) program could in no sense be described as involving exploitation or imperialism" (GUS 1949). The UN was therefore attributed a major role in coordinating this, under the so-called 'Extended Program for Technical Assistance' (EPTA).

The Dutch state, however, was still occupied with old-style imperialism; only a few weeks before Truman's speech, the Dutch state had formally ended the second of two major military operations in their colony of the East-Indies. These were part of a five-year armed struggle aimed at restoring colonial rule in present Indonesia, which the Netherlands had lost to Japan in World War II (WWII). Becoming increasingly isolated internationally by this colonial attitude, and under pressure of the UN and the US, the Dutch state handed over sovereignty to Indonesia in December 1949. It was in this re- and decolonisation context that the Dutch state granted support to the EPTA in October 1949. Dutch aid started small; 1.5 million guilders were made available for providing TA to underdeveloped countries by Dutch experts, mostly engineers that had gained 'tropical' experience in Indonesia. The Netherlands was, however, quick to take in third place regarding the number of experts sent out abroad under EPTA (Van Soest 1975: 329; Dierikx 2001).

Different motives lay behind the start of Dutch aid. Aid provided the Dutch state a 'postcolonial instrument' for maintaining and expanding its trade networks and connections in East Asia, and facilitated access to emerging markets elsewhere (Dierikx 2001; Hoebink 2010). This economic justification for starting Dutch aid was largely rhetorical, however. Van Soest (1975: 230-231) outlines that in order to get the Ministry of Economic Affairs (EZ) onboard—with its pre-WWII mindset that no policy should pass that is not in the national economic interest—the 'aid-for-growth' or simply 'export argument' was repeatedly raised, knowing well that the 1.5 million guilders for TA would have little commercial spin-off. But with the growth of the aid budget in subsequent decades, the interest of EZ in the aid budget would grow accordingly. Aid also served extra-economic aims. First, it provided the Dutch state an opportunity to break with its colonial past and to build up international prestige. An initial, second motive was the anti-communist agenda of the US. Third, the idea of solidarity gradually came to underpin Dutch aid, driven by non-state agents such as churches (Smits 2008).

Water constituted an important element in Dutch aid from the very beginning (Dierikx 2017). This was stimulated by the many Dutch (civil) engineers who had gained extensive 'tropical' experience in the former colony of the East Indies; the Dutch government was eager to deploy this reservoir of knowledge in independent Indonesia and elsewhere in the world as part of providing TA. But reasons were also historical. The deployment of Dutch water expertise abroad stood in a much longer tradition, going back as far as the Dutch Republic. During the rise in power of the Dutch Republic (around 1650),

the Dutch were, according to Blackbourn (2006: 29) "...securely established as the hydraulic masters of the Continent", a reputation which "...was based partly on the deeds of its celebrated engineers". Across the European continent, Dutch engineers and water workers were hired by foreign powers to reclaim land from water, construct channels, dikes, sluices and other water works (ibid). Ever since, Dutch hydraulic engineers have worked abroad, in Dutch colonies and elsewhere. The first modern engineering companies, established in the late 19th century, as well as individual researchers and consultants did water projects around the world in the first half of the 20th century, including in colonial Mozambique (Frijlink 1963). Even TA was already provided by Dutch water experts in the 1920s and 1930s, under the auspices of the League of Nations (Dierikx 2001; Van Soest 1975: 21). In all, the major role attributed to water management in and from the start of Dutch aid was no surprise.

If engineering companies were to gain from the (expanding) aid budget, their hitherto dispersed and often small projects carried out abroad had to be better coordinated. That at least was what motivated the founders of Nedeco in 1951. Nedeco was a foundation (or syndicate) that would on behalf of Dutch engineering companies, and in close cooperation with Dutch state (aid) entities, do the acquisition of (mostly) water engineering projects abroad. It would then distribute these projects among its participating members. This was done to strengthen the market position of Dutch companies abroad, notably by minimising competition between them. In carrying out their projects, Nedeco made abundant use of water experts working for Dutch state entities, such as Rijkswaterstaat. Nedeco grew rapidly, and in the late 1960s was involved in more than 60 projects in 55 countries, mostly but not exclusively related to water, and reported a turnover of 14,5 million guilders (Luchtenbelt 2015). This was made possible not least by a rapid increase of bilateral, financial aid in the 1960s that complemented multilateral, technical aid. Dutch business associations lobbied, with success, for bilateral aid to be spent through Dutch companies in developing countries. This 'tied aid' indeed became the norm in the 1960s and Nedeco, like other Dutch corporations, benefited significantly from this (Dierikx 2017; Hoebink 1988).

Nedeco very well illustrated the close alliance between state and capital during that time, as well as the generous agreements and collaboration (even cartel-like) frameworks set up between them and/or between corporations (Luchtenbelt 2015). Nedeco also exemplified how Dutch water aid was delivered: state-driven and state-financed (but in close alliance with capital), focused on technical expertise and grand, imported water infrastructure (IOB 2000: 25). Water was predominantly considered as a 'resource' to be harnessed and put to work in the service of economic growth (Bakker 2003: 20; UN 1952: 7). This in turn reflected the dominant perspective on international aid, in which economic growth was seen as the prime objective, the state as the key driving force and the leading question how developing countries could 'catch up' with developed countries (Leys 1996: 7; Fine 2006; Khan 2007: 6).

This changed in the late 1960s, however, under influence of citizenries and social movements who increasingly criticised this economically reductionist way of thinking about development. The modernisation paradigm came under attack, with its focus on quantitative aspects of development (e.g. measured by a country's Gross Domestic Product) and overall neglect of environmental processes. Also increasingly despised were the global uneven power relations and uneven wealth distribution between what dependency theorists called the capitalist core and (semi-)periphery. Injustice through colonial and apartheid (or other types of racist and oppressive) regimes became key targets of newly

formed solidarity movements. Meanwhile, the idea of aid as an act of solidarity became much more powerful. Precisely this idea and these movements would trigger the establishment of ties between (agents in) the Netherlands and Mozambique, as the next section shows.

3.3 The bilateral (water) aid relationship in proto-socialist Mozambique (1970~1983)

The period 1970~1983 in which the bilateral relationship became established differs in important ways from the previous and later periods. A liberation struggle against the Portuguese colonizer led to the independence of Mozambique and the establishment of a government that sought to develop the country and waterscape based on a socialist political ideology. At the same time, the economic modernisation approach driving Dutch aid, and the conservative governments that embraced this approach, came under attack in Dutch society and were replaced by progressive alternatives. I argue, firstly, that these simultaneous events in both societies opened up the possibility for establishing bilateral (water) aid relations. Secondly, they allowed ample space for a territorial logic of liquid power to prosper in this relationship, one in which the central state was attributed a key role in hydrosocial development. Space for a capitalistic logic of liquid power to prosper was limited, although not absent altogether.

3.3.1 The independence war and the establishment of the Mozambican–Dutch aid relationship

Formal bilateral relations between independent Mozambique and the Netherlands were established upon independence of Mozambique in 1975. However, the roots of this relationship lie in the period prior to independence, in particular in two key periods or events that are reviewed in this subsection. This is firstly, the war of independence that Frelimo fought against the Portuguese coloniser in Mozambique, and secondly, in the solidarity movements that sprang up in a rapidly changing Dutch society in the 1960s and 1970s.

The independence war in Mozambique lasted ten years, from 1964 to 1974. It was ignited by Frelimo, a liberation front established in 1962, with the broad mission of liberating the country from Portuguese colonialism and oppression.[30] Frelimo fought a guerrilla-style war against a far larger and better equipped Portuguese army. They did so, moreover, in a challenging and ambiguous global political context. During the time that Frelimo fought for independence, the global call and struggle for decolonisation intensified, especially in the UN. This should have aided Frelimo's struggle against Portugal, but for geopolitical reasons and effective Portuguese propaganda[31], Portugal in fact received political, financial and military support from the US and other NATO allies[32], which it readily deployed in its African colonial wars. This Janus-faced policy of powerful western nations made it more, not less, difficult to fight the Portuguese, and it was only later in the war that Frelimo made significant strides (Newitt 2017). What helped ending the war was the Carnation Revolution in Portugal in 1974, during which the authoritarian Portuguese government was overthrown. Portugal's new interim leaders

[30] Frelimo stands for *Frente de Libertação de Moçambique* or the Mozambican Liberation Front.
[31] An important geopolitical reason was a US military base on the strategically positioned Azores, part of Portugal. Propaganda-wise, Portugal called its African colonies "overseas provinces" and depicted Mozambique as a "multi-racial paradise" and Frelimo as a communist and terrorist threat to the Western 'free' world (Isaacman and Isaacman 1983: 103-105; Funada-Classen 2012).
[32] Including the US and indeed, the Netherlands. NATO stands for the North Atlantic Treaty Organization, and was established in 1949 as a military alliance.

opposed the African wars and entered into negotiations with Frelimo, which led to independence on 25 June 1975. All powers were unconditionally transferred to Frelimo.

During the war, Frelimo's leading cadre[33] actively sought and gained support from state and non-state agents from around the world. In the East, Frelimo mostly connected with states, including the USSR, East Germany, Romania and Bulgaria. In the West, Frelimo mainly approached and connected with non-state agents, notably solidarity movements that sprang up in many European countries at the time (Kaiser 2017).[34]

This is where the Netherlands comes in. It was a Dutch solidarity movement called the Angola Comité (AC) where Frelimo turned to. The AC was established in 1961, initially to support the Angolan liberation struggle, but it soon also supported movements in other African countries colonised by Portugal. The AC even built up its first and strongest ties with Frelimo, and Frelimo would have a lasting impact on the AC (AHM and NIZA 2005: 14). As the AC was known as an activist and radical left movement, a working group of the AC was turned into a separate solidarity movement in 1969 that initially took on a less activist profile, focused on fundraising and garnering broader political support for the Mozambican case.[35] It was called the Eduardo Mondlane Stichting (EMS), after Frelimo's first leader who was killed that same year.

The establishment of the AC and EMS must be considered in the abovementioned context of profound changes then occurring in Dutch (and more generally, Western) society. The post-WWII hegemony of a conservative-right political establishment in the Netherlands, and its one-sided focus on economic modernisation, was increasingly challenged and resisted by progressive left voices and groups (Nekkers and Malcontent 1999). Some such groups established solidarity movements, which, together with the first aid NGOs and other non-state agents, became known as the Third World Movement. The common factor that bound these agents was the idea of solidarity with Third World countries, which motivated them to deploy all kinds of activities, from fundraising to protests and lobbying (Beerends 2013). The EMS was particularly successful in fundraising and lobbying, and even managed to persuade conservative Dutch governments in power in the early 1970s to indirectly finance 'non-political' educational projects for Mozambicans.[36]

It was not until 1973 that (formal) ties between the Dutch state and Frelimo became established.[37] That year a new, progressive Dutch government came to power that took a more critical stance towards Portugal. The former governments were generally oriented towards an Atlantic power bloc and a strong NATO led by the US (Kersten 1999: 224-225). They had defended and supported Portugal as a NATO member, despite the colonial wars it fought (De Goede 2000: 238). The new Minister for

[33] Consisting mostly of men from Southern Mozambique who were educated abroad.
[34] They did not reach out to most Western states, given these states' (implicit) support to Portugal during the liberation war.
[35] During his first visit, Eduardo Mondlane made clear that the AC "...should not only mobilise the radical left in the Netherlands", but also try "...to win over parliament, the government and the broader civil society for the Mozambican case" (Van Beurden and Huinder 1996: 67).
[36] See archive BZ, Memorandum no. 24/46, code 999 (VN), 1965-1974, 999.232.314, omv.no. 2448 and brief no. DIO/PZ-220.484, archive BZ, code 999 (VN), 1965-1974, 999.214.9, inv.no. 995.
[37] Informal contacts had already been established between personnel of Dutch embassies in Southern Africa and liberation movements, but this was not formal policy from BZ. See Dierikx (2005): conclusies (z.no.). private archive J.P. Pronk (Den Haag).

Development Cooperation, Jan Pronk, radically broke with the policies of the former governments. He put the concept of 'self-reliance' and 'poverty reduction' at the centre of his aid policy (GON 1977). Controversially, he added communist countries like Cuba and Vietnam to the list of aid-receiving countries and started to formally deliver aid to the liberation movements in Portuguese colonies in Africa. In 1974, Pronk granted one million US dollar of aid directly to Frelimo (GON 1974), which marked the start of a formal relationship between them, even before Frelimo assumed state power in Mozambique.[38]

This state support to Frelimo even before independence would serve the future bilateral relationship well, but was not uncontested. On the contrary, it was denounced by the majority of countries in the NATO and European Community[39] (De Wit 2008: 32) and was even contested within the government itself, for fear of isolation within the Atlantic bloc (Kuitenbrouwer 1999). Pronk nevertheless pursued and it made the Dutch government one of the few Western nations to be invited for the independence celebrations in Mozambique in June 1975. The first meeting between Frelimo and Dutch state representatives took place two months before these celebrations, in which Pronk granted Mozambique another 25 million guilders (GON 1976a). From then on, bilateral aid relations between the states developed quickly, although it could not yet match the strength of ties between Frelimo and the EMS. The latter were based on explicit and shared ideological and political inclinations, revolving around anti-colonialism and anti-imperialism, and increasingly around socialism and anti-capitalism.

3.3.2 A socialist transformation of the Mozambican waterscape?

Two years after independence, in 1977, Frelimo declared itself a Marxist-Leninist vanguard party. Its ambition was to undo the colonial legacy in terms of social relations, economic structure, infrastructures and other dimensions in the Mozambican society, and rapidly transform it into a new, modern nation, based on 'people's power' and guided by 'scientific socialism'. To this end, and stimulated by its popularity gained through its role in defeating colonialism and oppression, Frelimo launched grand, state-led political economic and social (engineering) projects (Hall and Young 1997).

Water played a major role in this attempted socialist transformation, even though it did not receive as much attention as did other sectors such as education and health. First, water was vital for the envisaged economy. Large-scale agriculture and heavy industry were proclaimed the economy's key pillars and these required large volumes of (irrigated and industrial) water. The generation of hydropower through newly planned and existing dams was another important economic pillar (Rusca et al. 2019). A second major task was to undo the abovementioned colonial legacy of Mozambicans having no or hardly any access to water of reasonable quality (Frelimo 1977). In rural areas, Frelimo addressed this problem primarily as part of a broader process of 'villagisation', or the creation of communal villages in line with its vision of the "socialisation and modernisation of the countryside"

[38] But after the Carnation Revolution had taken place in Portugal, and knowing that independence was forthcoming. The relationship still had a temporary character and it would take another two decades before Pronk – again as minister for development cooperation – granted the relationship a structural character. Yet, in hindsight, aid to Mozambique had continued and only increased in the intervening decades, making it a de facto structural relationship.

[39] The predecessor of the European Union (EU).

(Chichava 2013: 112).[40] Frelimo argued that public services such as water supply could be more effectively provided in such villages, as they concentrated the dispersed rural peoples of Mozambique (GOM 1978: 5; Hall and Young 1997: 91). Communal villages were, however, established unevenly over the country's vast territory and of the existing ones, half of them were serviced with water, whereas all lacked technical support and spare parts (UNDP 1981; Urdang 1989: 115). Lack of support and parts also severely affected urban water supply. Although in some cities, notably Maputo, a reasonable supply through water production systems could be maintained for a while[41], all urban water systems were subject to greater or lesser deterioration (DHV and Consultec 1995).

Chabal (2002: 84) and others (e.g. Hall and Young 1997: 203; Newitt 2002: 207) argue that in spite of its socialist, anti-colonialist and anti-capitalist rhetoric[42], Frelimo actually followed a pragmatic, non-dogmatic interpretation of socialism and Marxism. This made it reproduce rather than transform some important (hydro)social relations established under colonialism, including in the domain of water. Thus, Mozambique continued selling hydropower from the Cahora Bassa Dam to the apartheid regime in South Africa and remained a labour reserve for the Johannesburg gold mines. It therefore remained closely tied to South Africa's capitalist economy based on racist exploitation (Cahen 1993). Moreover, in Marxist-Leninist fashion, it adopted a state-led, centralised and bureaucratised approach to (hydrosocial) planning, which was not so different from that of the Portuguese. So-called 'green fields' and collective farming projects were erected out of the *colonatos*, which were grand state-designed agricultural projects under colonialism. Many of the communal villages were erected out of community centres created during the war by the Portuguese, who used these as an instrument of control and security against Frelimo infiltration and attacks.[43] Both represented grand, uniform plans that Frelimo imposed on a heterogeneous and dispersed population, and applied in a top-down and increasingly authoritarian way. Although this approach initially worked out quite positively in some sectors (health, education), it did not in others (e.g. agriculture) and an initial enthusiasm made place for disillusionment among some groups in society and in some areas of the country. This created a breeding ground for resentment and, as we will see, the next war.[44]

In view of this, it is not surprising that Frelimo frequently 'used water' to have people embrace its socialist ideas and projects. Samora Machel, the first president of independent Mozambique, made no secret of the fact that water served as a political instrument to attract people into communal villages (Munslow 1985; Coelho 1998; GOM 1980: 8-9). Ethnic groups who, more than others, sympathised with Frelimo and/or had provided support in the war enjoyed privileges with regard to water infrastructure.[45] Moreover, Roesch (1992: 465) and Coelho (1998: 69) describe how floods were used by

[40] This process was similar to and inspired by the ujamaa village campaign in Tanzania (see Scott 1998, ch. 7). Frelimo had already started the creation of such communal villages during the war in the liberated zones in northern Mozambique.
[41] Interview Dutch water expert, 3 November 2016.
[42] In particular the rhetoric of Samora Machel, Mozambique's first president (see e.g. Munslow 1985).
[43] These were also, as far as possible, supplied with services such as water supply, in a last attempt to win the hearts and minds of the Mozambican people.
[44] This is why Derluguian (2018) calls the popularity gained by Frelimo after the independence war 'overconfidence': "Frelimo fell victim to its own 'dizziness from success' and Mozambique suffered thereafter almost two decades of civil war" (Morier-Genoud et al. 2018: 13).
[45] For instance, Frelimo had built an advanced water supply system for the people of the water-scarce Mueda plateau in northern Mozambique as a gratitude for their crucial role during the independence struggle (West 2005: 182).

the central state to announce 'emergency relief measures' and to resettle people from fertile but flood-prone areas to higher grounds, which also happened to be planned communal villages where people initially refused to move into. This use of water as a political instrument produced similar effects as most of its plans: it pleased some groups in society, mostly those already sympathetic to Frelimo, while antagonising others (Bowen 2000).

Transforming the Mozambican society and waterscape according to socialist ideals was thus highly problematic in various respects, but so were the conditions in which Frelimo had to realise its plans. Above all, Frelimo inherited a country with a sheer lack of nearly everything, notably skilled labour. Most of the Portuguese who had ran the country's social and physical infrastructures had left the country upon independence. They had demolished much of the (water and other type of) infrastructure along their way, and left a population that had hardly enjoyed basic, let alone advanced, education. More generally, there was a shortage of all kinds of other resources required to put programs into practice, including money and foreign currency to import goods. On top of this, another war was started by the guerrilla movement called Renamo[46] against Frelimo. These economic, social and politico-military conditions 'entangled' with adverse hydrological events; floods and droughts were frequent and destructive in the immediate post-independence period. These events combined resulted in a 'perfect storm', with Newitt (2002: 212) arguing once again that floods and droughts, as throughout Mozambique's history, proved to be the final straw that led to the "...breakdown of civil order within African chieftaincies (...) pushing many people who already lived on the margins of existence into the position where the only means of survival was to prey on others".

In all, the political economic and hydrosocial context was extremely challenging to realise even a severely downsized version of the socialist state building project that Frelimo had envisaged. It is for that reason that this section speaks of proto-socialism, which refers to "socialism as the declared aim but where no fully developed form of socialism emerged" (Jenkins 2003: 122).

3.3.3 Water aid structure embedded in a territorial logic of liquid power

This last subsection argues that during this proto-socialist era, a bilateral aid structure emerged in which a territorial logic of liquid power, with the central state attributed a key position, was dominant. A capitalistic logic of liquid power, of the kinds prevalent under Portuguese colonialism and in Dutch aid (see previous section), lost strength.

The bilateral structure emerged in the highly challenging context sketched above. The need for support was therefore immense, which Frelimo requested and received from allied and like-minded agents, including EMS and the Dutch state. Both EMS and the Dutch state continued providing financial aid after independence and soon also started sending out experts/ volunteers to work as so-called *cooperantes* in various sectors of Mozambican society. Water was a major target of Dutch financial aid and a sector in which many experts came to work. Part of the financial aid to Mozambique went directly into rural water supply (GON 1976), a domain of water aid that received more attention

[46] Renamo stands for *Resistência Nacional Moçambicana* or Mozambican National Resistance, founded in 1977.

under the new aid policy of 1973. Bilateral or so-called 'suppletion' experts sent out by DGIS[47] came to work for the central water state entity of Mozambique, the National Directorate of Water (DNA), from 1978 onwards. EMS *cooperantes* worked mainly on water projects at decentralised levels, in districts.

Both the Dutch state and EMS had affinity with, but positioned themselves differently towards, Frelimo. Dutch state aid had to be justified and often 'depoliticised' in response to Dutch parliamentarians who were critical of socialism and Frelimo.[48] EMS faced no such accountability mechanism and followed Frelimo in adopting an increasingly radical, socialist line (Scholtens 2018). This difference was also noticeable in the type of *cooperantes* sent out by both entities. The water experts sent out by DGIS were mostly engineers and technocrats who had deliberately chosen for this type of development work abroad and who valued providing support to developing countries like Mozambique. But it was work nonetheless, a profession for which they expected a reasonable remuneration.[49] EMS volunteers were recruited not only to deploy technical expertise in Mozambique, but to help build up a socialist country.[50] They worked as volunteers and received a small remuneration. This ideological kinship made the ties between Frelimo and EMS stronger than those between Frelimo and Dutch state agents, even though the volume of aid of the Dutch state was much higher.[51]

This last point says something about (decision-making) power in the aid relations and Frelimo's critical approach towards aid in the first five to eight years of independence. That is, even though Frelimo's socialist development strategies were mostly 'imported' (Pitcher 2002: 238) and subject to discussion and change (Adam 1996), Frelimo still maintained "considerable scope of agency in its actions" (Kaiser 2013: 47). Indeed, Frelimo's diplomatic skills and achievements in its socialist era are widely acclaimed; rather than following Moscow's or any other agent's diktat as some have argued, Frelimo had been fairly successful in gathering support and negotiating aid in line with its own development vision (Telepneva 2014; 2017; Shubin 2008; Morier-Genoud et al. 2018: 6-7; Hanlon 1984; 1991). It became member of 'non-aligned' supranational institutions, such as the UN, but did not join those that opposed its agenda, such as the Lomé Convention or the Bretton Woods institutions (BWI's). It accepted and refused aid, depending on the partner and conditions that applied (Hanlon 1991: 28; Henriksen 1978: 448). In short, aid money and aid volumes did not translate into policy influence of aid agents as much as it would later do, and Frelimo appeared to have considerable power in the negotiation and destination of Dutch aid.

[47] Suppletion experts were experts whose local contract with and salary of the Mozambican state were supplemented by a contract with/salary of the Dutch state. Bilateral experts only had a contract with the Dutch state.

[48] For example, the minister of development cooperation responded to claims about alleged Dutch state support for socialism in Mozambique that DGIS experts at the Eduardo Mondlane University in Maputo worked on subjects that "...did not or hardly lent themselves for a political approach", including chemistry, agronomics and psychology (GON 1978: 1467).

[49] Interview Dutch water expert, 3 November 2016. This expert remembered that in the early 1980s, the then minister summoned all experts in the project he worked for to become suppletion experts, which meant a reduction of salary since they would be (partly) paid in local Metical that was not worth much.

[50] And fight capitalism/ neo-colonialism. EMS even envisioned a 'catching up' of capitalist Netherlands with socialist-to-be-Mozambique (Scholtens 2018). These volunteers often positioned themselves in opposition to the 'mainstream' experts sent out by DGIS.

[51] This point was substantiated by a visit of Samora Machel to the Netherlands in 1983, in which he chose to visit EMS people rather than attending a press conference after having met with the prime minister, Lubbers.

But the Dutch state also enabled Frelimo's 'scope of agency' to be considerable, because it lacked capacity to coordinate its aid. Aid was mostly administered by DGIS employees in The Hague at that time, but they were expected to spend and keep track of a quickly expanding aid budget in the 1970s with more or less the same amount of people. This led to severe 'spending pressure', the 'piling up of money', poor preparation and weak coordination of aid projects and results (Hoebink 1988: 66).[52] Guidance from local Dutch state representation was also minimal, with only one Dutch state official acting as *chargé d'affaire* in Mozambique, who resided under the Dutch embassy in Lusaka. This situation strengthened the position of Frelimo to negotiate and determine the type and destination of Dutch aid.

In view of this, the early bilateral water aid relationship was largely structured according to Frelimo's hydrosocial imaginaries, which clearly espoused a territorial logic of liquid power. The form of this territorial logic had much in common with, and can be regarded a socialist version of, the so-called 'state hydraulic paradigm' that Bakker (2003) describes in the context of England, Wales and the Global North more generally. It focuses on:

> ...social equity, universal provision, planning for growth, supply-led solutions with an emphasis on hydraulic development as a means of satisfying water demands, command-and-control regulation, a discursive representation of nature as a 'resource' and state ownership; all based on a desire to provide sufficient quantities of water where and when needed such that economic growth could proceed unconstrained.
>
> Bakker 2003: 20

Early state formation and Frelimo-led state politics played key roles in water affairs and were often 'frustrated' and sometimes aided by water. With Frelimo's affection for high-modernism and big infrastructure, combined with an increasingly authoritarian approach (cf. Scott 1998), this territorial logic in many ways resembled that of the colonial ruler. But Frelimo's outspoken and 'politicised' emphasis on social equity and universal provision simultaneously marked a break with the colonial past. Neither was growth to be achieved through capitalist means, as was common in colonial Mozambique. Except perhaps for Frelimo's authoritarian tendencies, which were largely condoned, this kind of territorial logic was by and large in line with the hydrosocial imaginaries of Dutch state agents and EMS. They, too, attributed a key role for the state in water affairs.

A capitalistic logic of liquid power was not strongly present, but neither was it suppressed altogether. Frelimo's pragmatic socialist course did allow for commercial investment to occur, provided the benefits were shared equally between the parties involved (Hanlon 1994). This thus opened up space for deploying a familiar Dutch water aid mechanism that was still common practice despite its contested nature: bringing in Dutch engineering companies through tied aid. The Dutch engineering companies DHV and Nedeco thus became involved in designing 'master plans' on drainage in Maputo and port rehabilitation in Mozambique's second largest city of Beira respectively (GON 1984). Yet this was nothing like the capitalistic logic that would later emerge, with its seeds being planted during a raging civil war.

[52] See also Notitie no. 91, archief BuZa, DGIS/SC, inv.no. 41 in Dierikx et al. (2009).

3.4 Transition to capitalism and expansion of aid in times of war (1983~1992)

Mozambique experienced a civil war that lasted roughly sixteen years, from the first attacks by Renamo in 1976 to peace in 1992. This means that Mozambique, after the independence war, was pulled almost directly into the next war. However, the intensity of the civil war varied over time and space. Until the early 1980s, the greater part of the country and population were still largely unaffected by it. This gave Frelimo space to put its socialist plans into practice, but precisely these plans (e.g. modernising the countryside by building infrastructure, schools, health centres, etc.) and the plans' key agents and recipients (e.g. local Frelimo leaders, teachers, nurses, *cooperantes*, rural people) became the principal targets of destruction and often extreme violence by Renamo. From the early 1980s the war extended over the entire territory of Mozambique, with Renamo troops moving around in rural areas, and Frelimo forces controlling the urban areas while combating Renamo, with very mixed results (Hall and Young 1997: 138). Negotiations between Frelimo and the guerrilla movement-turned-political party Renamo started early 1990s, and culminated in a peace accord in 1992 under the auspices of a UN peace mission. About a million people had died by then, another two million had fled their homesteads, many more were permanently disabled and/or traumatised and the country's infrastructure was largely destroyed.

This section examines two events that occurred during this war, which had a deep and long-lasting impact on Mozambique's political economy and waterscape. One is a rapid expansion of Western aid, another the implementation of the first Structural Adjustment Plan (SAP). These ushered in a troubled transition to capitalism and, I argue, opened up space for a (novel) capitalistic logic of liquid power to prosper in the Mozambican waterscape and the bilateral relationship alike.

The Frelimo-led Government of Mozambique (GOM) opened the country's doors for Western aid, and embarked on a SAP, after a toxic combination of its own errors and adverse 'external' conditions had brought the country on its knees. By the mid-1980s, Frelimo realised the major shortcomings of its excessive centralised development approach and started redressing these. The war had already expanded by then, however, and on top of this, floods and droughts occurred with devastating impact on agricultural outputs. It had also reached a debt level whose payment obligations it could no longer fulfil. It desperately needed food- and other emergency aid as well as foreign currency. The Dutch state and other donors were willing to provide such aid, on the condition that Mozambique cooperated with the BWI's and embarked on a SAP (GON 1992: 614). Being in such a critical position, Frelimo knew it could not sustain its critical approach towards aid (conditionality). Mozambique thus became a member of the World Bank (WB) and the IMF in 1984 and began designing a SAP, known as the Programme of Economic Rehabilitation (PRE). By the PRE came into effect in 1987, Samora Machel had died and Joaquim Chissano had taken over as president. Chissano led Frelimo into a path of abandoning socialism and embracing Western ideals, with Mozambique reaching peace in 1992 formally as a 'multi-party democracy' and a capitalist market economy.

Chissano propagated the PRE to be in line with conditions of these BWI's, while meeting its own slimmed-down socialist philosophy and goals. However, according to Hall and Young (1997: 198-199), the PRE and other SAPs that would follow "...involved the massive subordination of the Mozambican state (...) and the wholesale handover of the economy to international agencies". Indeed, these fairly well reflected Naim's (1999) depiction of SAPs as a 'shock therapy', in which as many neoliberal

reforms associated with the Washington Consensus got adopted as was possible in the shortest period of time.[53] They involved, among other, the biggest privatisation program in Sub-Sahara Africa[54], one that Cramer (2001) calls "hasty and careless". While the SAP had some immediate stabilising effects in the economy, the 'upsurge' of the market contradicted with growing poverty, noted one Dutch state document (GON 1992: 614). The number of people with access to the most essential goods such as water declined, mostly because subsidies were radically cut, state budgets capped and prices were rising. But instead of abandoning radical neoliberal reforms, which were considered necessary medicines to swallow by the BWI's, such 'by-effects' were ameliorated by another WB program, called the "social dimensions of structural adjustments". Like most Western donors, the Dutch state was deeply involved in both stimulating structural adjustment in Mozambique in return for balance-of-payments and import assistance, while softening its hard edges by co-funding the social dimensions project (ibid).

Regarding the expansion of aid, the Dutch state was one among a few Western donors in Mozambique in 1980 and the EMS was one of only seven 'NGOs'.[55] Five years later, many more donor countries and some 70 NGOs had become active in Mozambique, and in 1990 around 180 NGOs (Hanlon 1991: 64; Alden 2001: 94). Along with this came profound *qualitative* changes of foreign aid. The new aid agents were all in their own way bestowed with "the will to improve" (Li 2007), had aid money to spend, and results to report home. The Mozambican state lacked the experience and capacity to ensure a proper guiding of this massive (emergency and 'regular') aid inflow. As Wuyts (1995) argued, this not only led to aid dependency, it also severely complicated the 'governance' of the country. NGOs and donors generally delivered aid in projects, while the SAP introduced the phenomenon of 'programme aid'. The latter pursued macro-economic changes on a national scale and was broad and all-encompassing. Projects were more focused and specific, often had different agents involved at different levels, working with different counterparts. Rather than the two complementing each other, this aid totality led to short-termism, Wuyts argues, and a sharp increase of donor influence (ibid).

Meanwhile, the intensifying civil war in the late 1980s led to a sharp division in the geography of (water) aid. Most of the aid was delivered to, or aid work carried out in, Frelimo-controlled areas, which were mostly (peri)urban areas. Little of that aid reached the rural areas and people controlled or threatened by Renamo.[56] Dutch (water) aid also continued during this war. Dutch experts continued working for DNA and other public water entities in Frelimo-controlled areas.[57] Dutch financial aid only increased, notably food- and other types of emergency aid (such as aid delivered after floods), next to the mentioned macro-economic support. The (still socialist) EMS gradually lost its privileged position

[53] The Washington Consensus (WC) is a term coined by Williamson (1989) and refers to a set of policy recommendations rooted in neoliberal orthodoxy that came to underpin SAPs, including rigid fiscal discipline, financial and trade liberalisation and privatisation. The first stage of 'radical' structural adjustment ushered in another, adapted and supposedly 'softer' stage based on the so-called Post-Washington consensus. This was focused on advancing so-called 'good governance', but it was no less neoliberal.

[54] In terms of the number of transactions.

[55] These seven were in fact all solidarity organisations, and did not refer to themselves as NGO's. EMS would only later call itself an NGO.

[56] Interestingly, water primarily served as a military-strategic instrument in rural areas, with Frelimo and Renamo forces sabotaging or poisoning existing water supply systems or pumps so as to prevent the other from using it (Morier-Genoud 2018).

[57] Interview Dutch water expert, 3 November 2016; Interview former EKN employee, 9 June 2016.

now that Frelimo transitioned to capitalism and after numerous 'mainstream' NGOs, including some Dutch ones, had joined the EMS. The Dutch state took over the hitherto central position of the EMS in the bilateral aid relationship and became the key social relation along with its Mozambican counterpart. While the relationship had a relatively small and simple structure, with a territorial logic of liquid power as outlined above still dominant, a novel capitalistic logic of liquid power was emerging and rising in strength. This was one rooted in the upcoming neoliberal political ideology.

3.5 Transforming the Mozambican waterscape in times of peace (1992~2010)

The 1990s and 2000s were path-shaping for the Mozambican political economy, waterscape and the bilateral water aid relationship in multiple respects. At the same time, however, certain tendencies and powers that had entrenched in the Mozambican political (economic) system after independence continued to be strong in the transition to capitalism. In her study on the politics of privatisation in Mozambique, Pitcher (2002: 239) calls this a process of "transformative preservation", that is, "...a dynamic but contradictory process of blending rupture with replication, of joining discontinuity to continuity" (ibid). This section examines this simultaneous reproduction and transformation of hydrosocial and political economic structures in Mozambique (i.e. in subsections 3.5.1 and 3.5.2), and how the bilateral water aid relationship developed in relation to these (3.5.3). The section ends by arguing that the rise of the novel capitalistic logic of liquid power in the bilateral relationship did not wither or fundamentally change the dominant territorial logic of liquid power of old, but rather became established alongside it (3.5.4).

3.5.1 A new water architecture : formal design and legislation

Swatuk (2005) examined the emergence of a 'new water architecture' in Southern Africa in the 1990s and 2000s. He argued that this architecture was driven by national reforms, novel water management ideas and frameworks in global networks, and changing hydrosocial conditions (ibid). In particular the preoccupation of governments and donors with water privatisation was strong in what McDonald and Ruiters (2005) call the "age of commodity". Mozambique formed no exception to this; the 1990s saw the design, formal adoption and attempted institutionalisation of new water legislation (laws, policies, decrees, rules), public water entities, governance arrangements and management ideas and frameworks, including privatisation. This new architecture was erected prior to and after peace in 1992, meant to transform a waterscape ruined by war. This subsection briefly lists the key elements of this water architecture.

In a nutshell, the chain of new water legislation and entities in the 1990s started with the Water Law adopted in 1991 (GOM 1991). This is a generic piece of legislation, and still the foundational one for water in Mozambique. It incorporates fashions of the time and created new entities, such as integrated and decentralised Water Resources Management (WRM) to be carried out by regional water administrations (called ARAs[58]) at the basin level. The next milestone, the National Water Policy of 1995, had an emphasis on water supply and also included alleged 'best practices', such as recognising the 'economic value of water', reducing the role of the state to setting priorities, regulating and overseeing investments, and elevating the role of the 'dynamic' private sector (GOM 1995: 147). The national water policy was followed by various decrees on specific issues. One notable decree set up the

[58] ARA stands for *Administração regional de águas*.

Delegated Management Framework (DMF), which separated ownership of and investment in urban water supply infrastructure from operations (GOM 1998a). Within the context of this DMF, a water regulator (CRA) and a public water asset company called FIPAG were created (GOM 1998b; 1998c). Thus, the formal structure that emerged envisaged a decentralised WRM at the basin level carried out by ARAs and an outsourced and regulated water supply in urban areas. Rural water supply continued to be managed by DNA based on a 'Demand Responsive Approach' (DRA) adopted in 1997, with increased participation of the private sector (GON and UNICEF 2006: 24; on the DRA, see Moriarty et al. 2013). DNA's role was otherwise limited to policy-making and steering the new water architecture.

The legislation underpinning this basic and formal water architecture was updated and extended in the following decades. The Water Policy was updated in 2007 and in 2016 to account for the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs) respectively (GOM 2007; 2016). The DMF's juridical area was extended in 2009 to account for water supply and sanitation in small towns next to primary cities (GOM 2009a). This involved the creation of another public water and sanitation asset company similar to FIPAG, called AIAS, and the extension of regulatory power of CRA (GOM 2009b; 2009a). The DMF will be discussed in much more detail in the chapters to follow.

These formal-legal legislations and entities that combined make up the new architecture receive much attention by Mozambican water professionals, aid actors and researchers alike. At the same time, interviewees indicated that the actually existing waterscape deviates in many respects from this formal architecture. The disjuncture between the formal-legal properties of the new water architecture and the actually existing waterscape is arguably best noticeable in the desired and persistent, but troubled application of market mechanisms to water supply. Indeed, this constitutes an important empirical entry point for envisioning and making sense of the contradictions I explore in this chapter and the next ones. As Cleaver and Franks (2005) argue, architecture is about design and institutions partly elude design; they are shaped not just according to design principles, but also and especially by broader structural forces, power struggles and contextual conditions. The next subsection briefly touches upon some generic 'structural forces' related to political economy in Mozambique that will help explain concrete instances of this disjuncture in the next chapters.

3.5.2 Water architecture's eluding design: politics and power relations

In this subsection, I discuss three types of processes that help explain the disjuncture between formal design and representation of the new water architecture, and its actual manifestation 'on the ground' . These are processes pertaining to the political economy in Mozambique, foreign aid and the nonhuman environment.

Regarding political economy, I find it helpful to use Pitcher's argument on 'transformative preservation' (2002: 239). Thus, while many formal-legal aspects of the architecture are indeed new to Mozambique, tendencies that have rooted in the 'socialist era' have remained strong. I contend that two such tendencies are particularly relevant for the analyses in this thesis. Firstly, the tendency to maintain a highly centralised and hierarchical approach to water affairs and secondly, the tendency to preserve (more or less) tight relations between the Mozambican state and the ruling political party Frelimo. These have a causal relationship, I argue, with the first serving as a mechanism to keep relations between the state and party intact for political and economic reasons that I discuss below.

Regarding party–state relations, these have always been tight, but the degree of tightness varied over time. Under president Machel (1975–1986), the state and party had virtually merged, with party politics presiding over the state technocracy. Chissano (1987–2004) loosened these relations and relied more on a technocratic approach (and state and non-state/foreign technocrats) to design and carry out the extensive (neoliberal) reform program in the economy, politics and state bureaucracy, but without compromising party interests (Macuane et al. 2017: 9-14). Chissano's successor was Armando Guebuza, who served as president from 2005 to 2015. Macuane et al. (ibid) argue that he "...revitalised the party structures from the grassroots to the highest levels of state and parastatal companies", promoted "party membership as a condition for access to public office" (ibid: 14) and increasingly held "those holding state positions accountable to the party" (ibid: 16).

Two key interests have shaped these party-state relations, with considerable effect on the functioning of the (water) state apparatus. The first is political and refers to what Macuane et al. (2017) call the 'ideology of national unity'. As liberator of the country, Frelimo considers itself the only legitimate and most competent agent for shaping a unified nation-state in a country with a heterogeneous population (Funada-Classen 2012; Coelho 2013). This idea and associated claims to power pre-eminently shapes political decision-making, in particular vis-à-vis the main opposition party and enemy of old, Renamo, and especially since general elections are held every five years. Important policy themes and reforms, also in the water sector, cannot simply be understood without taking this consideration into account. The theme of decentralisation illustrates this well. Chissano embarked on a course of substantial political decentralisation before the first general elections in 1994, confident it would not affect Frelimo's monopoly to state power. When Renamo won almost as many seats in parliament as Frelimo, it immediately reconsidered and adapted this process (Orre and Rønning 2017: 35). This incidence would turn into a structural tendency, with Frelimo willing to decentralise only insofar it does not jeopardise its own power position and mechanisms of control (Weimer and Carrilho 2017). Whether decentralisation or other political processes and incidents, Frelimo is (in)famous for keeping its internal ranks closed when events threaten to compromise the power of the party as a whole.[59]

The second is primarily an economic interest. It relates to capitalist class formation and the associated private accumulation of wealth and social power. Castel-Branco (2014) argues that the era of structural adjustment and the period thereafter has involved a two-stage 'expropriation' of the state, which went hand in hand with the formation of national capitalist classes in Mozambique. The large-scale, heavily subsidised privatisation of state assets that was part of the SAPs was the first instance which triggered capitalist class formation and provided major new opportunities for personal accumulation (ibid; Cramer 2001). Coupled with a relaxation of party politics and control over the state and economy under Chissano, and a laissez-faire of the renowned party discipline and anti-corruption attitude propagated by his predecessor Samora Machel, an extensive system of rent distribution developed. Although Chissano's successor Guebuza positioned himself as a fighter against corruption that had soared under Chissano, he tightened control of the party over the state and the main economic pillars precisely to tighten grip over the production and distribution of rents. These rents derive mainly from an economy that has become one-sidedly focused on the extraction of natural resources such as coal

[59] Despite different and even opposing factions that have made up Frelimo since its inception, and whom have frequently disputed over the party's course and hence, over that of the country and state.

and gas. This 'extractive economy' has attracted large flows of foreign Direct Investments (FDI) to Mozambique. In a second wave of expropriation, Castel-Branco (2014) argues, members of these classes have become the key mediators between national and foreign capital for arranging FDI, making abundant use of the state apparatus (Macuane et al. 2017). This explains the highly unequal distribution of wealth in the Mozambican society, despite consistent economic growth since the mid-1990s. It has also greatly narrowed down the space for public investments, Castel-Branco (2014) argues.

These political economic interests, and agents attempting to safeguard these, extensively shape the social relations that constitute the Mozambican state (Sumich 2010; Sabaratnam 2017). They have a deep impact on the functioning of state entities and what they (can and cannot) do, and therefore also shape the politics of designing and implementing sector-specific governance/management frameworks, including those pertaining to water. From the (continued) use of water as a political instrument or as a potential source of rent; these are related behaviours that undermine any 'rational' water process or design. Many higher- and lower level actors inside that same state and party condemn these processes, as they see their initiatives and daily work frequently frustrated by it.[60]

If state and non-state agents related to (certain factions in) Frelimo have eluded the design of the water architecture, then so have (changing) agendas, agents and tendencies of foreign aid—even if most of that architecture is de facto imported through aid. Aid dependency has become particularly deep in the Mozambican waterscape and not a single piece of the water architecture and associated legislation has been designed or implemented without extensive donor input. While this opened up windows of change in the sector and opportunities for individuals, it also created novel problems, including an aid next to state bureaucracy, water aid fragmentation and a strong tendency to "produce success" out of projects and experiments that have in fact been deeply problematic (Mosse 2004: 645).[61] The strategy of producing success is also noticeable at the national level, with many donors having long portrayed Mozambique as a successful aid-driven country. This claim was inter alia based on high rates of economic growth and a sustained period of relative peace and democratic space. Yet, a growing inequality, massive private accumulation, enduring poverty and more such structural problems showed how problematic this claim was (Hanlon 2004; Pérez Niño and Le Billon 2014).[62]

Lastly, as in the past, these political economic and aid processes have 'metabolised' with adverse hydrological events, which further undermined the water architecture's implementation. The floods of 2000 in the Limpopo basin in southern Mozambique is but one example hereof. These were the worst floods in 150 years, according to Christie and Hanlon (2001), with devastating impact on people and things. One insider told me they used these catastrophic events to raise political awareness for water and to plea for more investments in WRM, but to their frustration, this has not materialised.[63]

[60] The next chapter explores in more detail the nature of state and bureaucratic power in Mozambique, in relation to these political economic processes. Chapter 6 examines a concrete manifestation of Frelimo-class power that resulted in crisis, with profound hydrosocial repercussions.
[61] Chapter 5 investigates a concrete manifestation of a so-called 'produced success', namely the DMF.
[62] Joseph Hanlon is arguably the most outspoken on this issue; he calls this the "myth of the Mozambican success story" (Hanlon 2004: 748; see also Hanlon 2017).
[63] Interview employee MPOPHR, 18 November 2016.

In all, and to paraphrase Li (1999: 316), the new water architecture has been a 'terrain of liquid power struggle' between established and novel agents who operate in a political economic and hydrosocial context that had profoundly changed, but had also stayed the same in certain respects. How the Mozambican-Dutch water aid relationship developed in view of this broader context, is the topic of the next subsection.

3.5.3 The bilateral water aid relationship's expanding and changing structure

In the post-civil war period, this section posits, the bilateral relationship's structure expanded rapidly in terms of water aid volume and actors involved. It also saw some important, long lasting qualitative changes in approaches to water aid.

After peace in 1992, the Dutch state quickly grew into the biggest bilateral donor in the Mozambican water sector in terms of aid volume (Van Woersem et al. 2007). After a visit by the Dutch Minister of Development Cooperation to Mozambique in 1994, the bilateral relationship was formally given a structural rather than temporary character[64] and water aid to Mozambique received a boost after a period of decline during the last years of the civil war (GON 1995a). This coincided with a reorganisation of the Dutch Ministry of Foreign Affairs (BZ) in 1995, which involved the decentralisation of power from The Hague to the embassies. Embassies, including one established in Mozambique, became much more autonomous in agenda-setting and received more budget and personnel (GON 1995b; Hoebink 2010). By that time, quite a number of Dutch water professionals had already accumulated substantial knowledge on water affairs in Mozambique and had built a degree of authority in this domain. They had been particularly active in training Mozambicans as water technicians, many of whom would sooner or later assume management and leadership positions in the sector.[65] Tight, trust-based relations between Dutch and Mozambican water actors had therefore developed and also on a political level relations had tightened.[66] These processes combined had given Dutch aid agents a strategic position, and rendered them influential, in water decision-making processes in Mozambique (Alba and Bolding 2016).

They were also therefore key agents in designing and implementing (parts of) the water architecture.[67] To name a few examples; the 1991 Water Law was made with input from Dutch actors and I was told that the ARAs therein conceived were inspired by Dutch water boards.[68] A major project was set up to provide institutional support by DGIS experts to the first of five ARA's that became operational, ARA-Sul. Other ARA's started to receive support by Dutch water boards later on. Were most studies previously carried out by the Dutch focused on surface water, a new focus on groundwater in the early 1990s brought in the Dutch engineering company IWACO to carry out a big groundwater study.[69] This also established the Dutch more prominently in the domain of water supply, where it had hitherto

[64] Until then, aid to Mozambique formed part of aid programs with a temporary time span, even though Dutch aid had been delivered since independence.
[65] Interview (former) Dutch water expert, 3 November 2016.
[66] Many interviewees have highlighted their bonds with Dutch agents and often recalled memories and anecdotes. On a political level, successive Ministers of International Cooperation have visited Mozambique, as have presidents of Mozambique to the Netherlands.
[67] Interview former director DNA, 13 February 2017; interview former director DNA, 28 February 2017.
[68] Interview water consultant, 8 August 2016.
[69] Interview (former) Dutch water expert, 15 November 2016. This led to frictions between the 'surface- and groundwater guys', this expert said.

mostly focused on WRM.[70] Another Dutch engineering company, DHV, carried out a comprehensive study together with a Mozambican consultancy, Consultec. They assessed the performance of water supply companies in the twelve provincial capitals, also in the early 1990s (DHV and Consultec 1995). This study formed a prelude to two large World Bank projects that started in the late 1990s, among other aimed at operationalising the DMF and preparing for water privatisation (WB 1998; 1999). The Dutch state actively supported these WB projects and co-financed the second which had set up the public water supply entity FIPAG. In 2004, the Dutch NGO Vitens-Evides international (VEI) became directly involved in the DMF by partnering up with FIPAG. This partnership was later (in 2013) extended to include support to AIAS.

On a decentralised level, the Dutch embassy started a large rural development program in the province of Nampula in 1998, which involved subprojects in various sectors, including water. This support to the province was pledged for fifteen years, but was abruptly terminated after two years to make place for the new development fad: the Sector Wide Approach (SWAp). Indeed, SWAps were introduced in Mozambique and other partner countries as a "short, sharp shock", concluded the aid Policy and Operations Evaluation Department in 2006 (IOB 2006: 37). A SWAp was introduced in the water sector by the Dutch embassy in 2002, implemented through multi-year programs called ASAS[71]. These ASAS programs entailed budget support to DNA. Although the idea was to have other donors join this SWAp, no one did, and the Dutch state has ever since remained the only donor involved. It proved to be a strategic instrument that brought Dutch state actors close to high-level Mozambican water bureaucrats. Despite this move to programme aid, aid projects very much continued, including at decentralised levels, with the GON partnering with UNICEF in the so-called "One Million Initiative". This was the largest rural water programme in Mozambique when it started in 2007, has put strong emphasis on private sector involvement (IOB and UNICEF 2011: 50) and has been important in setting up the rural water supply framework still in place, called PRONASAR (UNICEF 2014: 6).[72]

While this non-exhaustive overview provides an idea of Dutch involvement across the Mozambican waterscape and anticipated architecture, it also indicates a changing structure underpinning the Mozambican–Dutch water aid relationship. In line with the distinction made by Wuyts (1995), Dutch agents had become closely involved on a 'programme level' besides participating in projects, with the former pointing at decision-making (governance) processes at the level of the water sector as a whole and the latter at concrete activities in WRM or water supply. Projects by DGIS were abandoned and outsourced, and personnel from Dutch NGOs and consultancy companies gradually replaced DGIS water experts and *cooperantes*. As mentioned, the Dutch state assumed the central position of the EMS in the bilateral relationship, which was substantiated by the establishment of an embassy that made local representation of the Dutch state much stronger.[73] This embassy was growing steadily in the 1990s and 2000s, and water became the embassy's largest policy section, with a budget of around

[70] Interview former director DNA, 13 February 2017.
[71] ASAS stands for *Apoio Sectoral ao Sector de Águas*, which translates as Sectoral Support to the Water Sector.
[72] PRONOSAR was designed and set up with support from various Dutch actors (experts and embassy personnel) and the embassy financed and participated in it until 2013. It then pulled out abruptly, driven by its new aid and trade agenda.
[73] As mentioned, the EMS found itself in an increasingly difficult position in the 1990s, with an old friend (Frelimo) who had profoundly changed with its embrace of capitalism, and being surrounded by plenty of NGOs delivering similar services with which it had to 'compete'. The EMS now also called itself an NGO, until it merged with like-minded organisations into the Netherlands Institute for Southern Africa (NIZA) in 1997. NIZA is now the Dutch branch of ActionAid.

€15mn. out of a total of €62mn. in 2010 (IOB 2012a: 51). In addition, more funding channels for water aid became available in the Netherlands, which were also used for water projects in Mozambique.[74]

In all, the structure expanded and diversified in terms of budget/funding mechanisms, agents from both sides, projects and water topics. Particularly striking is the more or less subtle change from a state-led to a market-based approach to water aid, noticeable across the activities carried out as part of the bilateral relationship. The next subsection explains this change as instigated by a rising capitalistic logic of liquid power in the bilateral relationship, and in broader contexts in which this relationship is embedded.

3.5.4 The rise of the capitalistic logic of liquid power in a context of neoliberal globalisation

This subsection suggests that the capitalistic logic of liquid power could grow (and grew) more powerful in the bilateral relationship, due to this relationship being embedded in political economic and hydrosocial contexts that globalised and integrated in tandem with the rise of neoliberalism from the 1990s onwards. This logic did not, however, become all-powerful. Rather, it established as another major force next to the hitherto dominant territorial logic of liquid power.

The most proximate context, with arguably the most direct influence on the relationship, is the Mozambican political economy and waterscape. The structural changes in these domains discussed above indeed created space for the capitalistic logic to prosper. However, this was not an automatic process, as the Dutch government (GON) was initially ambiguous about some structural changes in Mozambique. On the one hand, the GON moved along with the neoliberal reforms applied to water, driven as they were by the WB that had grown into the most powerful (water) aid agent in the 1990s. Dutch state agents thus operated within the neoliberal 'parameters' introduced and pushed most decisively by the WB and they supported specific neoliberal projects. On the other hand, the bilateral relationship was already historically anchored, and mutual relations were already structured in particular ways since independence, unlike many other bilateral relationships. Dutch water (aid) actors were strongly connected with their Mozambican public counterparts and together they had worked in an environment in which a territorial logic reigned. The hostile attitude that the WB espoused towards this territorial logic was therefore not shared by Dutch agents, but still exerted considerable influence in the bilateral relations. The SWAp that the Dutch state launched exemplifies this ambiguous attitude. It was set up to support broader state reforms in line with the BWI's neoliberal Poverty Reduction Strategy Papers. But through the SWAp, the Dutch state committed itself to long-term and intensive cooperation with DNA, the central state water entity that the WB and other donors distrusted.

Notwithstanding this ambiguous attitude, the neoliberal ideology was progressively embraced in the Dutch political economy and state. This gradually impacted the way Dutch ministers and state actors approached Dutch (water) aid and ways of working within DGIS/ BZ. A number of marketisation techniques, examined in the next chapter, have been introduced and increasingly applied to Dutch aid from the 1990s. This rising influence of neoliberal thought in Dutch aid went hand in hand with a

[74] A motion submitted by former Dutch parliamentarian Koppejan and adopted by parliament in 2008 is one such example, whereby Dutch drinking water companies were stimulated and allowed to spend 1% of their annual revenue on drinking water aid projects in developing countries (Tweede Kamer 2008). Before that, in 2005, the then Minister of Development Cooperation Van Ardenne pledged 50 million people access to clean water. The One Million Initiative in Mozambique was set up and implemented as part of this pledge (IOB and UNICEF 2011).

greater emphasis placed on water within Dutch aid from the late 1990s and later also within the Dutch economy at large. Water had always been part and parcel of Dutch aid, as discussed in section 3.1, but it had long been treated as a subtheme of broader agendas, such as the tied aid strategy or the poverty reduction agenda. Only in the late 1980s, a first aid policy document appeared specifically dedicated to water (GON 1989; IOB 2000). Water received a modest boost in the 1990s, but still as part of 'the environment' that became a cornerstone in Dutch aid (GON 1990).

What really made water rise to prominence were major events and new water actors in the late 1990s and early 2000s. One such event was the second World Water Forum (WWF) in The Hague in 2000. This conference was well-attended and well-received, and it profiled the Netherlands globally with regard to water (Luchtenbelt 2015). Among the key organising actors was the Netherlands Water Partnership (NWP), which was established by state and non-state agents a year before the conference (GON 1999). The NWP is a network organisation with public, private and non-profit organisations from across the Dutch water sector as members. Its aim has been to unite an alleged fragmented Dutch water sector (DWS), aimed at a more effective profiling and positioning of the DWS abroad (ibid; Gast 2008). The 2000 WWF conference itself led to the establishment within DGIS of a 'Water Unit'. This unit has explicitly focused on water and development, the role of the Netherlands therein and the relation with the (water-related) Millennium Development Goals (MDGs), adopted by the UN in 2000 (Heun et al. 2003).[75] The current king, then still prince royal, of the Netherlands had also assumed roles in national and international water governance frameworks, adding to water's awareness in Dutch society.[76] Lastly, several Dutch ministries strengthened their cooperation and produced a more coherent line in their international water policies. This inter alia led to 'Partners for Water', a funding scheme that has financed water aid projects and activities in countries like Mozambique (Gast 2008).

This attention paid to water nationally reflected a similar trend on a global scale. Biswas (2004: 81) argues that water had "disappeared from the international agenda during the 1980s and 1990s" after the first water mega-conference in Mar del Plata, Argentina, in 1977.[77] Only in the late 1990s did water reappear as a major theme, with the establishment of new global water institutions such as the World Water Council (WWC) and the Global Water Partnership (GWP), and the start of another series of global water conferences. This is not to say that water received no global attention in between, but this was not (nearly) as large as at the Mar del Plata conference.[78] All this points at the growth and a growing significance, from the 1990s onwards, of so-called global water governance frameworks and networks. Combined, these have come to constitute a major terrain of liquid power struggle at the global scale in which new and established agents battle over the question how water (crises) ought to be imagined and managed (Goldman 2007; Mollinga 2008a; 2008b). In many and the most powerful of these frameworks and networks, a neoliberal perspective on water became dominant (Goldman

[75] This water unit within DGIS has since been part of (sub)departments that have been given different names under subsequent reorganisations and is currently part of the "Inclusive Green Growth" department.
[76] He also chaired the 2nd WWF in The Hague and visited Mozambique after the devastating floods in 2000.
[77] This conference was organised by the UN. The International Drinking Water Decade was announced at this conference to help organise 'water for all', but its implementation was troublesome (GON 1998).
[78] Even the much-cited Dublin conference in 1992 had a very small gathering compared to the one in Mar del Plata and many of the 'Dublin principles' were already part of the Mar del Plata conference report (Biswas 2004; UN 1977). The GWP, supported from the start by the Dutch state, sought to promote and entrench the Dublin Principles (GON 2004: 12).

2007)—something water shared with other socionatures (ibid.; MacDonald 2010; Duffy and Moore 2010; Neimark et al. 2016).

This emerging global context, I argue, has become an increasingly important point of orientation for Dutch state and non-state agents since the late 1990s. These agents have become actively involved in many of these global platforms, and such platforms have in turn shaped the ways in which they conceptualise and approach water (aid). This, together with a growing and more integrated world market for water services and products, spurred the capitalistic logic of liquid power in Dutch water aid.

In all, in the period under review in this section, a capitalistic logic of liquid power gradually gained strength in an expanding bilateral water aid relationship, triggered by hydrosocial and political economic changes in Mozambique, the Netherlands and globally. However, while this logic had increasingly framed the imagination and design of water institutions and (aid) projects in Mozambique, it co-evolved with an influential territorial logic of liquid power still predominantly characterised by extensive state involvement in water affairs. This process, of a capitalistic logic co-evolving with a territorial logic, very much continued into the next period.

3.6 The (water) aid and trade period (2010s)

This section focuses on the introduction of the aid and trade agenda in a context of crisis and austerity in the Netherlands and discusses the repercussions for the bilateral water aid relations. I argue that this agenda emerged from, and itself sustains and fuels, an already strong capitalistic logic of (liquid) power, but that this logic is also countervailed. This section starts with briefly outlining the context of aid and political economy in Mozambique prior to introduction of the aid and trade agenda, as it helps explain and understand the selection of Mozambique as a partner country in the aid and trade agenda discussed thereafter.

3.6.1 Mozambique's 'resource frenzy'

By 2010, Mozambique had become one of the most aid-dependent countries in the world, with the volume of aid in that year amounting to $2bn. A large share of it (up to half this amount) was being dispensed in the form of central budget support, which gave the donor group providing this considerable negotiating power and policy influence (Hanlon 2014). Aid dependency in the water sector has been higher still, with aid covering an average of 80% of all expenditures in the water supply and sanitation sector (UNICEF 2016: 17).[79] The resultant donor–government/state relations are deeply political and involve at least as much frustration as 'partnership cooperation' (Hanlon 2014). Numerous donors and NGOs kept on offering, and Mozambique continued welcoming, aid since the late 1980s. It earned Mozambique the dubious nickname 'donor darling', all the while deepening and perpetuating these relations. This started to change by the late 2000s, albeit slowly, with donors increasingly frustrated by continued (allegations of) corruption and the lack of progress in domains such as 'good governance'. Some donors responded by reducing aid and it even led to a short-lived aid moratorium

[79] Expenditures comprise of investments and capital goods, among others, and are by far the largest budget post (WB 2014: 90)

in 2009. The Dutch state was one of the first to pull out of the donor budget support group in 2013 altogether, and it was followed by others, allegedly based on similar such arguments.[80]

However, donors ending budget support and a change in government–donor relations were also driven by other national and global political economic/ecological events. The most notable event was the discovery of huge reserves of natural gas and coal in Mozambique in the late 2000s. According to Hanlon (ibid: 121), this led to a 'resource frenzy' in the country, "changing both government and donor attitudes".[81] Indeed, it provided the Guebuza-led government a strategic asset with which to confront and change its power relation with donors. In the early 2010s, the GOM started disregarding donor demands which led to a reduction in aid, but it partly compensated for this loss by increasing its own share to state expenditures (including water), made possible by raising its tax income. Donors, on their part, increasingly reflected on how they and companies they represented could become involved in the anticipated exploitation of gas and associated economic spin-off. Among these donors was the Dutch state that sought to change its relation with Mozambique from one based mainly on aid into one based predominantly on trade. This change was triggered by subsequent aid and trade agendas that the Dutch state adopted in the early 2010s.

3.6.2 Adopting the Dutch (water) aid and trade agenda in a crisis context

This subsection provides a background to the Dutch 'aid, trade and investment' agenda (GON 2013a) and a similar aid and trade agenda that preceded it (GON 2011a). The adoption of these aid and trade agendas should be considered in the context of the global financial crisis that broke out in 2007 and which lasted roughly to 2016 in the Netherlands. This crisis had hit the Dutch political economy and society particularly hard compared to many others, not least due to the large size of the Dutch financial sector relative to its economy (Engelen et al. 2010; Engelen 2017). The effectiveness and legitimacy of Dutch aid, already under increasing pressure since the mid-2000s (IOB 2012b: 61), was called into question by right-wing and nationalist parties who were in the ascendance post-crisis.[82] With the liberal party VVD winning two post-crises elections, in 2010 and 2012, and forming the coalition government with other parties, the crisis got tackled by a familiar medicine: austerity. The two governments led by the VVD embarked on austerity programs totalling some €52bn (Engelen 2017: 66). These programs included significant tax increases and budget cuts in domains such as social security, health care and indeed, aid (Oxfam 2013).[83] This deflationary policy went hand in hand with other programs aimed at restoring the competitiveness and growth of the Dutch economy, including innovation and export-stimulating programs.

[80] Of all partner countries of the Dutch state, Mozambique received the second highest volume of aid, totalling 252 million euro in the period 2000 – 2011 (IOB 2012b: 78).

[81] See also Macuane et al. (2017). The term they use for (resource) 'frenzy' is (resource) 'windfall'.

[82] This notably includes the nationalist party PVV, and to a lesser extent the VVD. The PVV opted for abolition of development aid altogether (PVV 2012) and the VVD for an extensive downsizing of aid (VVD 2012), and both emphasized the importance of free trade as vehicle for global development. Surveys, however, indicated continued popular (societal) support for development aid (NCDO 2013).

[83] The first post-crisis government (2010-2012) reduced the amount of ODA as a percentage of its GDP from 0.8 to 0.7%. The next government (2013-2017) introduced another budget cut on top of this, of one billion euro annually. Furthermore, what counted as ODA was significantly stretched; climate finance commitments and costs for refugees came to count as ODA as well. This catered for right-wing and nationalist voices saying that foreign aid budgets could better be spent on domestic economic recovery and crisis relieve measures.

The crisis context, I argue, provided momentum to reform Dutch water aid and better align it with the neoliberal hegemonic through the aid and trade agendas. The first post-crisis government (2010-2012) laid out the principles for a desired shift from aid to trade (GON 2011a). The succeeding government (2013-2017) adopted and reinforced these principles in the aforementioned 'aid, trade and investment' agenda (GON 2013a). This basically implied reinstating economic growth as the main driver of development and a shifting focus from social to economic sectors. The market, private sector and (private) finance were attributed (even) more importance than before, as these were seen as principal vehicles in achieving growth. The number of partner countries was reduced from 33 to 15. Relations with these countries were divided into two categories: an aid relationship and a transitional relationship based on aid and trade. Between the remaining fifteen partner countries and the Netherlands, the Dutch state expected 'reciprocity'. Thus, in return for Dutch aid are obligations for partner countries, with Dutch commercial interests in and through aid—or 'enlightened self-interest'—once more becoming explicit goals. The agenda stated: 'we fight extreme poverty out of solidarity with people, [whilst encouraging] trade mainly in our own interest" (GON 2013a: 7).

The number of aid priority sectors in this agenda was limited to four, with water being one of them. Under the aid and trade policies, water was reframed as an economic rather than a social sector (GON 2010). Next to being "relevant for poverty reduction", water was expected to better serve "the Netherlands' economic and other interests" (GON 2013a: 29). This emphasis on the economic value of water in Dutch aid linked up with a more general trend of emphasising the value of water for the Dutch economy as a whole. Water was proclaimed one out of nine 'Top Sectors', in a state-subsidised and innovation-stimulating programme for "the growth markets of tomorrow" (GON 2011b: 3). Moreover, an interministerial platform in 2016 launched the International Water Ambition (IWA), which profiled the Netherlands as a global water centre of expertise (GON 2016a). Although each of these different state projects-cum-accumulation strategies had their own niche, they also partly overlapped in terms of 'target countries', services and products on offer, and agents involved.[84] Inside the state, the department of Foreign Economic Relations (BEB) was moved from the Ministry of Economic Affairs (EZ) to Foreign Affairs (BZ) in support of the shift from aid to trade.[85] This meant that development specialists in DGIS, well-connected with the Dutch aid community, and economists of BEB who are predominantly linked to the Dutch private sector, were encouraged to work much more closely together.

In all, despite the crisis had clearly indicated the problematic nature of contemporary capitalism, neoliberal ideas about development persisted and were even more forcefully applied to Dutch aid. In other words, the aid and trade agenda only fuelled a capitalistic logic of (liquid) power that had already been in the ascendance in recent decades. This also impacted on the bilateral aid relationship.

[84] Mozambique features as a target country in all these programs. The niches have to do with the nature of these programs; the top sector programme aims at boosting export, hence water technology is a key focus and private, for-profit companies are considered key agents. Dutch aid revolves around water supply and WRM and incorporates non-profit organisations in particular. The IWA revolves around a loose network of state and non-state agents. The differences in foci leads as much to struggle as to cooperation between them.

[85] The two domains under one roof is not new; from the late 1940s to the early 1970s, aid expenditures fell under the responsibility of EZ as did foreign trade (Hoebink 2013).

3.6.3 Aid and trade in Mozambique, and the rise of the primary water aid and trade contradiction

Unlike for instance Tanzania and Zambia, where the GON pulled out as donor altogether (IOB 2016), Mozambique was selected as one of the fifteen remaining partner countries. Mozambique's economic prospects as sketched above, and the presence of Dutch organisations in its water sector, were among the reasons for Mozambique being selected (GON 2011a: 20). Dutch agents initially assessed it could rapidly move from a predominantly aid-based to a trade-based relationship altogether (i.e. within five years). Phasing out aid thus became the initial policy line, facilitated by a centralisation of decision-making power from embassies to BZ bureaucrats in The Hague. This assessment and decision was one indication of the vigour with which the aid and trade agenda was promoted by BZ, and how some actors got carried away by the resource frenzy in Mozambique.

The embassy's so-called Multi-Annual Strategic Plans (MASPs) for Mozambique, written in the early 2010s, clearly reflected this line as well as the opportunism about the foreseeable future in Mozambique. Although the MASP for the period 2012 – 2015 (GON 2011c) was still relatively mild in its 'aid to trade' discourse, an addition to this MASP in January 2013 (GON 2013b) specifically focused on 'economic diplomacy' and was much more outspoken. It observed that Mozambique "...is undergoing a dramatic transformation in its economic structure, which indeed can be named 'frightening and exhilarating'", pointing specifically at the discovery of gas that could allegedly "triple Mozambique's GDP". The bilateral relations were expected to turn between 2013 and 2015 from "a donor-recipient one to a broad based mutually profitable relationship, in line with thinking 'beyond ODA'" (ibid). This economically reductionist and speculative line of reasoning continued in part in the MASP 2014 – 2017 (GON 2013c). This document's opening statement read that "all indications suggest that Mozambique will experience major economic growth over the next decade" and that "...Dutch firms are well positioned to play a significant role in Mozambique's development", but since "competition will be fierce", the RNE[86] "will continue and expand its activities in economic diplomacy to actively support Dutch trade and industry" (ibid: 1).

At the same time, the aid *to* trade policy line was contested by a number of BZ employees knowledgeable on and/or closely involved with Mozambique. To them it was clear that aid could (and should) not be phased out in five years, given the still deeply problematic political economic and social context in Mozambique. A struggle on the policy line to follow resulted in a revised and milder version of this policy line. Mozambique was placed in the broad 'transitional aid and trade relationship category', meaning it would continue to receive aid whilst growing as a trading partner (GON 2013a: 27).[87] Notwithstanding this adapted, aid *and* trade course, BZ continued pushing to change the relationship with Mozambique into a more commercial one.[88] Dutch companies had to be supported in getting business done in Mozambique. While not new, the aid and trade agenda took this 'economic diplomacy' to a higher level, especially in the extractive industries. In response to the gas discoveries, Dutch state agents such as the EKN played a very active role in helping Royal Dutch Shell obtain a license to operate in the north of Mozambique (Van Beek et al. 2019). Heineken and other major and smaller Dutch companies also received extensive support. This emphasis on positioning and

[86] RNE stands for the Royal Netherlands Embassy. The current abbreviation used by the Dutch state for RNE is EKN, which stands for the Embassy of the Kingdom of the Netherlands. EKN is also used in this thesis.
[87] Interview EKN employee, 26 July 2016; interview EKN employee, 27 February 2017.
[88] Interview EKN employee, 14 July 2016.

attracting the Dutch private sector also applied to water in Mozambique. Even though Dutch state agents stated that the "Mozambican water sector is socially and economically underperforming", they assessed that "ample opportunities for sector development and further Dutch (private sector) engagement exist" (GON 2013c: 5).

This statement and the other ones from the MASP's quoted in this section must in part be considered rhetoric, written in response to decision-makers' calls to make the plans more market and business-oriented (GON 2012). Many actors involved in the bilateral water aid relations whom I spoke or listened to considered these statements as displaying a considerable degree of wishful thinking. They pointed at official development charts on Mozambique that made clear that Mozambique was not going to be transformed in five years in a "mutually profitable partner", nor that its growth would be "inclusive" (GON 2013b).[89] Yet, such statements cannot simply be regarded as empty or as having no effect. They actually did reflect a broader process or, as I describe it, a logic of (liquid) power at work in the very structure of the bilateral relationship. A logic, moreover, that urges agents involved to think and act in line with ideas and mechanism pertaining to contemporary capitalism. But I also emphasize that this process should not be considered as standing on itself, as something that is unique to the 'aid and trade era'. While the aid and trade agenda did reorganise matters here and there, it merely intensified processes that were already set in motion in previous periods.

Nor is the aid and trade agenda unique to the Netherlands or the bilateral relationship. One interviewee portrayed the Mozambican context in which the aid and trade agenda had to be carried out as a "wild wild west". This person said that donors and aid agents in Mozambique have always been more or less driven by their own interests, which has rendered the aid context in Mozambique complicated and problematic. However, he posited that nowadays "...we all have aid and trade interests, from Saudi Arabia and China to Western donors" and because all "...are now primarily focused on money and economic interests, this [context] has become even more perverse".[90] Indeed, the Dutch aid and trade agenda(s) and the processes and behaviour it stimulates is not unique. Other DAC donors, such as the UK, had adopted similar agendas, argues Mawdsley (2015; 2017a; 2017b). According to her, this type of agenda

> ...is not just deepening the existing poverty reduction-era focus on 'bottom billion capitalism' (including land titling, markets for the poor, microfinance, supporting Small and Medium Enterprises and so on), but extending towards new and expanding goals of large-scale public–private partnerships, donor support for major commercial investments, private equity initiatives and deepening financialisation.
>
> Mawdsley 2015: 343

Indeed, this describes the form and 'content' of the capitalistic logic, as it has grown powerful from the 1990s into the aid and trade era, particularly well.

With the capitalistic logic now exerting an ever stronger and more noticeable pressure, it also became more obvious how this was countervailed rather than aided by the territorial logic of (liquid) power at work in the bilateral relationship and Mozambican waterscape. As already alluded to above, and as will be examined in much more detail in the next chapters, the Mozambican GOM and (central) state

[89] Interview Mozambican WB employee, 20 February 2017.
[90] Interview EKN employee, 27 July 2016.

agencies have continued to play a decisive role in (hydrosocial) development. Sometimes they operated in congruence with agents motivated by the capitalistic logic, because it was in their benefit to do so or under pressure from powerful agents. Oftentimes, however, their actions thwarted rather than advanced the various aid and trade activities and objectives pursued in Mozambique. Also within the Dutch state itself, the relationship between the capitalistic and territorial logics of liquid power grew problematic. The contested nature and rejection of the policy line to replace aid by trade altogether in Mozambique attest to this, but it for instance also became expressed in power struggles between (water) representatives of DGIS and BEB who differed in their views of development—with the former often departing from use value considerations and the latter from exchange value considerations.[91] Likewise, some critical (water) NGOs contested the aid and trade agenda and its underlying business-oriented approach and capitalistic assumptions (Oxfam 2013; Bakker et al. 2017), while others embraced it (see e.g. NABC 2017).

In short, there is an influential, but varied territorial logic that tends to negate rather than harmonise with or complement the capitalistic logic. This is why I suggest the pursued (water) aid and trade course in Mozambique can more fruitfully be approached in terms of a dialectical, contradictory relationship. The next chapters substantiate this overarching argument and seek to unpack this 'primary' water aid and trade contradiction. They do so by digging deeper into specific areas of the water aid and trade relationship, and how powers associated with, or derivative of, the capitalistic and territorial logic have evolved over time and vis-à-vis each other.

3.7 Conclusions

This chapter examined how the territorial and capitalistic logics of liquid power each co-evolved with the historical development of the Mozambican-Dutch water aid relationship. It pointed out that in the first decade of this relationship from the mid-1970s to the mid-1980s, a territorial logic of liquid power dominated, one in which the central state was considered the key driver behind hydrosocial development. This territorial logic dominated in and through a broader political economic context in which socialist (GOM, EMS), and social-democratic (GON), development visions and objectives prevailed. The Frelimo-led GOM not just pursued a hydrosocial vision in which water served social and economic aims, it also 'used' water for political ends, as a way to keep or attract people into its sphere of influence. A capitalistic logic was not rejected, but neither did the socialist environment in Mozambique enable this logic to prosper or exert much strength. The mechanism of tied aid, still common in Dutch development despite rising criticism, was deployed in Mozambique, but the main Dutch aid 'vehicle' were experts and volunteers who worked as *cooperantes* in projects of DGIS or EMS.

The contrast with the 'aid and trade' period from roughly 2010 onwards was in many ways significant. In between these periods, the structure had not only grown in size, it was also qualitatively different. The relationship had developed in a broader political economic context that had significantly changed due to the rising power of neoliberal and financial capitalism from the late 1980s onwards. Consequently, a capitalistic logic of liquid power had become deeply entrenched in the entire structure of the bilateral relationship. This had instigated change in terms of discourses, institutions and policies,

[91] Interview BZ employee, 24 January 2018; interview BZ employee, 1 February 2018; field notes, 10 November 2016.

aid mechanisms and actors. Market discourses had replaced state discourses, *cooperantes* had been replaced by consultants and NGOs, the outsourcing of water (aid) projects had substituted the default 'in-house' project and global water (aid) framework and concepts became increasingly important orientation points.

However, from a perspective on development as a historical process of socio-environmental change, the aid and trade course followed in Mozambique must neither be considered a sudden, nor a radical process of change. This agenda, I posit, fuelled a capitalistic logic that had already grown powerful. It consolidated this power more firmly within the structure of the bilateral relationship, which translated in a more constrained policy space for Dutch and Mozambican actors implicated in the relationship. In other words, the pressure on them to think and act in accordance with this logic had become (much) stronger. This process was driven in particular, but not exclusively, by neoliberal and nationalists political parties and voices calling for a more effective and more market oriented aid that would better serve national economic interests, next to those of partner countries. This agenda produced a sharper line of separation between a group of actors within and outside of the Dutch state who welcomed this process, and another group that held slightly or radically different views on development. This was particularly prevalent in the contestation of the decision to phase out aid altogether in Mozambique, a sign that the economic reasoning of one group clashed with that of other actors emphasising extra-economic conditions.

This 'fault line' between capitalistic and territorial logics, to use Archer's words (1995: 215), became yet more apparent in Mozambique itself. Here, the implementation of political economic and hydrosocial frameworks and projects, driven by a capitalistic logic, revealed that the Frelimo-led GOM and the central state still assumed a major role, with related actors trying to orchestrate and streamline processes in line with new political economic agendas and interests. These actors trying to keep decision-making power over water affairs centralised, I argue, represents a dominant territorial logic of liquid power in the bilateral relationship, one that stands in a particularly uneasy relationship with the capitalistic logic of liquid power. The next chapter examines this uneasy relationship in much more detail, when examining how this primary water aid and trade contradiction plays out in water governance processes.

Chapter 4

Water marketisation vis-à-vis state and bureaucratic power

4.1 Introduction

Some of my Dutch interviewees distinguished between 'traditional' and 'modern' water (aid). With traditional aid, they pointed at state-driven and/or state-financed aid. This is basically aid that counts as ODA, which is delivered by 'official', mostly public agencies and includes technical assistance (TA), concessional grants and loans, and various kinds of goods and resources (OECD 2021). Traditional also pointed at the way in which a water sector is organised, referring to the dominance of the state and public agencies in governing water affairs. With modern water aid, they pointed at aid based on market thinking and mechanisms, driven by private companies next to public agencies and/or in part paid for by private finance such as commercial loans. A modern water sector appears to be one in which 'innovative' (market- and private finance-based) concepts as well as Public-Private Partnerships (PPPs) are embraced or have normalised. According to one Dutch embassy (EKN) official, the aid and trade agenda pre-eminently reflected

> ...the realisation that the traditional way of development cooperation has insufficient potential for the future. For a long time, the sectoral approach was *hot* within development cooperation, as well as general budget support, which relates to the Paris agenda. This was all about granting the state *ownership*. However, it is clear that this approach has not proved to be the engine behind development of a country. That really turns out to be the private sector. (...) Classic aid is a thing of the past.[92]

A Dutch water aid consultant agreed with this line of thinking, but also observed that the EKN in Mozambique still had a long way to go as they

> ....do not have time and the capacity to work with such [innovative] concepts and therefore, traditional aid- and capacity constructions remain the norm. That is a pity, because they could have achieved more if they had introduced new financing constructions.[93]

He also depicts the water sector of Mozambique as very "traditional-minded, with an emphasis on public management" in which a great share of investments goes to "traditional development of the sector, that is, to FIPAG and AIAS as well as to the ARAs".[94] About FIPAG and AIAS, another consultant said that

> ...if you look at the way those worlds work, how water systems are usually designed, that still reflects a very traditional way of thinking, the standard public way of thinking. First, they look for finance, usually at one or the other donor. When that is found, a tender is issued for design. Normally, a giant concrete system is designed that can last for so many decades. Then another tender is issued for construction and

[92] Interview EKN employee, 23 November 2016.
[93] Interview Dutch consultant, 23 November 2015.
[94] Ibid. To recall, FIPAG and AIAS are two public water supply agencies, ARA's are public agencies for WRM.

> in the case of AIAS, the operations of these systems are also tendered and outsourced to private operators.[95]

He added that this last step, the outsourcing of water supply to private operators in the case of AIAS, is in fact quite innovative, but suggested the entire process could be significantly modernised nonetheless.

The gist of these quotes is that both Dutch water aid and the waterscape in Mozambique are still traditional-minded and therefore, in need of modernisation. In this chapter, I take these statements as entry point and critically interrogate these against the historical background of the bilateral water aid relationship sketched in the previous chapter. I investigate the will and attempts to restructure what they label as 'traditional', namely [1] the public set-up of, and central state and bureaucratic power in, the Mozambican waterscape as well as [2] Dutch ODA-based water aid as a means to help transform this waterscape. I demonstrate that the latest 'water aid and trade' reforms, focused on water marketisation, stand in a longer tradition, with various market mechanisms having long ago been introduced and embedded in the bilateral relationship and the Mozambican waterscape. Attentive to this history, I argue that water marketisation has significantly transformed Dutch water aid and the Mozambican waterscape, in various respects, but often not in ways imagined or desired by their designers and implementers. I explain this disjuncture by water marketisation being dependent on, but standing in a very complicated and contradictory relationship with, state and bureaucratic power emanating from both sides of the relationship.

I substantiate this argument in four sections. The first section starts with briefly characterising the 'target of change', namely the state water bureaucracy in Mozambique as it has developed after independence and the role of Dutch aid within it. Section 4.2 then examines the 'force of change': marketisation. I unpack marketisation into three distinct, but related mechanisms that are each discussed in this section. I argue that few of these mechanisms have functioned as was originally envisaged, which I explain in section 4.3 by a countervailing force at work in the relationship: Mozambican and Dutch (aid) bureaucratic power. The conclusion in section 4.4 sums up and relates the contradictory relation between water marketisation and bureaucratic power to the primary water aid and trade contradiction.

4.2 The target of change: the (Dutch) water (aid) bureaucracy in Mozambique

After independence in 1975, the Frelimo-led GOM faced the tremendous task of building, under very challenging conditions, the new state. As outlined in the previous chapter, Frelimo had defined a socialist version of the hydraulic mission and its Leninist-Marxist inclination translated into a highly centralised and hierarchical water bureaucracy. Not that such a bureaucracy lacked in the colonial administration; the Portuguese had in the late colonial period built up a centralised water bureaucracy, with different departments overseen by Lisbon that designed and implemented grand hydrosocial plans. But since most of the Portuguese had fled the country upon independence, and had left the African population virtually uneducated, it was difficult to staff the postcolonial water bureaucracy. The few Portuguese who remained, together with a number of educated Mozambicans and foreign *cooperantes,* assumed the task of building it up from the colonial vestiges.

[95] Interview Dutch water consultant, 20 June 2016.

Subsection 4.2.1 characterises this water bureaucracy and argues that, despite obvious (ideological) differences, it reproduced some essential features of the colonial water bureaucracy, notably a centralised, state-led approach to governing water affairs. The Dutch aid bureaucracy, discussed in subsection 4.2.2, was small in relation to the volume of aid dispersed. Unable to exercise much bureaucratic power, it allowed ample space for water experts and *cooperantes* to organise and carry out their work in Mozambique as they saw fit. Dutch aid concentrated on the biophysical and technical aspects of water management carried out through 'in-house', loosely coordinated projects.

4.2.1 The postcolonial Mozambican water bureaucracy

After the Third Congress of Frelimo in 1977, the key pillar in the postcolonial water bureaucracy was formalised with the establishment of the *Direcção Nacional de Águas* (DNA), or the National Directorate of Water, as part of the Ministry of Public Works and Housing.[96] DNA emerged from, and continued some of the activities of, its colonial predecessor that went by the name of the provincial directorate of hydraulic services.[97] In line with Frelimo's centralised approach, DNA as the key state water agency was charged with the majority of water affairs shortly after its establishment in 1977. As one document stated:

> ...all problems related to water have been centralised. [DNA] is responsible for the drafting of master plans, the implementation of projects, the construction of [water] works, the exploration, maintenance and conservation of systems, aligning its activities to the guidelines of the National Planning Commission and the National Commission for Communal Villages.
>
> GOM 1978: 6

Except for irrigation, DNA held responsibility for water resources management (WRM), rural water supply and it de facto oversaw two nationalised state companies responsible for digging wells and supplying water materials (Kop 1984).[98] Urban water supply fell under the responsibility of municipal governing committees, whose members combined political roles in the Frelimo party structure with professional duties. As they were deemed unfit for the task, DNA also soon took over this task. DNA established urban state water services under supervision of the central state that enjoyed little autonomy, and created a unit called UDAAS to coordinate and assist them.[99] A rural water program was set up, called PRONAR, which was administered by DNA and for which 'provincial workshops' (called EPARs) were created to assist them. Tariffs were set by the central ministry, with the National

[96] This ministry was not much later renamed the Ministry of Construction and Water. It frequently changed names thereafter and is currently called the Ministry of Public Works, Housing and Water Resources (MOPHRH).
[97] In Portuguese: *Direcção Provincial dos Serviços Hidraulicos* . 'Provincial' should be read in the colonial context when Mozambique was considered an overseas province of Portugal. It thus refers to the entire territory of Mozambique.
[98] Irrigation was the responsibility of a special state secretariat for hydraulic operations for agriculture, the so-called *Secretaria do Estado Hidraulica Agricola*, yet this entity had strong links with DNA. Regarding water supply, DNA was particularly active in rural water supply in Communal Villages (see ch. 3, section 3.2.2). The nationalised state companies were Geomoc and Hidromoc. Hidromoc was made responsible for the construction and distribution of water supply materials, including chemicals for treatment. Geomoc was charged with groundwater research and the digging of boreholes. The activities of both companies were under colonialism carried out by two private companies who had a near monopoly on importing and distributing such goods and the construction of boreholes (De Carvalho 1981).
[99] Except for the water company in Maputo, which had another legal status.

Price Commission playing a crucial role (DHV and Consultec 1995: 69). During late colonialism, the construction and maintenance of water works such as supply systems and dams were done by private companies and some cities had private or public-private arrangements in place for water supply. After independence, these activities were taken over by the state. Private enterprise was limited to projects financed by aid partners, such as the management, maintenance and/or building of dams.

As such, in the socialist period, DNA was ascribed an even bigger role in the Mozambican waterscape than its colonial predecessor. Yet, it had only a fraction of the human and nonhuman resources available.[100] DNA's mandate could therefore be depicted, in the words of Hall and Young (1997), as one of those "extremely ambitious programmes of transformation [that] was beyond the ability of the Mozambican state to implement, either materially or culturally" (ibid: 80). Moreover, this giant mandate was pursued during an expanding civil war. By the end of this war, in 1992, the physical waterscape was in a shape not much better than at independence. What had been achieved, such as the building of dams or other (waste) water works and water supply activities, were restricted to areas controlled by Frelimo, that is, the cities and various spatial pockets of strategic importance.

The GOM's statement on DNA quoted above also very well illustrates how social relations and politics were structured within the waterscape from independence onwards. It points at the predilection for centralised state planning and for supervision by the Frelimo leadership and water bureaucrats in Maputo. The connection between DNA and the National Planning Commission illustrates the strong links between water and Frelimo; this commission was among the most powerful institutions in the socialist period, staffed by Frelimo leaders. Its guidance of DNA (directly or indirectly via the ministry) was as straightforward as any other, given the one-party state form and the *de facto* fusion of the Frelimo party and the Mozambican state. Prominent party members topped the hierarchy in this centralised approach, followed by the top ranks of state bureaucrats. These bureaucrats were in turn supported by a small but slowly expanding operational cadre, most of whom were poorly educated.

An important operational mechanism that generated bureaucratic authority was what Gonçalves' (2013) calls *orientações superiores*.[101] These are "...written and oral documents issued by figures and institutions of authority with the intention of advising on procedures for policy formulation and implementation" (ibid: 603). These include legal/official documents, but also other semiotic sources, such as public announcements, speeches and draft versions of policies. The 'figures and institutions of authority' are generally high-ranking party (i.e. Frelimo) and state officials. It was highly common for President Machel to give such orientations. No matter how ambiguous, his orientations were taken very seriously by subordinates and often got translated into bureaucratic procedures and institutional changes (Machava 2018: 133; Chabal 2002: 66). This mechanism, Gonçalvez argues, re-emerged strongly under former president Guebuza (2005-2015) and still informs practice today. I will argue below that this is also noticeable within the current Mozambican water bureaucracy.

To sum up, the Mozambican water bureaucracy as it developed after independence is characterised by a highly centralised and politicised approach to water governance, with central state entities and

[100] That is, the larger physical water infrastructure still existed, but some of it was destroyed by the Portuguese when they fled the country. The Portuguese did leave, however, quite a formidable amount of 'non-fixed' materials, from means of transport (boats, cars) to water research instruments. Yet, resources lacked for maintenance and new materials, which proved difficult to secure after independence.
[101] Literally translated as 'orientations by superiors'.

Frelimo leaders as key agents in imagining, guiding and implementing ambitious hydrosocial development plans.

4.2.2 The Dutch water aid bureaucracy

Frelimo needed and welcomed water aid, but not just from any partner. Frelimo quite successfully politicised aid in the first decade of independence. That is, the Frelimo leadership was selective in accepting aid (partners) as well as in setting the parameters within which aid was provided or in which aid workers worked. In other words, aid partners had to be at least sympathetic to, or outright supportive of, Frelimo's political project. They also had to accept the centralised (water) governance structure through which aid was channelled. The Dutch government adhered to these conditions. It had turned sympathetic to Frelimo in the 1970s and supported independent Mozambique by and large on its own terms. This had structured the first phase of the bilateral water aid relationship (1975~ early 1990s) in ways outlined in the previous chapter, namely with aid consisting of financial (and emergency) aid for investments in water infrastructure, combined with a large presence of aid workers known as *cooperantes*.[102]

While these *cooperantes* indeed worked within the confines of the governance structure sketched above, the situation on the ground left considerable space for Dutch experts to make their own decisions and to initiate activities, recalls the first Dutch water expert sent out by the Directorate-General for International Cooperation (DGIS) in 1978. He arrived in DNA's half-empty office in central Maputo, and could pick one of many vacant offices who had previously been taken up by a bureaucrat of the colonial hydrocracy. He was soon joined by another Dutch expert and together they set up and engaged in a number of activities, including training Mozambicans in elementary hydrometry, carrying out studies, setting up databases or joining in transboundary water negotiations. They were able to initiate and carry out a broad range of activities as these were simply among the numerous tasks that were deemed necessary, and because they were (initially) hardly guided or steered by DGIS or DNA management into doing a particular activity. "DGIS was not yet the well-oiled machine that it would later become", he said, and "...they were already glad to see things being set up and carried out". He even became head of the Department of Water Resources within DNA, as "...there was no Mozambican who could take up that position". Such leadership positions having been taken up by *cooperantes* was not uncommon in those years, according to Hanlon (1991: 96), as it served an immediate need and was based on mutual confidence.

That DGIS was not yet considered a 'well-oiled machine' had several reasons. Local representation and local support was minimal, as the coordination of aid was centralised at DGIS, within the Ministry of Foreign Affairs (BZ) in The Hague. DGIS had to administer a quickly rising budget in the 1970s and 1980s, with few personnel relative to this budget, resulting in severe coordination problems. Moreover, water was a domain within Dutch aid that had received little specific attention until the late 1980s, even though the volume of water aid had risen quite substantially. Water aid was mostly provided as Technical Assistance (TA), with little attention paid to water's non-technical aspects. Training and

[102] *Cooperantes* were either bilateral or suppletion experts sent out by DGIS or volunteers/ experts sent out by the solidarity organisation EMS and later on, by other Dutch agencies. Dutch aid being provided by a large number of cooperantes differed significantly from Dutch aid in other countries, such as in Bangladesh, where water aid was still mostly provided as tied aid during that time, i.e. contracted out to Dutch engineering companies (IOB 2000: 75).

capacity building constituted a significant part of TA, but these activities also largely concentrated on technical subjects. Investments were generally 'supply-driven', with a couple of tied aid projects carried out by Dutch engineering companies focused on big water infrastructure. TA was typically provided through 'in-house' long-term projects in which, an IOB report noted, "...Dutch water aid assistance followed standardised bureaucratic procedures, characterised by an overriding concern to manage a 'project cycle'" (IOB 2000: 58). A formal project format was used, stating a "...preconceived (and often over-optimistic) solution to problems confronting the target constituencies and to dissect the aid intervention into discrete, consecutive stages". The report concluded that

> In nearly all cases, this rather mechanistic approach conflicted with the 'organic' rhythms and dynamics of the unfolding institutional development processes in the sector. The result was a pattern of over-ambitiously if not unrealistically formulated project documents, primarily serving the purpose of mobilising donor funds.
>
> Ibid: 58-59

In all, the 'target of change' discussed in this section refers to the Mozambican state water bureaucracy and the Dutch (water) aid bureaucracy as they developed separately and jointly in the first phase of the bilateral relationship (1970~early 1990s). I conclude that a highly centralised, state-led and politicised approach to governing water affairs became effective in Mozambique. State and bureaucratic power in Mozambique was strong, centralised and directive in this approach, yet ample space existed on the ground or work floor to act as one saw fit. Dutch aid bureaucratic power was also centralised and increasingly directive, for instance in terms of complying to standard project requirements, but not yet very strong. This also made Dutch aid workers very flexible in arranging their work in Mozambique. Jointly, the two bureaucracies functioned under a state-led water governance regime that placed emphasis on the biophysical and technical aspects of water, on (big) water infrastructural projects and bureaucratic and project mechanisms to make this happen.

The next section discusses why this water governance regime and its underlying bureaucracies became a target of change and how this ought to be changed. This must be considered against the background of a rapidly changing political economic context in Mozambique during the 1980s, discussed in detail in the previous chapter. To briefly recall, Mozambique had emerged out of the civil war in 1992 formally as a liberal, multi-party democracy, with a (still Frelimo-led) GOM intent on developing a capitalist market economy. These changes were instigated after the GOM had opened up its doors to Western aid agents in search of support to tackle massive socio-environmental problems it faced, such as rising debts, droughts and floods, and famine. The 'parameters' for development once set by Frelimo were now increasingly set by aid agents, according to the new development fads. In particular, the GOM adopted structural adjustment policies (SAPs) after joining the World Bank and IMF and thus committed itself to neoliberal reforms. In short, Mozambique had entered a process of integration into global capitalism, in which the Netherlands was already deeply integrated. However, like the GOM, the GON was undergoing a process of adopting the ideas and reforms associated with the neoliberal ideology that was growing hegemonic at that time.

4.3 The force of change: water (aid) marketisation

This section examines and unpacks marketisation as the 'force of change' in the bilateral water aid relationship, from its emergence during Mozambique's transition to capitalism (1990s) up to and

including the aid and trade period (2010s). In the context of this chapter, marketisation refers to the market-based restructuring of ODA-based aid and subjects/objects in the Mozambican waterscape targeted by such aid (cf. Birch and Siemiatycki 2016). Marketisation is considered both a semiotic and political economic force. In semiotic terms, it urges agents to think in and/or express their ideas and actions in market-related terms, whether or not they 'genuinely' support or believe in it. In political economic terms, it propels agents to transform established water (aid) institutions, activities and projects as well as setting up novel ones in line with market imaginaries. Combined, this force serves to specify the imagination and policy/implementation space for change in line with the capitalistic logic of liquid power.

I argue that marketisation in the bilateral water aid relationship is characterised by three key mechanisms that are intimately related, yet have a slightly different 'sub-target' of change. One is corporatisation, meant to change the structure of the public sector and attitude of civil servants. A second is outsourcing based on competitive tendering, meant to change relations between state and non-state actors and to increase the quality of water services. A third is what I will come to call the 'private sector/ private finance imaginary', which sought to increase the role of the private sector and private sector involvement in water (aid) projects. The next three subsections each discuss one of these mechanisms, specifying some of the key processes and activities that relate to the mechanism, the role of Dutch aid and the politics and power struggles involved. Indeed, I consider these not as neutral mechanisms implemented in a technocratic fashion, but as value-laden mechanisms proposed, designed and applied in a terrain of liquid power struggles.

4.3.1 Corporatisation

Corporatisation is understood in two senses. First, corporatisation is an institutional change, whereby semi-autonomous public companies are created that (ought to) operate at an arm's length of the central state. The second dimension, which may or may not be pursued simultaneously with the first dimension, involves the introduction and attempted sedimentation of values, ideas and mechanisms associated with the market and private enterprise inside a public entity. As McDonald (2014) argues, corporatisation is not new, and has historically been pursued under different ideological frameworks around the world, with different aims and operational principles. Yet the most common type of corporatisation of the last decades has been a 'neoliberal' one "...intended to create greater financial transparency, reduce political interference, and strengthen managerial accountability", and in which "market operating principles such as financialised performance indicators, cost-reflexive pricing and competitive outsourcing" have become dominant (ibid: 2; McDonald 2016). This subsection examines the application of corporatisation in the Mozambican waterscape, a process in which Dutch aid played an important, but also at times contested, role. Deep Dutch involvement in this process indicates the influence of corporatisation on Dutch aid (actors) itself, a point also briefly covered in this subsection.

A central objective of the new water architecture erected from the 1990s onwards was to reduce central state involvement and bureaucratic power in the governance and management of water, and to create a more market-oriented public water sector. DNA was a specific object of change, considering the fact that most water affairs were hitherto supervised and/or operationalised by this central water entity. As a former DNA director recalls:

> This was the time that the World Bank came in. They came in the water sector with quite some noise—with new policies and strategies. One of the main things they wanted to do, was to turn DNA into a policy and strategy making entity, and leave operations to autonomous institutions and the private sector. The World Bank said that DNA must be the one making policies and strategies.[103]

DNA's decision-making power over water affairs thus had to be reduced as well as its involvement in operations.

Regarding operations, reforms affected the domain of urban water supply the most. Urban water supply companies enjoyed little autonomy and were strongly directed by DNA prior to the 1990s. With the introduction of the Delegated Management Framework (DMF) in 1998, the framework for urban water supply became subject to 'neoliberal corporatisation', in both senses outlined above. This involved the creation of new, more autonomous water supply agencies, namely FIPAG and AIAS, as well as the water regulator CRA. Decision-making and regulating powers were transferred from DNA to these agencies, meant to diminish central state involvement. It also involved the immaterial, second dimension of corporatisation, in the sense of inculcating business and managerial thinking within these entities.

FIPAG is the Water Supply Investment and Assets Fund, established in 1998. It was tasked with attracting money (via grants, loans) for investment in and maintenance of water supply infrastructure in the country's primary cities.[104] This money had to be repaid on the basis of cost-recovery. FIPAG was charged with 'delegating'—that is, outsourcing—water production and distribution to independent, preferably private operators. This did not go well (see next subsection), but the DMF's mandate was nevertheless expanded to include water supply in 130 'secondary' cities and towns as well as sanitation in all these (i.e. 151) primary and secondary cities. AIAS was created in 2009 as the agency responsible for investing in and maintaining infrastructure for water supply and sanitation in these secondary cities and towns. CRA was established alongside FIPAG in 1998, and was charged with regulating water services first in primary cities, and with the establishment of AIAS, of water supply and sanitation services in all cities. The DMF and the creation of FIPAG, AIAS and CRA were among the major and most visible 'material' institutional changes as part of the new water architecture.

Dutch state and non-state agents were closely involved in these processes. First, the Dutch state had financed a major study in the early 1990s on twelve water companies in the provincial capitals, and concluded that they were in a technically and financially poor condition. The study provided building blocks to change these water companies "into more autonomous entities, also financially" (DHV and Consultec 1995: xii). This study was a prelude to a major WB-project, co-financed by the Dutch state, whose task it was to design and set up FIPAG and CRA in 1998. On a project level, Vitens–Evides International (VEI)—the water aid organisation of various Dutch drinking water companies—partnered up first with FIPAG in 2005 and a decade later with AIAS as well, for the greater part financed by the EKN in Maputo. Next to providing technical support for drinking water production and distribution, these projects have focused on 'organisational development', which basically implied aspects related to the second dimension of corporatisation, ranging from business and financial management to cost-

[103] Interview former DNA director, 28 February 2017.
[104] Primary cities are the capitals of the ten provinces plus an additional eleven cities.

recovery techniques and minimising non-revenue water.[105] This emphasis was in line with the former VEI director's vision that not a lack of technology, but a lack of "good management" was the problem in water utilities such as FIPAG and that their "social engineering" deserved more attention.[106] He said that the "typical Dutch approach" of combining corporate management with public ownership can help realise this (Van Tuijn 2010: 14-15).

Next to handing over and ring-fencing urban water supply operations, DNA was also itself subject to reform. Dutch actors were closely involved in this process as well. As said, DNA was supposed to become the central strategy-making entity in a restructured public water sector. A key aid instrument that ought to stimulate this has been the Dutch state/ EKN-funded Sector Wide Approach (SWAp), operationalised in multi-year programmes called ASAS.[107] The SWAp was a popular new water aid modality at the start of the new millennium, in which reforms desired by the donor were not so much pursued through input-based aid and associated conditionality anymore. Rather, the idea was to lend ownership to state agencies like DNA, while securing aid effectiveness through focusing on 'performance' and 'outputs' on a sectoral level (IOB 2006; Adam et al. 2005). The first ASAS programs from 2003 onwards were partly used to support the reforms related to the new water architecture (e.g. support to ARAs, FIPAG). Another part covered debt repayments and operational costs of DNA, including incentive payments for staff.

So-called 'value for money' audits were used to assess pre-defined performance indicators, even though these proved a major extra administrative burden for DNA (Van Woersem et al. 2007: 41). Follow-up ASAS programs hinged on the outcomes of these audits. Despite these audits being increasingly critical about DNA performance, ASAS funding continued and conditionality remained loose. One review concluded that ASAS "...functioned as 'grease' to let the DNA machinery work" (ibid: 44), while turning it into a leading entity had proven difficult:

> The general institutional framework is not favourable with DNA not performing as an apex organization and having considerable structural problems. The DNA is still much engaged in implementation and will continue to do so in the future.
>
> Ibid: 34

A lack of tangible improvements in the first four ASAS programs, combined with the introduction of the aid and trade agenda, motivated the EKN to tighten conditionality and to apply a more stringent results-based regime in the fifth ASAS program (or: ASAS V) that started in 2012. The EKN introduced a performance reporting framework that involved specified 'milestones' for activities and reforms. Traffic lights (green, orange, red) were used to assess progress.[108] One milestone was considered crucial given previous, failed attempts, namely to create "...a new DNA operating as an autonomous entity".[109] Towards this end, EKN (through ASAS V) funded the compilation of a strategic plan (Eurosis and Consultec 2014). For this plan to be implemented, it had to be approved by the Mozambican council of ministers. But the council did not approve the plan, which was a major reason why the EKN decided to

[105] The next chapter will deal with this and the DMF in much more detail, as part of an examination of a Mozambican-Dutch water aid project that involves AIAS, VEI and other Dutch aid agents.
[106] In lecture series "the state in a globalizing world", 14 September 2012.
[107] See also previous chapter, section 3.4.3.
[108] Annex 2 of an assessment of milestones within ASAS V.
[109] Ibid.

put ASAS V into 'contingency mode'—that is, putting the program on hold, except for activities that had already started or been contracted.

This aggravated tensions between EKN and DNA, tensions that had already risen due to the way ASAS V was managed, according to an insider:

> ...the way ASAS V was managed also helped the relationship to get weaker. The Dutch engaged in micromanagement and they also interfered in decision-making within DNA".[110]

Micromanagement involved, according to this person, "...paying attention to the smallest things and details, which takes time from people at both DNA and the embassy".[111] In short, relations had come under severe pressure during the implementation of ASAS V, which according to another informant indeed

> ...proved to be very ambitious in terms of results. To get this program implemented depended on technical elements, but also on political willingness. I am a technician, not a politician. And if the politicians don't want the program to be implemented, then I cannot do much about it. On the technical side I might be able to try and solve things, but if there is political unwillingness to implement a program, that is beyond my capacity. This, in combination with the inflexibility of the Dutch, made the situation very difficult.[112]

This event illustrates that corporatisation was not only applied to water objects and subjects in Mozambique; Dutch aid had also increasingly been influenced by it, particularly by the second dimension of corporatisation. In general, this stems from neoliberal reforms and principles of New Public Management that had already been introduced in the Dutch state from the 1980s onwards (Enders and Westerheijden 2017). Elbers (2014) lists how managerial approaches were increasingly applied to Dutch aid as well. This included the 'logical framework' and output-based aid, models that assume that highly complex realities can be rationally and linearly planned, and the spending of funds and implementation can be measured and controlled for (ibid). The BZ department of Financial-Economic Affairs, recalls a former DGIS manager, had grown rapidly during this period as the new ways of working required more administrators and 'controllers'.[113] During the 2000s, the private sector and 'innovative', market-based aid approaches such as water Public-Private Partnerships (PPP) and 'smart finance' (Singeling et al. 2009) gained popularity and became increasingly mainstream .

The aid and trade agenda gave this trend another boost. Illustrative is a weblog that looked back on a one-day conference called 'Aid and trade in a day' for the Dutch water aid community, which opened with the following lines:

> Shall we audit your value chain and then look at what we can do with financial blending? For outsiders perhaps a remarkable opening statement, but for visitors of 'Aid and trade in a day' (...) perfectly logical. The annual update with regard to aid and trade in the water sector has by now become tradition. Those

[110] Interview, 2016.
[111] Ibid.
[112] Interview DNA employee, 2016.
[113] Interview former BZ employee, 24 November 2017. This interviewee left BZ inter alia because the department of financial-economic affairs (FEZ) and tools such as the logical framework had become too dominant in shaping internal affairs and aid projects and processes.

> who have followed the language spoken on these days, will also have noticed the progress in this area. What was once called 'WASH in a day' is now 'Aid and trade in a day'. The debate has shifted from whether aid and trade can be combined, to one that asks what opportunities these present and discussing concrete experiences, business cases and most of all, finance opportunities in 2015.
>
> NWP 2015

Especially the tendency to think in terms of 'business cases' or 'revenue/business models' had become stronger. New funding schemes asked from applying actors to present their project in terms of a business case or with a business model, but this proved to be a challenge for some of them who were not used to make this. A mid-term review of the Sustainable Water Fund that subsidises water PPPs concluded that "...the focus on business cases and business models is generally artificial" and that "...attracting risk-taking private capital into the sector has been modest" (Van Woersem et al. 2015: 5-6). The water sector is not yet deemed attractive or suitable enough for realising concepts that aim at financial and operational self-reliance, while agents applying for such funds may have been inclined to simply respond to what financiers are searching for (FMO and NWP 2019).

But whereas corporate and entrepreneurial water (aid) concepts had increasingly normalised in the Dutch water aid community, in Mozambique these resonated mainly with a small, educated group of water professionals who engage in international networks (see e.g. Alvarinho 2007). As one Dutch EKN officer stated:

> For me, aid and trade is also, or especially, about investing in entrepreneurship. But entrepreneurship and the feeling for entrepreneurship lacks in Mozambique. In the past, people wanted to work for the state, where they had a job for life.[114]

Another employee of EKN said that

> Especially in the field of water, we are approached by local entrepreneurs who have local solutions for local problems. But most of them have had no training and have no skills in how to set up a company, how to assess risks, how to promote your company, how to do a market scan.[115]

The EKN was therefore eager to fund or set up projects that help develop entrepreneurial zeal and innovative ideas. One generic such project is called 'Orange Corners', which intends to "turn smart ideas into sustainable businesses". Another, specific water aid project was funded by the EKN and involved a work package focusing on developing water and sanitation business models. This project between AIAS and VEI will be explored in more detail in the next chapters, but suffice it to say now that this work package was included on instigation by Dutch agents rather than desired or asked for by AIAS. AIAS employees poorly understood the rationale and added value of this work package and consequently, neglected it for a long time.[116]

Overall, both dimensions of corporatisation have gained ample attention in the bilateral relationship and the Mozambican waterscape. Most visibly, new public agencies were created in the Mozambican

[114] Interview EKN employee, 14 February 2017.
[115] Interview EKN employee, 12 December 2016.
[116] Interview AIAS employee, 7 November 2016; interview AIAS director, 24 March 2017; interview AIAS employee, 24 March 2017. See chapter 6.

waterscape that (formally) enjoyed more autonomy than DNA, thereby reducing central state involvement. This occurred with involvement of Dutch aid actors, who also paid attention to inculcating market-operating principles such as financial cost-recovery. Meanwhile DNA, again with Dutch aid involvement, was supposed to become 'leaner and meaner', and managerial and market thinking that had become entrenched in Dutch water aid was increasingly propagated within the bilateral water relationship. These processes, I contend, brought new dynamics into the Mozambican waterscape, yet many were deeply challenging if not outright troublesome, in the sense that they ignited deep tensions between Dutch and Mozambican actors. The next subsection zooms in on a particular market mechanism closely related to corporatisation: competitive tendering.

4.3.2 Contracting out (outsourcing) and competitive tendering

Contracting out or outsourcing based on competitive tendering is a longstanding (market) mechanism in the Mozambican waterscape. This mechanism should ensure that a tendered water (aid) assignment or project is awarded to agents with an offer that, of all competitors in a 'free tender market', best matches the assignment's criteria. This process should then secure an economically more efficient (water) service delivery than if carried out by the outsourcing (often public) agent (Sayers 1997). To put it in market prose, competitive tendering should ensure optimal "value for money" (ibid). This mechanism aimed at a more efficient water (aid) service delivery. This was to be achieved by changing and tightening relations between state and non-state agents, particularly private sector actors, and by spurring the imperative of competition more generally within the Mozambican waterscape and in the delivery of Dutch water aid. This subsection traces the introduction and application of this mechanism in Mozambique and Dutch aid and zooms in on the peculiar politics that surrounds it.

The use of this mechanism in Mozambique rapidly increased after the influx of Western aid in the Mozambican waterscape in the late 1980s. This was driven in particular by the procurement system of the largest water financier, the WB, but also by changing (international) trade agreements and procurement regulations to which donors and the GOM committed themselves. Was contracting out still the exception in Mozambique during socialism, it became the rule thereafter. The 1990s involved the production of numerous studies, assessments and the like in support of the water architecture, most of which were adverted on a quickly growing tender market. This process occurred in a context of growing hostility towards the state, triggered most prominently by the BWIs. Concrete measures such as capping state budgets led to deteriorating working conditions, and discouraged well-educated, trained and/or experienced Mozambicans to continue working for public entities. As Jenkins (2000: 210) states,

> ...structural adjustment, implemented from 1987 onward, affected employment in the formal sector by insisting on privatisation. But it more immediately affected state employment, making it very unattractive for the limited trained personnel who could be employed much more remuneratively by the international donors.

Indeed, a former DNA director recalled that "...the future of civil servants was very dim; if we wanted to continue, we were almost forced to set up a private organisation".[117] Alternatively, as Jenkins indicates,

[117] Field notes on a conversation with a former DNA director, 30 January 2016. He also remembered well how one WB manager in Mozambique measured the success of his work in Mozambique by the number of engineers who

they could work for international organisations. Either of the two options was pursued by the majority of the educated cadre within DNA. Some of them set up water consultancy companies that (co-)produced (with foreign consultants) many of the studies contracted out by DNA, the WB, donors and other aid agents. Others started working directly for, or in projects administered by, these international agents, or for private companies. This resulted in a process similar to what Sabaratnam (2017: 68) observed in the Mozambican public health sector, namely the "...loss of qualified staff—the brain drain to international organisations and/or the private sector, and often other professions altogether". Within the public water sphere, it created a much stricter line of separation between domestic and foreign workers akin to what Blundo (2014: 71) and Bierschenk and Olivier de Sardan (2014: 26) typify as a 'two-speed bureaucracy', in which "...a 'traditional administration' financed by the single state budget and often condemned to inactivity and/or petty corruption coexists with an administration or 'projects', sustained by development aid that offers its agents both better working conditions and an additional income."

As mentioned in the previous subsection, outsourcing was also applied to urban water supply operations, first in the late 1990s by FIPAG and later also by AIAS. DNA made use of the same mechanism for rural water supply later on. The first and biggest event in which this practice was applied involved the outsourcing of water supply operations in Maputo, based on a lease contract, and in four other cities, based on a management contract. FIPAG outsourced these services to a consortium of multinational and domestic private and non-profit entities from 1999 for fifteen years. This was a deeply problematic experiment, or as one brochure stated euphemistically, an experiment "...with increasing lack of success" (Davies 2013: 7). Next to the withdrawal of the leading multinational SAUR within two years, the shares of its successor Águas de Portugal were bought back by FIPAG in 2011, four years before the end of the contract and after intense struggles and disagreements between the parties involved (Club of Mozambique 2011; 2012; Lobina et al. 2014).[118] In the next chapter, I will examine this in more detail and how, despite its problematic implementation, the practice of outsourcing to private operators was expanded and applied to water supply in another 130 smaller cities and towns, with AIAS as the responsible implementing agency. Although this latter process involves far more and smaller, domestic private operators, relations between these operators and AIAS are no less political.

With regard to Dutch aid, a report on contracting out remarked that this mechanism had become the "official rule" in 1984, while DGIS being directly involved in aid activities had become the exception (IOV 1988: 1). However, exemplary for Dutch water aid in Mozambique was that much of this aid continued to be carried out by DGIS experts, or alternatively by EMS *cooperantes*, in the 1980s and to a lesser extent in the 1990s. These aid professionals and *cooperantes* were initially joined, and later replaced, by Dutch NGOs and increasingly by consultants from the late 1980s onwards.[119] Major water aid projects and programs carried out by DGIS staff lasted until 2000, however, when the turn to the SWAp swiftly put an end to this. Surely, these 'in-house' water aid projects were not without their problems. But their relatively broad, autonomous and long-term nature did allow for the strong bonding between Dutch and Mozambican agents that provided the bilateral water aid relations with a

left the state and started working in the private sector. He said this manager could not understand someone who is a highly educated, like an engineer, would continue working for the government.

[118] Interview former VEI employee, 24 January 2018; interview former DNA director, 28 February 2017.

[119] Interview Dutch water consultant, 27 May 2016.

firm foundation. With increased outsourcing, contracts and performance-based models began to function more decisively as social relations. 'Value for money audits' were introduced and carried out at DNA and elsewhere to monitor the projected outputs that were agreed on in contracts.[120]

Dutch water experts continued to be deployed in DNA and other water entities, but now as consultants on individualised and circumscribed TA tasks. One former Dutch expert, ironically, was tasked with training DNA technicians on writing Terms of References (ToRs) for tenders, which had become a major stream of work.[121] He was not particularly happy with what Msimang (2002: 13) calls the 'consultantisation of development', triggered by the large-scale application of the new procurement schemes:

> The World Bank just pushed this through, this way of working. I have never been a supporter of it. This way, the DNA people are pushed to the side of supervision and no time remains for other things. All studies are carried out by consultants and little knowledge remains within DNA on the application of applied [hydrological] models. DNA becomes entirely dependent on consultants, while such a model can also be run within DNA without too much effort.[122]

This trend continued over time; another Dutch expert observed that in the WRM department of DNA where he worked in the mid-2010s, pretty much all the work is outsourced—sometimes even DNA's commentary on studies DNA had outsourced was outsourced, given a lack of knowledge within the department.[123]

Contracting out of Dutch water aid thus increased, but during the 2000s, this was still often based on direct agreements with preferred partners, such as NGOs or international agencies. Where it did involve competitive tendering, such as for assignments contracted through the SWAp, eligibility was open to all nationalities. Competitive tendering in Dutch (water) aid was increasingly applied during the 2000s, and became the norm in the 2010s. Schulpen (2016) notes how NGO funding schemes in Dutch aid had changed since 2001 and especially as part of the aid and trade agenda, when the "idea of competition between NGOs for subsidies on the basis of tendering" was introduced. Less funding was made available for an increased number of NGOs, who now had to compete for these 'scarce funds'. Schulpen argues that this resulted in a 'NGO funding game' which reduced NGO's autonomy, while pushing them to profile themselves and their projects increasingly in line with government policy—that is, in an entrepreneurial fashion (ibid: 33). An interviewee from the RVO, the executing agency that manages Dutch water aid funding schemes and projects, painted a similar picture. This person said that due to the scarcity of funds, NGOs were eagerly looking for fundraisers and they were pushed to become more business-minded. "But this is a transition", the RVO employee said, as "they were not used to think this way". Some NGOs, she continued, "...only employed development specialists who were not knowledgeable on business cases or business models. But for the funds it is required to present your idea or project in the form of a business case".[124] Therefore, some Dutch NGOs hired consultancy firms to do this for them.

[120] Interview former EKN employee, 9 June 2016.
[121] Interview former Dutch water aid expert, 15 November 2016.
[122] Interview former Dutch water aid expert, 24 November 2016.
[123] Field notes, 22 January 2016.
[124] Interview RVO employee, 4 December 2017.

But while competitive tendering fitted well with the aid and trade agenda, it made it difficult to increase the involvement of Dutch businesses in water aid projects and processes—something the agenda also desired. After the abolishment of tied (water) aid, said one DGIS employee, "the Netherlands was long at the top of the class" when it comes to following international procurement rules. "At the same time", she continued,

> ...you can see that some explore how these rules can be circumvented. (...) RVO explores the limits of what is permitted within the procurement policy in order to privilege Dutch companies in tenders. Also some embassies are outspoken in that they rather contract Dutch companies for their activities".[125]

Indeed, some Dutch state actors became increasingly occupied with the question how to have (more) Dutch businesses win tenders, while complying with international rules and agreements. What makes this difficult, the DGIS employee said, is the quality and price differences between Dutch products and services compared to others; hiring Dutch professionals quickly adds up in terms of price which makes it hard to "...compete with the Indians, Koreans or Chinese or even some other Western nations. Conversations between BZ and the World Bank have therefore been going on for a long time to focus on quality in tenders rather than who delivers the cheapest service".[126] An interviewee from a NGO confirmed that Dutch companies cannot compete with certain foreign competitors that sell water products such as pipes and pumps far below the price level of Dutch companies:

> The Chinese, they are everywhere to be found, deliver that cheap stuff everywhere. [In African countries] you will not find the investments in sustainability in the Netherlands, you first need to develop ideas behind such investments. (...) That is what we can do: making them envious about the way we have organised things here [in the Netherlands] and show them that we can do that elsewhere as well.[127]

In a water aid and trade conference titled "Money as Water", one of the workshops was dedicated to 'procurement embassies' and the question how to "optimise the process with regard to maximising Dutch water sector involvement" in tenders issued by Dutch embassies (Van Oppenraaij 2014). The report of this session stated that the Dutch state quite strictly abides by EU procurement rules for a 'level playing field' and that the 'formal procurement process' leaves little room for privileging Dutch companies. The participants therefore agreed to investigate how other countries, such as Denmark, succeeded in having their own companies win contracts in public tendering processes. The session also paid attention to tricks to better position Dutch companies. These included the option to publish a tender in the Dutch language only or to involve companies in the trajectory prior to the tender publication, e.g. by having them co-produce the scoping document leading to the tender. Also, the question was posed whether 'local rules', that is, procurement rules of partner countries, can be used rather than those of the EU to better position Dutch companies in water aid tender processes financed by the Dutch state (ibid).

This last question had already been answered in the affirmative, in the context of the bilateral water aid relationship two years earlier. In 2012, the Dutch and Mozambican governments signed a Memorandum of Understanding (MoU) meant to intensify "cooperation in the field of water" (GOM and GON 2012). This MoU contains an article that restricts eligibility in the "procurement of goods,

[125] Interview DGIS employee, 24 January 2018.
[126] Ibid.
[127] Interview Waternet employee, 17 December 2015.

works and services (...) by DNA as the contracting authority (...) to Mozambican and Dutch bidders (ibid: 4). Thus, unlike tenders issued by the embassy, tenders issued by DNA were not bound by EU procurement regulations or aid treaties and could therefore be used to privilege Dutch companies. However, an EKN officer said that this MoU did not help much in attracting more Dutch water companies and also

> ...did not create a good impression of the Dutch with other agencies. In a competitive market, there are other ways of getting there where the Dutch wanted to go, and this MoU was not perceived as being transparent enough. This might also have been the reason why it proved difficult of involving the World Bank in our projects. It was believed that when a service was tendered, a Dutch company would get the job anyway. They actually lost credits with other agencies, including the World Bank, by signing the MoU.[128]

Another EKN employee put this MoU in perspective and emphasised that such tender politics were common among other donors in Mozambique:

> Look at others: they do the same. The Koreans have a five million fund, but only Korean companies are eligible to tender on contracts. The same goes for the Japanese. At least in our fund, Mozambican companies were allowed to tender next to Dutch companies.[129]

A DNA director also compared the Dutch MoU with those of other nations and said he did not think it was problematic, because "...at least in this case, Mozambican companies can also apply".[130] Indeed, such tender politics were well-enough known by then and this was simply one odd reality Mozambican water officials had to deal with, if not pushed by donors, then by foreign or domestic companies and agents.[131] So while the MoU was not considered a major issue, it did raise dilemmas among those responsible for its execution:

> One may say this is tied aid... perhaps it is a form of tied aid. That said, the Netherlands has a lot of knowledge on water. There is a big fund with which the water sector in Mozambique can be aided [i.e. ASAS]—what, then, is problematic about arranging such a MoU? I am not sure yet... [132]

Compared to the period of tied aid (1960s ~1980s), when stimulating trade or simply offering trade deals by public aid agencies was common practice, this practice had now become a far more delicate issue under a regime of competitive tendering. At the same time, the push to have Dutch companies benefit from Dutch aid had only become stronger in the aid and trade period. It thus called for new strategies, according to a Dutch NGO professional:

> Make no mistake: promoting trade is a discipline in its own right. It is all about making friends and making deals. As government you rather not want to be linked to this, you don't want to be involved in such practices. At the same time, you know perfectly well that such practices are necessary to promote

[128] Interview EKN employee, 14 June 2016.
[129] Interview EKN employee, 7 February 2017.
[130] Interview director DNGRH, 16 November 2016.
[131] FIPAG had already experienced this in the abovementioned experiment of outsourcing water supply in five cities. As happened in many similar cases elsewhere in the Global South (Budds and McGranahan 2003: 99), SAUR started renegotiating some of the contract conditions soon after assuming operations and pulled out altogether after two years (Zandamela 2001; Lobina et al. 2014).
[132] Interview EKN employee, 7 February 2017.

> trade. What you actually need is a *deniable asset*, a trader—preferably emigrated Dutch citizens who work for themselves abroad and who know the local routes to follow.[133]

In summary, outsourcing based on competitive tendering was aimed at raising the efficiency and quality of water (aid) services delivery, by changing relations between public water (aid) agencies and non-state actors, and by increasing competition amongst non-state actors offering such services. This mechanism has indeed profoundly shaken up both the Mozambican waterscape and Dutch water aid, with many new (types of) actors becoming involved in the delivery of water (aid) services. Were 'in-house' projects within DNA or DGIS once the norm, now projects and services are generally outsourced. These dynamics created opportunities for some actors and for some improvements, but they were not without their own politics and power struggles. This section suggests this practice did not diminish the administrative burden on Mozambican public water agencies, nor did it provide an incentive to improve labour conditions like salaries or investing in knowledge in these agencies. Applied to water supply, it led to deep tensions and sometimes outright antagonism between public agencies and private operators. And while competition was (supposed to be) increased, it was also actively circumvented, generating tensions and dilemmas between and amongst actors involved. The next subsection deals with the preferred type of agent to outsource services to: private sector actors.

4.3.3 The private sector and innovative finance imaginary

The aid and trade agenda gave a major boost to an imaginary that had already grown powerful in Dutch aid and the Mozambican waterscape, namely the private sector (including private finance) as the engine behind economic growth and hence, development. Here, I use the term 'imaginary' to refer to a "...semiotic system that frame individual subject's lived experience" and which enables individual and collective agents to "...relate to their environments, make decisions, or engage in strategic action" (Sum and Jessop 2013: 165). The involvement of the private sector in Dutch (water) aid or in the Mozambican waterscape is not new and has a long history, as discussed in the previous chapter. Yet, in the past, the private sector was perceived to play its part in modernisation trajectories driven by the state and, argues Khan (2007: 6), in which market failures were corrected for by non-market mechanisms (see also Blowfield and Dolan 2014). In the Dutch aid and trade agenda, as in similar agendas of other DAC donors, the private sector has moved centre stage and is profiled as a key agent in bringing about growth and development (McEwan et al. 2017; IOB 2014a). This has led aid actors to focus on advancing the role of the private sector in development interventions. Based on Di Bella et al. (2013), I distinguish between private sector development (PSD) and private sector involvement (PSI) as ways in which agents in the bilateral water aid relationship attempted to harness the potential of the private sector.

The latter, PSI, is about *increasing* involvement of the private sector in water (aid) interventions. PSI was already considered important before the introduction of the aid and trade agenda, but became a high priority after this agenda was introduced.[134] One EKN officer recalled how BZ decision-makers insisted that "...we need a change in our relationship with Mozambique, it needs to become more commercial" and that they "...were rather direct in voicing their wishes, by saying we want to have

[133] Interview VEI employee, 19 May 2016.
[134] Interview EKN employee, 12 December 2016.

Dutch companies invest in Mozambique". This puzzled this person, "because the private sector share in the water sector in Mozambique was, and still is, rather low".[135]

Various strategies to increase PSI were pursued. These included 'market scans' in which consultants assess the potential for Dutch companies in the Mozambican water sector (Worm 2006; Pietersen 2011; Aidenvironment and Water is Essential 2015). Smaller and larger funding schemes also increasingly incorporated the criterion to involve a private sector actor and/or private finance, providing another push for increased PSI. Another way to advance PSI were 'economic missions' of Dutch ministers with a delegation of (water) business and other agents to Mozambique (EVD 2009; 2011; RVO 2014). Visits of officials to Mozambique had been going on since the start of the relationship, but these were hitherto focused on aid rather than trade. New in the aid and trade era was the so-called 'core advisor'. Core advisors were hired as consultants on behalf of the Netherlands Water Partnership (NWP), and were assigned to embassies in aid and trade partner countries so as to help embassies develop the 'water trade dimension', with an emphasis on PSI.[136]

The EKN in Mozambique searched for a core advisor with a background in "business development" and "financial engineering", because in the "...phasing out of Dutch government assistance (...) ODA transfers are expected to be replaced by other sources of finance" (RVO and NWP 2013: 1-2).[137] The consultant who was hired as core advisor had such a background and he was specifically tasked with increasing Dutch PSI in the Mozambican waterscape. He therefore scanned business opportunities in the water sector of Mozambique and acted as a 'liaison' between Dutch water entities and Mozambican counterparts in Mozambique. He paid various visits to Mozambique to explore such opportunities, but concluded that Mozambique was still very "traditional-minded", that is, one-sidedly focused on public water management. He found that PSI in the Mozambican water sector was limited, which he related to a poorly developed culture of water entrepreneurship in Mozambique compared to other aid and trade countries in Africa, such as Ghana and Kenya.

The core advisor was also expected to scope and seize opportunities for innovative financing in Dutch water aid in Mozambique. He compiled a report and toolbox on innovative financing in support of the water aid and trade agenda (Van Bork et al. 2015) and indeed assessed such opportunities in Mozambique, but to little avail. Mozambique was, for instance, not deemed ready yet for implementing an innovative finance vehicle that the NWP and other agents had set up in Kenya, called the Water Finance Facility. This facility aimed at mobilising private finance for water infrastructure through a special purpose investment vehicle, but was deemed unfeasible in Mozambique due to its poorly developed financial markets. The 'enabling environment' for innovative financing, as for PSI more generally, was therefore in need of improvement, this core advisor and other actors concluded. This is where private sector development (PSD) focuses on (McEwan et al. 2017).

The quintessential aid and trade instrument that targeted PSD (next to PSI) was called PLAMA, or the Mozambican Water Platform.[138] PLAMA was established in 2013 as a public-private water network platform, similar to NWP, with (potential) members from across the Mozambican and international

[135] Interview EKN employee, 14 July 2016.
[136] interview core advisor for Kenya, 8 December 2015.
[137] The recruitment of this core advisor took place in 2013, when the policy line for Mozambique was still one of phasing out Dutch aid altogether (see section 3.5).
[138] In Portuguese: *Plataforma Moçambicana de Água*.

water sector. It aims at stimulating dialogue between public and private companies in the Mozambican water sector, to disseminate 'business information' such as on tenders and to forge "...business links and match-making with water sector parties in the Netherlands and other partner countries including branding of the Mozambique water sector" (Lamoree and Manhique 2011: 2). It also lobbies the Mozambican government for making new laws and regulations, or adapting existing ones, such as on PPP arrangements. For example, water companies in Mozambique were not allowed to partner up with a Dutch/ foreign partner based on a commercial investment. A general PPP-law existed that would generally allow for this, but as this law was not yet specified in a bylaw for the water sector, Mozambican water businesses did not dare engage in such partnerships for fear of being forced to end their business.[139]

PLAMA, too, stands in a longer tradition of reorganising the water sector intent on making it more business-oriented. Yet, as with previous efforts, this has proven notoriously difficult. A 'mid-term review' confirmed PLAMA's relevance, but concluded that it has met few of its original objectives, has not been effective in realising benefits for its members nor managed to become financially sustainable, that is, independent of (Dutch) aid (Frade 2016). Various interviewees from both sides indicated the potential for PLAMA, but also the lack of commitment from Mozambican public entities to turn PLAMA into a thriving platform. And while PLAMA was also meant to stimulate Dutch private sector involvement, once more this proved difficult, said a Mozambican civil servant:

> I was expecting more trade in the water sector—but I am not sure if trade is the right word to use. By creating PLAMA, we should expose ourselves as the Mozambican water sector such that it would attract more Dutch businesses into it. When we signed the last ASAS, we assured that the money spent in that program could only be used by either Dutch or Mozambican companies. Therefore, I was expecting more Dutch companies to come in and make use of the business opportunities happening in the Mozambican water sector. Certainly with PLAMA, we thought this would happen. We now have a partnership with NWP and this can be an avenue to assure more Dutch businesses to invest in our water sector. [But] I don't see more of it in our water sector.[140]

An insider recalled there were doubts on the part of Mozambican water entities to start PLAMA in the first place. This had to do with a very recent experience with PSI in the Mozambican water sector, which had not been positive.[141] This person referred to the (abovementioned) problematic experiment of outsourcing water supply operations in Maputo and other cities, which ended in FIPAG prematurely buying back the shares of Águas de Portugal in 2011. This experience, still fresh, had made some Mozambican state agents wary of intensifying efforts for PSI, but such objections were put aside when in an upcoming economic mission to Mozambique in 2011, led by the Dutch Minister for Agriculture and Foreign Trade (EVD 2011), "something had to be signed"—the contract for PLAMA. [142]

Apart from PLAMA as a utilitarian aid instrument to improve the enabling environment for PSI, an oft-heard argument was that 'traditional', ODA-based Dutch water aid could help raise the performance and trustworthiness of water agencies to a level that would instil trust on the part of potential investors

[139] Field notes at PLAMA event, 28 October 2016.
[140] Interview MPOPHRH employee, 18 November 2016.
[141] Field notes, 8 June 2015.
[142] Ibid. Next to the PLAMA contract, the MoU mentioned in the previous subsection was signed during this mission.

or private companies.[143] Some explained the projects of VEI with FIPAG and AIAS this way; private investment could increase by VEI helping these agencies raise their technical operations, achieve full-cost recovery or in the case of AIAS, obtain financial autonomy. This proved difficult, however. In 2016, FIPAG faced a debt overload and difficulties to even servicing existing debts, let alone taking on new ones for much-needed investments.[144] AIAS, as will be explored in the next chapter, not even enjoyed financial autonomy, as did FIPAG, and it had a tiny (state) budget at its disposal relative to its giant mandate.[145] Alternatively, at a PLAMA conference was proposed that Dutch aid could help render a 'pipeline of projects' becoming 'financially bankable' in order to attract the attention of investors.[146] The Dutch development bank FMO was frequently portrayed as a potential such investor. But FMO was hesitant to invest in water projects, said one of its representatives, as these tend to be publically oriented, commercially unattractive and involve high risks on the part of private investors (Gietema 2014). The core advisor for Mozambique added that, unlike similar banks in other countries, the FMO is not a concessional bank that can blend public money with private loans, which could enable large-scale water PPPs.[147]

There were yet other impediments in the Dutch water aid and trade framework that hindered (large-scale) Dutch PSI in the Mozambican waterscape. For instance, the Dutch allegedly missed organisational capacity and legal options for offering 'full-service solutions' that other countries did offer. Such solutions integrate a number of services such as building, maintaining and operating water infrastructure in an integrated contract (FMO and NWP 2019: 10). The one Dutch organisation who could potentially offer this is VEI, said the core advisor, as it has ample experience and is well-positioned in water (supply) sectors in countries like Mozambique. But as a subsidiary of (semi-)public Dutch water companies, VEI is not allowed to engage in risky water aid activities based on 'full-service' contracts. VEI nevertheless subscribes as a private company in partnerships with foreign counterparts, so as to allow these to be called a PPP and/or to comply to criteria, such as that a percentage of 'private money' needs to be invested in a project next to subsidies (Davies 2013: 12).[148] But this is merely a semantic game, argue the core advisor and other aid modernisers, who label the majority of VEI's activities still as 'traditional', TA-type of water aid.[149] They also did not have high expectations of EKN or BZ employees to take PSI and PSD further. Many of these employees, they claimed, are still stuck in traditional ways of thinking about water aid and lack an entrepreneurial mindset and commitment to take innovative ideas further.[150]

Such different positions and 'mindsets' about the role of the private sector in water aid reflected politics within BZ. Within BZ, considerable struggle around PSI has taken place and this has caused ambiguity on the path to follow.[151] That struggle is not so much about whether PSI is required at all—there is broad consensus on that within BZ. Struggle rather revolves around the issue of a 'variegated private sector', that is, the question of what type of private company needs to be involved where, in

[143] Interview DGIS employee, 4 December 2015.
[144] Interview VEI employee, 16 November 2016.
[145] Interview AIAS employee, 7 November 2016.
[146] Field notes, 27 October 2016.
[147] Interview core advisor for Mozambique, 23 November 2015.
[148] Field notes, 2 February 2016.
[149] Interview core advisor for Mozambique, 23 November 2015; interview Dutch water consultant, 20 June 2016.
[150] Ibid.
[151] Field notes, 2 November 2015.

what type of water (aid) activities. Some say PSI should focus on involving small-scale businesses from and in the Southern African region itself, while others emphasise that both big and small companies, and where possible the Dutch private sector, should be involved in Dutch water aid.[152]

Notwithstanding these opposing positions, the scope for agency within the bilateral relationship was clearly narrowed down in favour of the private sector agenda. Increased efforts and additional resources have been put into scanning opportunities for and attracting the private sector and private finance in the Mozambican waterscape, preferably from the Netherlands. But while the materialisation of the private sector/ private finance imaginary in Mozambique proved difficult and full of obstacles, I conclude that it did not lose much strength and kept on being a powerful imaginary in the bilateral water aid relationship.

4.4 Water marketisation meets state and bureaucratic power

This last section juxtaposes the 'target' and 'force' of change as discussed in the previous two sections. The previous section indicated that marketisation has ruptured and transformed the water (aid) governance structure in multiple respects, but often not in ways foreseen or desired. Moreover, applying the mechanisms were deeply political processes; they involved power struggles and they raised as many new problems and dilemmas as they tried to solve. This section takes a closer look into what has generated the politics and power struggles that surrounded the application of these mechanisms. It offers insights that help interpret these politics and struggles as well as why the force of marketisation did not yield many of the prospected outcomes. It argues that despite obvious changes in the bilateral aid structure and Mozambican waterscape, marketisation has not diminished or fundamentally transform state and (aid) bureaucratic power in ways that would support marketisation. Rather, I argue, the two must be seen as equally strong forces that collide as much as they complement each other. I substantiate this argument by examining state and bureaucratic power at the Mozambican and Dutch sides of the relationship respectively.

4.4.1 State and bureaucratic power in Mozambique

In section 4.1, I mentioned that a centralised and hierarchal bureaucratic structure was a *sine qua non* for good water management in proto-socialist Mozambique. In this section, I maintain that this centralised structure has very much endured in the succeeding decades, despite many attempts to dismantle it. Various reasons can be mobilised in support of this statement. One is the GOM's preference for big water infrastructure that, Rusca et al. (2019) argue, has remained strong. This preference translates in a major role for the central state, given the amount of resources required for realising such infrastructure and associated projects (Parenti 2015). A continued strong central state involvement in governing water affairs is also explained by a lack of capacity to design and implement policies and plans at subnational levels (Uandela 2012). As one DNA employee stated:

> The move towards increased decentralisation (...) is a contentious issue if you ask me; I am not yet very comfortable with moving things quickly to lower levels. At the provincial and municipal levels, there is

[152] Interview DGIS employee, 24 January 2018; Interview DGIS employee, 6 February 2018; interview DGBEB employee, 1 February 2018.

> always this issue of capacity, of human resources and other resources required to do the job, which are often not sufficiently available at those levels. It will thus not be easy.[153]

But the most powerful driver that has kept a centralised approach in place, I argue, are Frelimo's determined efforts to mobilise the state apparatus and state agents in support of its party-political agenda (Weimer and Carrilho 2017). This has turned from a normalised state of affairs under proto-socialism, into a politically sensitive issue thereafter for two main reasons. First, Frelimo-led governments have formally committed to an (aid-driven) agenda of (water) decentralisation and marketisation as part of neoliberal reforms in SAPs in the 1990s. Second, the reasons for mobilising the state apparatus by Frelimo had ever less to do with attempts to realise a national development agenda and all the more with maintaining political power (vis-à-vis opposition parties) and agendas of emerging capitalist classes.[154] The effect of this has been that the state bureaucracy, which includes the public water bureaucracy, has developed in a direction akin to Bayart and Ellis' (2000) description of "...on the one hand, a *pays légal*, a legal structure which is the focus of attention for multinational donors and Western states, and on the other hand, a *pays reel* where real power is wielded" (ibid: 229-230). At least, that is what I conclude, based on what interviewees and informants told me.[155] I explain this point and its repercussions in this section.

Thus, one domain of the water bureaucracy has increasingly revolved around formal–legal elements underpinning the post-1990s water architecture. In this 'formal-legal domain', emphasis is placed on formal legislation, policies, institutions and agencies and on getting these right—that is, shaping them in line with the formally adopted development vision. It is this domain that has become the principal focus of aid agents such as the WB and those representing the Dutch state. Consequently, most of what I and others get to see in this domain has been produced with extensive involvement of aid agents. This part of the bureaucracy is well accessible to outsiders, such as myself, both 'materially', in the sense of being able to connect with water professionals and being allowed access to their offices, and 'discursively', in the sense of all kinds of formal documentation and images being made available. Naturally, attention of civil servants, aid actors and most researchers on water in Mozambique is mostly drawn to the elements of this domain, whether in public events and presentations or in written documents. Yet, this distracts attention from another domain that is at least as, if not more, significant in terms of state and bureaucratic power mobilised, or so I argue.

This is the domain 'behind the scenes' where, in the words of one interviewee, 'the interests of the party' dominate—that is, where agents occupied with Frelimo party-political affairs exert considerable power and influence (see also Sumich 2010). Or, following Cahen (2016), this is the part of the state that has de facto "Frelimonized".[156] This is where the state apparatus gets mobilised for maintaining political power and advancing (private) economic interests. Frelimo actors gradually withdrew to this domain after donors and aid agents occupied the formal-legal domain. It is in the interest of Frelimo to keep water governance centralised, I posit, given water's essence for the reproduction of the political economic system in Mozambique. Firstly, water is a crucial input for economic processes of importance in Mozambique, including industrial and agricultural production, and for producing

[153] Interview DNA employee, 27 April 2016.
[154] See subsection 3.4.2 in the previous chapter.
[155] These interviewees are not specified at their request, but they range from insiders in the Mozambican water bureaucracy to various Dutch and international aid agents and consultants.
[156] In an interview in the Mozambican newspaper Savanna, 10 June 2016.

(hydro)energy and extracting fossil fuels. Secondly, in a country where half the population still lacks access to water, water serves as an important political instrument for profiling Frelimo, as it did in the socialist period. A third objective that water serves is that of private accumulation. Even though water is not as big a target as are other sectors (like coal or gas), the waterscape, with major investments in infrastructure, has not escaped the rise of rent seeking tendencies in Mozambique (Potter and Butterworth 2014).

A range of strategies are deployed to exercise control over the state apparatus and hence, to keep water governance centralised. One interviewee pointed at keeping ministers in check. Ministers, this person said, are frequently called into Frelimo's head quarters where they are given orders or instructions. Another informant mentioned the significance of selecting high-level bureaucrats. High-level bureaucrats are key in mediating between the will of Frelimo actors on the one hand, and the will and pressure of other agents such as lower-level bureaucrats, subnational actors and donors on the other hand. The secret service, which falls directly under the president, is closely involved in the selection process of these top bureaucrats. It maintains lists of potential candidates and a network of informants who provide 'intelligence' on these candidates, prior to and during their appointment. Formal requirements such as education, experience and acceptability by aid agents surely matter for candidates to be appointed on top positions, but as important for the secret service is the (un)likelihood of such a person to thwart political interests and the extent to which the candidate's plans and actions can be checked.

Other strategies are (re)directing the distribution or targets of water budgets and nurturing the rigid hierarchy within the bureaucracy. The latter include the practice of *orientações superiores,* as outlined above, in section 4.1. According to Gonçalves (2013), this practice has re-emerged strongly under former president Guebuza (2005–2015), which some of my interviewees alluded to in the context of DNA. Not seldom do orientations from 'figures and institutions of authority'—not least the president himself—trickle down to DNA employees, who are then summoned to pause their current work and do this or that urgent job.[157] The president promising a water supply system in villages during party visits is among the most common such 'orientation'. As one civil servant of the national ministry of public works and water explains:

> ...sometimes, projects are set up due to political decisions. In these cases, the president visits a province and meets with people in a village, these people ask for a road or water connection and he says the government will put it there. That promised road or water connection is often not in agreement with what was planned, and that puts us in a difficult position. In such cases, we need to prioritize what the president decides and that means that projects that are already going on are put on hold or that other, planned projects may not be carried out at all.[158]

Such practices have led interviewees to depict DNA as an agency that, even though not bad at making formal plans, never get to realise those as employees are often engaged in 'extinguishing fires':

> They work in these entities as fire extinguishers. They have beautiful plans on paper, but no timesheet indicating the planning and implementation of those plans. (...) Whenever there is a plan, employees are often asked to stop what they are supposed to do and to do something else, something urgent. They

[157] Interview, 2016.
[158] Ibid.

> would be sent to Nampula or whatever province to check out this or that. Everything that this employee had planned to do is then left on the table. And this is not only true for public entities in the water sector, but for the government at large.[159]

The hierarchal structure that this practice conveys is coupled with a tendency on the part of civil servants to abide by formalised procedures and bureaucratic behaviour. For instance, authority is for an important part instituted in formal office. Those higher up in the formal bureaucracy, generally in leadership positions, exercise a great deal of decision-making power over lower bureaucrats. The former frequently give commands.[160] The latter often address the former by their office and/or title and tend not to argue much with their superiors, unless asked.[161] Lower level bureaucrats are generally reluctant to proceed in processes or activities when consent of their superiors is warranted and not yet given. One Dutch consultant portrayed it thus:

> Law is law, in the sense that it needs to be clear [for civil servants] what is legally allowed and what a policy prescribes for the implementation of activities. (...) A top–down structure applies here. In the Netherlands, civil servants often brainstorm over an issue for which no policy or formal decision has yet been made, and they design or even try out a certain method to see how it might work. This way of working gives Mozambicans a stomach ache.[162]

All this sheds new light on the abovementioned attempts to 'modernise' the Mozambican waterscape through marketisation. On the one hand, the GOM allowed for various new public water agencies to become established as part of the post-1990s water architecture, including ARAs, FIPAG, CRA and AIAS. On the other hand, formal-legal powers (e.g. various degrees of autonomy) that corporatized entities such as FIPAG, CRA and AIAS enjoy are, in the words of one interviewee, "relative".[163] The same goes for the decentralisation of WRM to basin levels (in the case of ARAs), with an informant claiming that "...the authorities speak the language of decentralisation, but that is still much of a farce". In other words, the politics and practices in the domain behind the scenes helps explain the disjuncture between the formal-legal elements of the water architecture and (processes in) the actually existing waterscape.

This is not to say that formal-legal changes are meaningless. For instance, FIPAG as a corporatised entity with financial autonomy has more policy space than its predecessors had, such as in the area of income generation and personnel recruitment. This has allowed FIPAG to attract a better educated workforce and to realise improvements in service delivery. It *does* imply that any significant change is still (ultimately) subject to centralised decision-making in Maputo. And this has many and profound repercussions. For instance, major reforms or changes in strategy of state agencies will likely only be formalised if accepted by, and often attuned to the wishes of, powerful Frelimo actors. About the former minister of water (and public works), an interviewee for instance mentioned that

[159] Interview, 2016.
[160] Field notes, 10 April 2017.
[161] Field notes, 1 June 2016; 27 April 2016.
[162] Interview, 2016.
[163] The next chapter will make this point more explicit in the case of AIAS, when investigating a development project that focuses on this water supply agency.

> ...his influence only reaches so far. He cannot just change the institutional set-up of the water sector, because this may thwart the interests of other sectors and ministries, such as agriculture. Those highest up in Frelimo, are the ones who decide.

This may explain why the strategic plan to reform DNA, financed by the Dutch ASAS program, was not accepted. Yet, not much later, after the 2014 national elections, DNA was broken up into two independent directorates, one for water supply and sanitation (DNAAS), the other for water resources management (DNGRH).[164] DNA employees and aid agents were surprised by this move, with one insider saying that "...this decision came like a bomb, nobody saw that one coming. And you wonder who advised the president to make this decision".[165] Many considered it an expansion of bureaucracy rather than an efficiency impulse. This points at a more common routine, namely that lower ranks in the state bureaucracy generally have very little or no knowledge on what exactly is being planned at the upper levels, or what the long-term plan for the department is. As a former state bureaucrat explained:

> In Mozambican institutions only the bosses know what's going to happen, not the others. They will give you a bit of the plan, later another bit and still later another piece. People don't have a clue of what is going on at the higher levels. But if you are a technician, you need to know what the plans are for the foreseeable future in order to do your work well, to see how your work fits in the bigger picture.

More generally, the rigid hierarchy means that commitment from the top, i.e. ministers, is essential for plans to be taken further. PLAMA realised this:

> Particularly important is the commitment from higher levels in the public sector. The idea is to make up and sign a sort of Memorandum of Understanding between the ministry of public works and PLAMA, to formalise the role of PLAMA for the government so that public entities can work to enhance the business environment in cooperation with the private sector. Without the minister formalising PLAMA and its objectives, public entities like FIPAG and AIAS are never going to play a very active role in stimulating PLAMA's objectives.

In this domain behind the scenes, therefore, other than formal-legal aspects take centre stage, other type of social relations apply and other agents are key. It may be tempting to characterise this as a clientelistic system, as one interviewee did:

> The party Frelimo already exists for forty years, has been in power for that same period of time and is organised like a criminal organisation. With this I do not mean to say the party *is* criminal, but in the sense of dependencies, that everyone needs to march in step. And the system is organised this way from the highest to the lowest levels in society. Would the ranks open up and the system be organised differently, it will collapse.

While indeed the party is well-organised from top to bottom across the Mozambican society, this must not be taken as that control is absolute and Frelimo is all-powerful (Pitcher et al. 2009; Sumich 2010;

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[164] DNAAS stands for *Direcção Nacional de Abastecimento de Água e Saneamento*—or the National Directorate for water supply and sanitation. DNGRH is the abbreviation of *Direcção Nacional de Gestão de Recursos Hídricos*—or the National Directorate for water resources management. They are part of the Ministry of Public Works, Housing and Water Resources (MOPHRH), MOPHRH stands for *Ministério de Obras Públicas, Habitação e Recursus Hídricos*. Between the 1970s and 2016, this ministry has frequently changed names.

[165] Interview Mozambican consultant, 8 November 2016.

Death 2016; Hall and Young 1997). Frelimo's top has always been a heterogeneous group and intensive power struggles have always ensued between different Frelimo factions over the course to take (Orre and Rønning 2017: 28-32). Moreover, Frelimo faces critical or simply inimical (groups of) agents in society as well as powerful foreign agents (e.g. IFIs), whose demands it cannot always or simply ignore—although the party goes a long way in safeguarding its power and keeping its ranks closed in times of crisis.[166] Moreover, there are many people inside the state/water bureaucracy who condemn these Frelimo-related politics and conduct as they, in the words of Hanlon (2014: 39), tend to "suffocate the work of the honest".

I do not therefore imply there is a one-directional flow of power from this domain 'behind the scenes' to the formal-legal domain. Neither do I agree with Bayart and Ellis (2000) that 'real power' is only wielded in the domain behind the scenes. Rather, attempts by Frelimo actors to mobilise state and bureaucratic power in pursuit of its own agenda is a balancing act. It requires strategic action on the part of Frelimo leaders, as they weigh social and political economic events, such as potential societal unrest or the continued inflow of aid money and associated conditionality, against vested (and not seldom competing) interests of various of its own factions. Yet, the point of this subsection is that many of the strategies that Frelimo-cum-GOM members use have a long history, and even stem from the socialist period. They are therefore just as institutionalised as, if not more than, the formal water institutions and policies that Mozambican civil servants and foreign aid agents focus on and continuously draw attention to. This is not to say that these latter actors are unaware of what I have come to call the domain behind the scenes. Many of these actors I interviewed expressed in more or less explicit terms that they do know. One informant even said that the exercise of power by 'the party' in this domain had reached such proportions that what one gets to see or hear in the formal-legal domain comes close to a "theatre show". At the same time, this person said, "...it is difficult to discuss this [i.e. Frelimo conduct and politics in the domain 'behind the scenes'] or do something about it, as it concerns the sovereignty of the country". The ultimate implication, according to this professional, is that

> Booking progress in the development of the country is primarily a political issue; institutions, the government and the field of forces in which they act are more important than technical means or money—the latter can be arranged if necessary.

My analysis corroborates this point. The three mechanisms of marketisation were not the force of change that they were projected to be, because significant changes are still very much up to centralised decision-making—precisely a key target that these mechanisms sought to change. And, I conclude, this is what makes water governance in Mozambique a deeply political and uncertain terrain.

4.4.2 Dutch (aid) bureaucratic power

This final subsection focuses on Dutch state and bureaucratic power in the bilateral water aid structure. It shows that, despite the deeply political and uncertain nature of water governance in Mozambique, the will on the part of Dutch state agents to reduce uncertainty, to be 'in control', to render water aid processes technical and predictable, and to rationally steer them into a desired ('trade') direction has

[166] As Orre and Rønning (2017: 30) put it: "...the party is united at the same time as it is marked by diversity and factional fighting". See chapter 6 for an empirical illustration of Frelimo keeping its ranks closed.

become much stronger than in the period discussed in section 4.1. I argue that water (aid) marketisation went hand in hand with the extension, fragmentation and deepening of Dutch aid bureaucratic power, in two main ways. Firstly, as scholars such as Ferguson (1994), Mosse (2004) and Li (2007) argued long ago, aid bureaucracy is about pursuing improvement through "calculated programs for its realization" (Li 2007: 12). Such calculated programs have multiplied, I contend, not least triggered by water marketisation. Secondly, calculative behaviour in or applied to these programs has intensified, aimed at rendering water aid processes predictable and more market-oriented.

About the first, the multiplication of calculated aid programs, a policy review on Dutch water aid in Mozambique in the period 2006 – 2016 observed "...a proliferation of delivery channels, instruments, funds, mechanisms and agencies" (Turner 2017: 17, 23). For instance, Mozambique featured as a focus country in various Dutch state programs. These include: the (water) aid and trade agenda; the so-called 'Water Mondiaal program' that has focused on the application of Dutch hydrosocial concepts and innovations in 'Delta countries' like Mozambique; the Top Sector program that stimulates water (technology) export and innovation; and in the International Water Ambition (IWA) aimed at profiling the Netherlands as water Centre of Excellence (GON 2016a). While these programs had their own niche, they also overlapped and were all more or less concerned with increased water (aid) marketisation.

In terms of money, established funding sources such as a delegated water budget at the EKN's disposal and central budgets of DGIS/BZ were accompanied by new (and often small) funding schemes to spur water (aid) marketisation. These include Water OS, Partners for Water (PvW), the Sustainable Water Fund (FDW) and VIA Water. Water OS is an instrument used to support embassies in operationalising their water aid and trade strategies and in establishing links between the Dutch and the recipient water sector. PvW is a facility that supports various activities related to the Water Mondiaal program and IWA. FDW funded water PPPs in developing countries, and VIA Water targeted specific water supply (and sanitation) innovations through "a business-wise approach" and by "tapping into new sources of finance".[167] These schemes were managed by different The Hague-based entities, namely NWP (Water OS), RVO (PvW and FDW, later also Water OS) and a water NGO called Aqua for All (VIA Water). Other, generic funding schemes were used for water aid and trade activities in Mozambique, carrying names such as Design2Build and Private Sector Development apps (see RVO 2016). These supplemented established water interventions financed and/or carried out by organisations such as Dutch water boards, drinking water companies and the Dutch national soccer association.

Altogether, established and novel water aid (and trade) activities in Mozambique amounted to some 35 in 2016.[168] These included bigger projects financed and overseen by the EKN, but also a growing amount of centrally funded and managed projects. The water officers of the EKN were supposed to keep track of these activities, and where possible make 'cross-linkages' amongst these, and between these and other aid priorities such as health.[169] With most activities outsourced or managed by other entities, this has turned these officers into 'brokers' who engage in 'project engineering', described one

[167] Aqua for All brochure (not dated): https://aquaforall.org/wp-content/uploads/2020/02/Afa-brochure-ENG-pages-2.pdf (last accessed 4 May 2021).
[168] Field notes, 2 November 2015.
[169] Field notes, 2 November 2015; interview EKN employee, 7 February 2017.

of them.[170] Such engineering means making connections between projects and actors that were somehow (interested in becoming) involved in Dutch water aid in Mozambique. This was no easy task. The abovementioned policy review on Dutch water aid in Mozambique concluded that even though "...the expanding set of modalities and mechanisms (...) are too complicated to be fully fit for purpose, (...) a small team of expert managers are able to fit the funding opportunities and instruments together constructively". This, however, "...requires substantial administrative effort and leaves many stakeholders bemused or confused" (Turner 2017: 48). In other words, these officers were complimented by being able to successfully navigate the expanding and more fragmented water aid bureaucracy. However, actors not as closely involved indeed had a hard(er) time coping with it. It did not help one DNA director manage, what he called, 'the forest' that is, "...all these separate donors [who] bring their own planning and monitoring team with people for coordination, financial management and procurement of their programs". It does explain why some actors depicted the implementation of the aid and trade agenda as an inherently instrumental affair. According to one of them, this implementation could best be summarised as "take a *potje*, add an instrument and roll out".[171]

Besides the multiplication of calculated programs, calculative behaviour in or applied to these programs had also intensified. This is similar to what Hibou (2015) describes as the intensification of the bureaucratic processes of 'abstraction', which aims at

> ...bringing a complex reality within general and formal categories, norms, and rules as they emerge from a way of thinking that rationalizes society and the government of goods, human beings, and territories on the basis of market and enterprise mechanisms.
>
> ibid: 27

Such processes occurred at all levels of the water aid relationship. The 'transitional aid and trade category' applied to Mozambique, as outlined in the previous chapter, arguably best illustrates this at the most generic level of the relationship. The idea to phase out aid within five years and have it replaced by trade was so at odds with what some understood as 'the real Mozambique'—the Mozambique outside of Maputo, where (water) poverty persisted and the future seemed not as bright—that this line could not possibly be maintained. Hibou (2015) argues that formal categories are characterised by their adaptability, allowing those who work with them scope for agency. However, this example illustrates that a category and its underlying abstraction can be taken so far that agents feel they cannot—for ethical, practical or other reasons—work with them anymore. It led to a struggle between different BZ actors, which was temporarily settled by the consensus to combine aid and trade.

The categorisation of Mozambique as a Delta Country is a similar, problematic abstraction at this generic level. It sends out the message that Mozambique experiences problems similar to those in the 'Dutch delta' and can thus be tackled using solutions that have been tried out in the Netherlands (NWP 2014). Those closely involved in Mozambican water management point at the absurdity of this thinking. A Dutch consultant with long experience in Mozambique for instance said that neither the scale of the river basins, nor the hydrosocial problems that Mozambique deals with, nor the political economic context in which these problems ought to be tackled are comparable to those in the Dutch

[170] Field notes, 26 January 2016.
[171] Interview NWP employee, 16 May 2016. *Potje* is Dutch slang for a fund, literately a small basket of money.

delta context.[172] Moreover, said this interviewee, it is imperative to understand the social and cultural *mores* of the country, but "I see them [Dutch water experts] fail to understand those".[173]

At a more specific level, that of programs and projects, this process was best noticeable by the intensification of the 'standardised bureaucratic procedures' and the 'overriding concern to manage a 'project cycle' that were already common in the 1990s (IOB 2000: 58). Designing a water aid project according to rational planning models like the logical framework had institutionalised. One RVO employee, who was relatively new to the world of Dutch water aid, could initially still see the value of such models, but also soon realised its shortcomings:

> The logframe [logical framework] of the EU and the objective tree analysis, when I first learned about these methods I thought: great, this allows you to reduce complexity and at the end of the day you have a project with clear parameters and goals for which you can be held accountable. But say 50% of reality happens outside of the scope of project, but does considerably affect the project. So then you come back to the realisation that this really is a simplification of reality.[174]

A former DGIS manager who had personally witnessed this bureaucratic intensification was outright sceptical. He argued development is simply difficult to grasp; development processes, according to him, essentially rely on the basis of trust and understanding 'endogenous processes'. However, he said about current project proposals,

> …with 16 pages of 'distrust', that basis has completely disappeared. What happens now is that NGOs and consultants focus on formulating proposals based on one or another logical framework and the writing of reports that adhere to indicators and midterm reviews. A world apart, often separate from the real world.[175]

An EKN water officer acknowledged that a focus on results had only become more extreme, driven by global aid structures such as those associated with the SDGs and formerly, the MDGs. "It seems as if it ought to become ever more SMART"[176], this officer said, giving a recent example that BZ now also wanted to know the number of people in an entire water basin benefiting from a project (co-)financed by the Dutch state. She continued:

> With an indicator, it appears as if everything is measurable. Who benefits from a dike or dam is a question for which The Hague has made an indicator, driven by parliament that wants to see results. They send us that indicator and we comment on it. But this is actually very difficult to quantify and something we struggle with.[177]

The centrality of results even translated into nudges to shift focus in the type of water aid; a country team that had reviewed the aid programme at the EKN said that "…it would be good to invest more in infrastructure, as that yields more measurable results".[178] Next to audits and reviews on programmes

[172] Interview Dutch water consultant, 27 May 2016.
[173] Ibid.
[174] Interview RVO employee, 4 December 2017.
[175] Interview former BZ employee, 24 November 2017.
[176] Interview EKN employee, 7 February 2017.
[177] Ibid.
[178] Ibid.

and projects, comprehensive files had to be filled out on the overall effect of water aid processes in the Mozambican waterscape. Another EKN officer said about the influence of BZ head quarters that

> Previously, guiding took place mainly on the basis of development cooperation principles. Embassies were relatively autonomous institutes and were granted trust and confidence; the idea was that they knew best what should happen in a particular [partner] country. With the introduction of the aid and trade agenda, this has become much more turbulent. (...) As embassy, we have come to face the Netherlands much more than was hitherto the case. It sometimes seems as if Mozambique has become a side issue.[179]

Indeed, this last subsection suggests that the will to modernise (water) aid and the Mozambican waterscape went hand in hand with a rising strength of Dutch aid bureaucratic power. In other words, the current state and desired progress of Mozambique and its waterscape had been increasingly framed and defined through the lens of agents based in The Hague (or elsewhere in the Netherlands). But while The Hague exerted stronger bureaucratic power to make the market mechanisms work, these could in the water governance structure sketched above not easily, if at all, be achieved. This was bound to lead to untenable situations or indeed, as discussed several times, to breeding grounds for dilemmas, frustration and even deep tensions within the bilateral relationship. These emotions cropped up strongest among and between actors most directly involved in the bilateral water aid relationship: the Dutch and Mozambican actors based in Maputo and engaged in the water bureaucracy's formal-legal domain. They were the ones 'squeezed' between, and having to navigate on a daily basis, the state/bureaucratic powers from both sides.

4.5 Conclusions

This chapter examined how the rise of the capitalistic logic of liquid power, as discussed in the previous chapter, became expressed in (Dutch) water (aid) marketisation. Marketisation served as a force to help transform the centralised governance and bureaucratic structure of the Mozambican waterscape and aimed at the market-based restructuring of Dutch water aid and subjects/ objects in the Mozambican waterscape targeted by such aid. It is argued that while these mechanisms had transformed the waterscape in various respects, it failed to curb Mozambican state and bureaucratic power and hence, the centralised approach to governing water affairs. In fact, the contradictory reality was that water (aid) marketisation attempts were often negated by these powers.

I explained that the centralised approach in Mozambique could remain strong in spite of the market mechanisms deployed, through a growing division within the state water bureaucracy in Mozambique. One domain has come to revolve around formal-legal elements pertaining to the water architecture erected from the 1990s onwards. It is in this domain that (Dutch) aid agents have gained considerable decision-making power as a consequence of aid dependency, and it is here where the market mechanisms are designed and ought to have effect. The territorial logic of liquid power professed in this domain is that of a moderate, decentralised kind, with the central state creating the enabling environment for subnational, corporatized or non-profit/private entities to play their allotted roles in hydrosocial development.

[179] Interview EKN employee, 27 July 2016.

The other, I posit, is the domain 'behind the scenes', where processes and actors in formal-legal domain are influenced and (re)directed by agents linked to Frelimo and/or the Frelimo-led GOM. These agents work hard to keep power centralised in order to ensure (water) state entities and their aid counterparts act in line with—or at least not against—their agendas and interests. These agendas and interests vary. Water is inter alia used as: a party-political instrument, e.g. by promising communities an improved water supply system in campaign rallies or party gatherings; a way of preventing societal unrest in times of crisis, e.g. by keeping tariffs low; a rent seeking resource; or as a necessary resource for (mega)projects in other state sectors. The strategies for keeping power centralised also vary. They include (re)directing the distribution or targets of water budgets; nurturing the rigid hierarchy within the bureaucracy; and the careful selection of persons for top positions in the bureaucracy—persons who know how to constructively engage in the politics of foreign aid while not posing a threat to the mentioned agendas and interests in the domain behind the scenes. In short, this domain knows key agents with agendas and interests, and operational and accountability mechanisms that differ from those in the formal-legal domain. Nevertheless, both domains are implicated in the bilateral water aid structure, even if the actors, strategies and agendas of the domain behind the scenes largely remain hidden to the outsider's eye.

During the Guebuza presidency (2005-2015), this domain behind the scenes had gained a stronger grip on the formal-legal domain, which allowed the centralised water governance structure to continue functioning. During that same time, prior to and especially during the implementation of the aid and trade agenda, the capitalistic logic became increasingly entrenched within Dutch (water) aid. This went hand in hand with other measures, such as a budget cut on the Dutch embassy (EKN) and a centralisation of decision-making power and (funding/project) initiatives from the EKN in Mozambique to BZ in The Hague. This resulted in the logics drifting apart and growing into an increasingly problematic and contradictory relationship, which became manifested within the bilateral relationship in different ways and in concrete events. Water topics deemed important to the Dutch state and the broader (water) aid community showed little progress and were recurring points of contestation. These were topics that the mentioned market mechanisms sought to address, including indeed water decentralisation, the reorganisation of DNA and (Dutch) private sector participation.

As part of the aid and trade course, new tactics were applied to speed up these processes. A Memorandum of Understanding (MoU) on water cooperation was signed between the two states, in which eligibility for tenders financed by Dutch aid money was reduced to Dutch and Mozambican companies. During that same mission, a platform called PLAMA was established to help create a market-friendly environment and for promoting Dutch business in the Mozambican waterscape. By the time this research was carried out, both had not performed according to plan. The reduced eligibility had attracted few extra Dutch companies to Mozambique and had agitated other donors, while PLAMA was reviewed as having achieved few of its objectives and it enjoyed little commitment in the sector. A core advisor was appointed by the EKN to scope and exploit opportunities for (Dutch) private sector involvement and new finance and business models in the Mozambican waterscape, but came to the conclusion that the water sector was still too traditional- (i.e. public-)minded for these to prosper. Regarding ASAS, the Sector Wide Approach (SWAp) that the Dutch state had financed and facilitated since 2002, a much stricter accountability regime was applied. ASAS has been the Dutch state's key instrument in helping develop the new water architecture in Mozambique and the desired institutional framework. In this framework, DNA was supposed to play a leading strategic and enabling role in an

increasingly decentralised approach to governing water affairs, leaving operations to subnational, corporatized or non-public/private entities. Ambitious milestones were defined, but these were managed and monitored in ways that did relations no good. Tensions aggravated after the most important of milestones, the acceptance of a strategic plan to reorganise DNA, was rejected by the Council of Ministers, which made the EKN decide to put a halt to the ASAS programme. The debt crisis of 2016, examined in chapter six, then still had to kick in and put a definite end to the once imagined grand aid and trade aspirations in Mozambique.

The absence or delay in expected results demonstrated the difficulty and uncertainty involved in attempts to modernise a Mozambican waterscape that is still centrally governed by political actors. Yet, Dutch aid bureaucratic pressures had only intensified. With the desire to marketise water aid came additional funding schemes and additional state and non-state actors managing or implementing such schemes, leading to a more fragmented water aid portfolio. Moreover, the introduction and gradual extension of corporate and managerial methods applied to Dutch (water) aid has translated in an increased application of rational planning models and quantified norms and indicators. In other words, the will to render—the deeply uncertain—water aid processes in Mozambique calculable and more predictable had grown, in response to claims to make aid more effective. In all, state and bureaucratic power from both sides had remained strong, and while these were supposed to create an enabling environment for the market mechanisms to be deployed, I conclude this power very much ended up negating them.

Chapter 5

Powers and politics of water (aid) access

5.1 Introduction

In 2015, the UN proclaimed an ambitious goal, namely "universal and equitable access to safe and affordable drinking water for all" by 2030 (UN 2015: 18). This sixth Sustainable Development Goal (SDG 6) was the successor of the eighth Millennium Development Goal (MDG) as the global development target for water and sanitation. MDG 8 aimed at halving the number of people without sustainable access to water and sanitation by 2015, but this goal was not met in Mozambique.[180] In 2016, the GOM revised its water policy dating from 2007 in line with SDG 6 by setting the goal for universal access to water and sanitation to be achieved by 2030 (GOM 2016: 886).

In 1977, the UN had launched the first of a series of global water and sanitation development goals, in the International Water Supply and Sanitation Decade that lasted from 1980–1990. The goal was the same as the current SDG, namely to provide 'Water for All'. The GOM committed to this goal, but if this was already overambitious if not unrealistic considering the difficult conditions in the first decade after independence, the emerging civil war dashed any hope to realise this. A Dutch water aid policy document reviewed that this decade "...was intended to act more as challenge and stimulus than as a feasible objective", because "...what was actually achieved by 1990 fell far short of this ideal" (GON 1998: 16). This was further explained as follows:

> The state continued to be the dominating player, regulating and providing water, usually far below cost levels, usually without a coherent policy framework, through inefficient and fragmented institutional arrangements and often without sufficient regard for environmental aspects. It had become clear that most developing countries faced a dramatic shortage of skilled personnel, that cost recovery policies were often highly inadequate and that financial planning at national levels was weak. These factors, combined with deteriorating water quality in many countries, led to major shortfalls in the availability of safe water.
>
> IOB 2000: 14

Such 'state failure' arguments provided the grounds for adopting a neoliberal approach in subsequent decades. Donors and aid agencies argued for more finance, better management and replacing a one-sidedly technical focus with an integrated one, this time driven or inspired by the private sector and market mechanisms (see also Bakker 2003; 2010 and previous chapters).

This neoliberal approach has been couched in a variety of aid paradigms, from 'structural adjustment' and 'participation' to 'good governance' and 'poverty reduction'. Mosse (2004) characterised these paradigms as embodying the widening of the *means* of (intentional) development alongside a

[180] Estimate figures distinguish between urban and rural water, the former which had been met, but not the latter. Sanitation goals were not achieved (by far). See WHO/ UNICEF (2015; 2017).

narrowing of the *ends* of development, in terms of quantified (global) targets. Based on an analysis of subsequent WB policies, Bierschenk (2008) observed that these paradigms did not so much replace, but rather complemented, each other. He argued that the WB and other development agencies are characterised by high levels of "repressive tolerance", that is, having a "...high capacity to integrate critics and critiques in their policy discourse with limited effect on practices" (ibid: 10). According to Mosse (2013), the result is that narrow technical approaches in the past of development have been replaced by an all-encompassing approach of technology *plus* good governance *plus* poverty reduction *plus* (private sector/community) participation *plus* innovative finance, etc. (ibid: 237). Yet, a neoliberal persuasion has continued to influence these overlapping paradigms and their attempted operationalisation.

Approaching aid this way is still in vogue, judging from the Dutch state's water and sanitation development policy (2016–2030) that was drafted by DGIS in accordance with SDG 6. This policy set the target of providing access to water and sanitation to 30 and 50 million people respectively, while

> ...indirectly, however, Dutch funding will help provide access and improved service delivery for a much greater number, by driving change in the sector through better governance, mobilisation of domestic resources (financial and human) in target countries, addressing key human rights principles like equality, and through transparency, participation, accountability and sustainability, and stimulating innovation and supporting learning at all levels.
>
> GON 2017a: 10

This suggests that in Dutch aid, water supply as mainly a technical concern had also turned into an all-encompassing issue and, moreover, that Dutch state agency is considered influential and far-reaching. Sustainability in access illustrates this latter point well. In 1998, a Dutch water aid policy still concluded that "...new [water and sanitation] facilities rapidly fell into disuse as a result of poor maintenance and management" (GON 1998: 16). This criticism was anticipated on in the 2000s by incorporating a 'sustainability clause' meant to ensure "service delivery for 10 years after project completion" (GON 2017a: 7). The latest policy's "main challenge" is said to be "the extension of this clause from 10 to 15 years" (ibid: 1). An emphasis on enabling people to *gain* access to water is thus complemented by a stronger focus on *maintaining* and *controlling* access over an ever longer period of time (Ribot and Peluso 2003). In achieving universal and sustainable access to water, moreover, innovative, market-based approaches are considered key in the water aid and trade agenda and in the SDG framework more broadly (HLPW 2018). A magazine published by the Netherlands–African business council summarises the problem and preferred solution succinctly in an interview with a Dutch water aid professional: "...the defunct water pump has become the main symbol of failing development aid" and "'is the most thoroughly researched topic in the development sector'. How can Public-Private Partnerships change this once and for all?" (NABC 2017: 32).

This chapter critically engages this focus on increasing sustainable access based on market-based aid approaches, taking inspiration from Ribot and Peluso's (2003) 'theory of access'. Ribot and Peluso define access as "the ability to benefit from things—including material objects, persons, institutions, and symbols" (ibid: 153). They argue access to natural resources like water is not just gained,

maintained or controlled[181] by a claim or right on property, which was long the dominant focus in access studies. Access to resources hinges just as much, if not more, on political economic and cultural mechanisms, such as access to technology, capital, markets, labour, knowledge and social identity/ social relations. They consider such access mechanisms as "relations of power", with power viewed as "...an effect that emerges from social relations and ongoing struggles within them" (Peluso and Ribot 2020: 300). This view on power resonates with mine.

In this chapter, I consider the persistent emphasis placed by influential water aid actors and the GOM on a particular market-based water access mechanism in Mozambique as an effect of the capitalistic logic of liquid power. This mechanism is called the Delegated Management Framework (DMF), which builds on Private Sector Participation (PSP) in the production and distribution of water. My reading is that despite a short and troubled history of implementing this mechanism in Mozambique's major cities, these actors held on to it and even expanded its scope to minor cities and towns. The troubled implementation of this mechanism, I argue, stems from the economic and rational logics underpinning this mechanism colliding with various extra-economic and political logics in power struggles between the various agents involved in its implementation. I base this argument on, and will pay ample attention to these power struggles in, an analysis of a joint Mozambican-Dutch aid intervention aimed at implementing the DMF in small cities and towns in Mozambique. This intervention, known as 'PO15', was financed by the Dutch state. As part of it, Vitens-Evides International (VEI) and other Dutch aid agencies supported the public water supply and sanitation agency AIAS[182] in implementing the DMF in at least 15 out of the 130 towns/cities that falls under its mandate. PO15, I posit, fulfilled an significant role in navigating and easing the contradictory dynamics between on the one hand the perseverance of making the DMF work and on the other hand, the politics and power struggles that often frustrated this work. Yet, their technical and technocratic tools did not alter the course of the logics that generated these contradictory dynamics, because these are inherently political.

The next section starts with assessing why and how AIAS—and the intervention supporting it—became established around the DMF and Private Sector Participation (PSP) as the key access mechanism. Section 5.3 then delves into the implementation of the DMF by the joint efforts of AIAS and Dutch agencies. Section 5.4 discusses the various types of power struggles involved in this particular access mechanism. Section 5.5 takes stock of the DMF as access mechanism, and the role of PO15 in trying to make this mechanism work despite structural challenges. Section 5.6 concludes.

5.2 The DMF and PSP as an overvalued idea

This section argues that the DMF in combination with PSP (DMF–PSP) has become an idée fixe, or what physiatrists call an 'overvalued idea', in the Mozambican waterscape and the bilateral relationship. Overvalued ideas, argues Vaele (2002: 383), "...are associated with *idealised values*, which have developed into such an over-riding importance, that they totally define the 'self' (...) and are also characterised by the *rigidity* with which they are held". I suggest this is an apt description of how

[181] *Gaining* access refers to the ways access is established, *controlling* access as "the ability to mediate other's access" or the "checking and direction of action, the function of power of directing and regulating free action" (based on Rangan 1997) and *maintaining* access as processes in which resources and powers are "expended to keep resource access open" (Ribot and Peluso 2003: 158-159).

[182] AIAS stands for *Administração de Infra-Estruturas de Água e Saneamento,* literally translated as the 'administration for water and sanitation infrastructures'.

powerful aid actors (including the GON) and Mozambican water actors alike have held on to the DMF–PSP as preferred market-based water access mechanism, despite deeply problematic experiences with its implementation. Subsection 5.2.2 substantiates this argument by deconstructing the expansion of the DMF's scope from major to smaller cities and towns, and how AIAS became established in relation to this expansion. Subsection 5.2.3 examines the establishment of the bilateral aid intervention PO15, which has been set up around the same idée fixe, thereby reproducing it. First, however, the next subsection provides a general background on AIAS and the DMF.

5.2.1 The design principles of AIAS and the DMF

AIAS is a public entity established in 2009, charged with rehabilitating, maintaining and outsourcing the operations of 'secondary' urban water systems and all urban sanitation infrastructures in Mozambique. According to the Governmental Decree that established AIAS[183], 'secondary' points at all urban water systems that are not primary, with primary defined as all systems in provincial capitals and other urban centers considered 'strategic' by the government (GOM 2009b: 98). Primary systems add up to 21[184], leaving 130 secondary urban water supply systems dispersed over the country, ranging in size from roughly 2500 up to 200,000 inhabitants. The primary cities are the responsibility of FIPAG that was established in 1998, the secondary towns that of AIAS. Other than FIPAG, which only deals with water supply, AIAS is also made responsible for managing sanitation infrastructure, in *all* urban centres, totalling 152 (GOM 2010).[185]

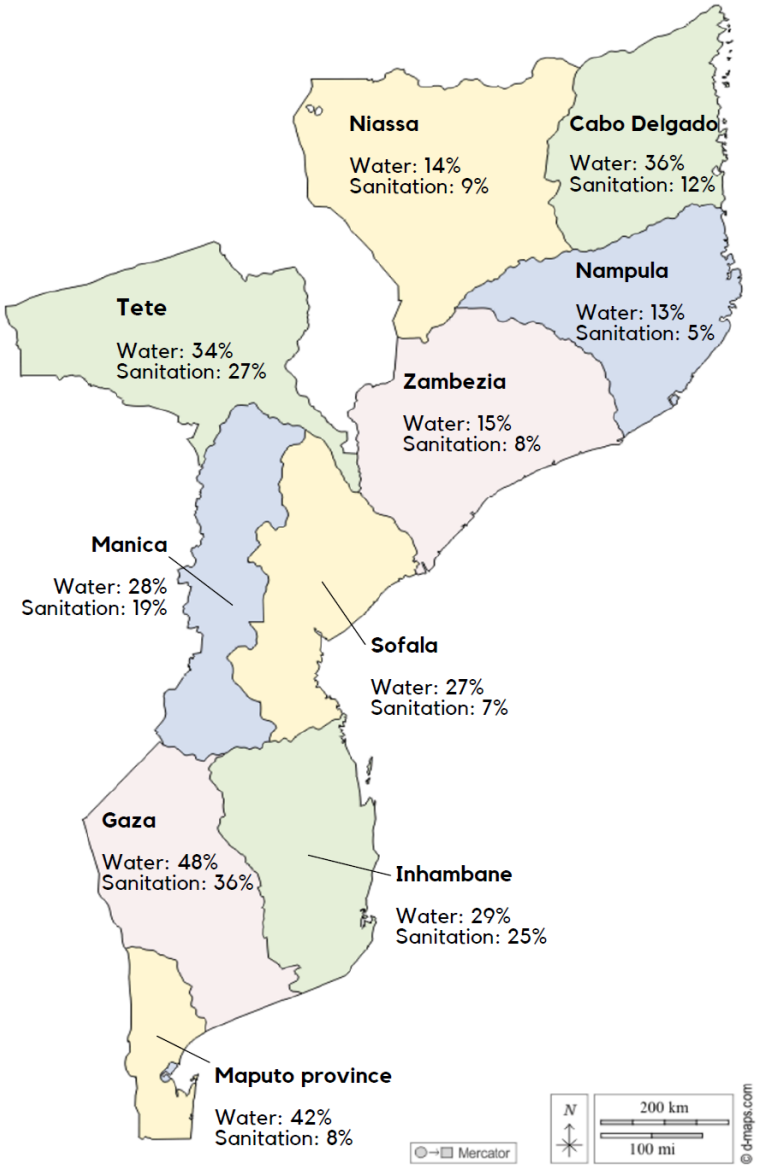


Figure 5.1—Water and sanitation coverage rates in 2013 in the towns/cities under the mandate of AIAS, per province. (Source: based on Engidro in AIAS and consortium 2014: 32. Map from https://d-maps.com/carte.php?num_car=35359&lang=en)

AIAS was established in the context of the DMF, whose scope was expanded to cover secondary in addition to primary water supply systems as well as urban sanitation infrastructure. To recall, the DMF separates *ownership* of water and

[183] Decree 19/2009 (GOM 2009b).
[184] Of which 10 in the provincial capitals.
[185] The Decree literally states that AIAS is responsible for managing public drainage systems for residual water, but sanitation is interpreted more broadly, as we will see.

sanitation infrastructure from *operations* of these infrastructures. AIAS ought to invest in and maintains its infrastructures on behalf of the state, and promote their 'efficient and financially viable' operations by outsourcing these to private sector or other autonomous actors (GOM 2009b). The DMF stipulates the principle of cost-recovery. This means that water users should pay a price for water and sanitation that covers the maintenance and operational costs of the systems as well as a profit for operators. The scope of the water regulator CRA was also expanded in line with the expansion of the DMF to secondary towns. Was CRA previously responsible for regulating the water services and tariffs of FIPAG in the primary cities only, it now also became responsible for regulating the water services and tariffs in all secondary towns (as well as regulating an entirely new domain: sanitation, in all urban centres). Whereas CRA and FIPAG have been established as corporatised entities with financial and administrative autonomy, AIAS only enjoyed administrative autonomy. This means it depends on the central state for its budget and has to abide by state procedures related to recruitment and remuneration of personnel, and procurement and tendering.

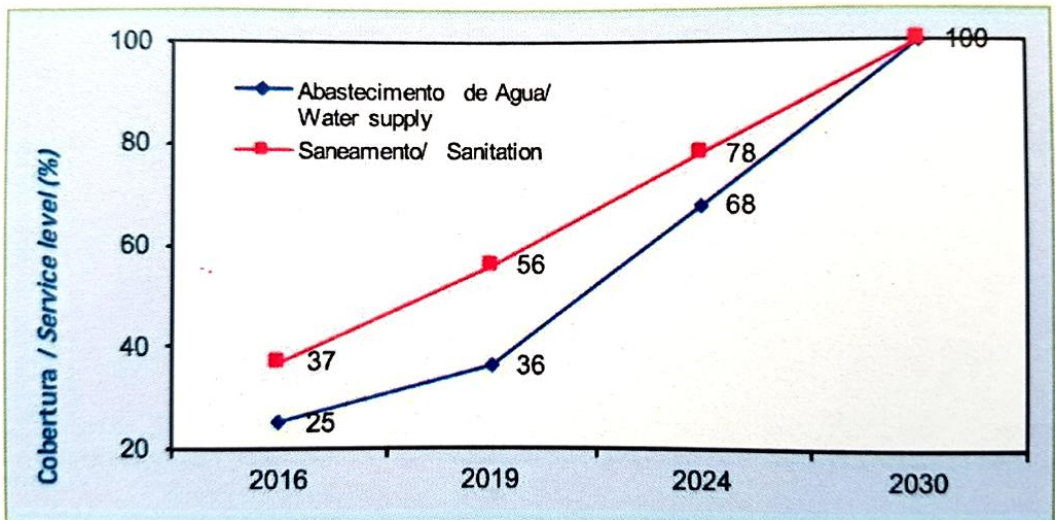


Figure 5.2—Projections for attaining universal water and sanitation access until 2030 (source: AIAS 2016).

The original idea was for AIAS to operate as a support agency for so-called 'provincial water boards'. These boards were supposed to take the lead in investing in and overseeing the operations of secondary water supply systems in the provinces, supported by AIAS. However, for reasons explained below, this idea was soon revised and turned around by the GOM. Instead of AIAS supporting such new provincial entities, AIAS was turned into the leading agent, and provincial delegations were envisaged to represent and support AIAS at the provincial level (GOM 2011). Four such delegations had been established by 2016, in the provinces of Cabo Delgado, Nampula, Zambezia and Inhambane. Moreover, provincial governments were to be advised on the local implementation of the DMF by yet another institution, the Provincial Councils for Water and Sanitation (CPAS). Two CPAS had been created, in the provinces of Cabo Delgado and Nampula.

In short, AIAS is the entity responsible for increasing access to improved water sources in 130 small towns and to sanitation in 151 towns and cities, with low coverage rates (see figure 5.1). In line with SDG 6, it should attain universal water and sanitation coverage by 2030. Figure 5.2 shows how AIAS projected the realisation of this target in 2016. The three water marketisation mechanisms discussed in the previous chapter underpin the DMF and AIAS: it is built on the private sector imaginary; AIAS is meant to be a corporatized entity in a political economic and cultural sense; and (competitive) tendering is applied extensively. The following subsection deals with the politics of establishing AIAS.

5.2.2 Deconstructing the expansion of the DMF and the establishment of AIAS

This subsection contends that the expansion of the DMF–PSP mechanism from Mozambican cities to towns, and the establishment of AIAS, has been a decision-making process driven by neoliberal ideology rather than based on a proven track record of this mechanism. This decision was nevertheless legitimised on the mechanism's successful application in the past in Mozambique. Yet, I argue, this should be considered success *produced* by its key propagators, where in fact its application was deeply problematic.

A number of Mozambican and foreign water actors told me that a water supply framework specifically for small towns in Mozambique was long overdue. They argued that the water systems now administered by AIAS previously fell between two stools, i.e. between the rural and urban water supply frameworks. As one actor summarises: "there was a gap; DNA carried out PRONASAR for rural water[186] and FIPAG served the major cities. There was nobody responsible for small towns".[187] Various ideas on suitable access mechanisms had been discussed among water managers and decision-makers. A promising idea, according to them, was to have FIPAG invest in 'satellite towns'. That is, FIPAG would take care of water systems in towns close to the cities it served, something FIPAG already did on a small scale. But, as one interviewee said, "donors decide (...) if you want something done, you have to have a donor buying it".[188] According to this person, FIPAG and the DMF-PSP mechanism were created "because the World Bank wanted it" and the same pattern would apply to the expansion of the DMF and the establishment of AIAS.[189] Thus, even though Mozambican actors had long voiced the need for a separate framework for water supply in towns, they relied on aid agents to make it happen, notably the WB. Conditionality would be part and parcel of the deal.

By the mid-2000s, the WB (through its Water and Sanitation Program, WSP) had already intensified its interest in water supply and sanitation in small towns globally and in Mozambique (WSP et al. 2002).[190] The WSP was one among a number of agents in the global water aid community that had begun debating water and sanitation services in small towns since the early 2000s, and the WSP was particularly interested in linking this 'small towns agenda' to the role of the private sector and PPPs (Adank 2013: 11-12). This followed a period of what the WB had itself called a "rethink" on its one-size-fits-all privatisation policies (Fine and Hall 2012: 54), including those applied to water supply in large cities across the developing world in the 1990s and early 2000s (Franceys 2008). Water privatisation was replaced by the less controversial and consensual term 'PPP' and more emphasis was placed on domestic PSP in small towns next to PSP in large cities. As part of the very first WB-funded water project in Mozambique (called NWDP I[191]), a pilot that experimented with the rehabilitation of small

[186] PRONASAR is the current rural water program in Mozambique, financed jointly by a number of donors and aid agencies. PRONAR was its predecessor, to which this person also referred to.
[187] Interview international water consultant in Mozambique, 8 August 2017. This quote is a short version of explanations given by various other interviewees: interview MPOPHRH employee, 18 November 2016; interview WB employee, 20 February 2017; interview former DNA director, 28 February 2017. See also Simone et al. (2016: 6).
[188] Interview (former) FIPAG employee, 30 May 2016.
[189] Ibid. Another Mozambican insider used the metaphor of the dancing place; if the WB wants you to dance the tango, you dance the tango—even if you can't (field notes, 26 January 2016).
[190] "Small towns" has become the international designation for urban water supply in places that AIAS services.
[191] This stands for the first National Water Development Project.

piped water systems in small towns, and outsourcing its operations to private companies, was already undertaken in 2006 (WB 2006; WSP 2010).

By that time, the WB joined forces with another aid agency that had come to help Mozambique: the Millennium Challenge Corporation (MCC). This US aid agency granted Mozambique a five-year aid program worth half a billion dollar in 2007.[192] Of this total amount, more than $200mn. would be invested in a Water and Sanitation Program provided the GOM meets two key criteria, one of them being the creation of an "Asset Management Unit (AMU)" by "the end of March 2009" (MCC 2007: 20). This AMU became AIAS. The former AIAS director said that "...if this precondition would not be attended by the government, the 500 million dollar would not become effective".[193] This condition came about through intensive 'donor consultation' with the WB that was simultaneously setting up a project that followed up the NWDP I (called WASIS[194]), intent on helping DNA develop an AMU "based on the recipient's delegated management model" (GOM and IDA 2007: 6).[195] Shortly after, the GOM published a revised water policy in which it referred to the possibility of expanding the DMF to small towns (GOM 2007), laying the groundwork for formalising the condition agreed upon with the MCC (and indirectly, the WB). This suggestion in the water policy provided the MCC and the WB a legal basis to pursue plans of expanding the DMF and PSP in Mozambique and it allowed them to claim that this was principally a wish of the GOM.

My reading is that this condition of establishing AIAS as an AMU and expanding the DMF suited the neoliberal agendas of the WB and MCC, yet it could not legitimised by neoliberal ideology. It had to be legitimised based on 'evidence'. Thus, the expansion of the DMF to small towns and the creation of AIAS was legitimised by the alleged success of the DMF hitherto applied to primary water supply systems in Mozambican cities.

How this success is portrayed is well illustrated in a WSP report (Simone et al. 2016). This report states that before the adoption of the DMF and the introduction of PPP in water supply in 1998, there were poor, mostly state-run water and sanitation services and no clear water and sanitation strategy. Then the (WB instigated) DMF was established in 1998, along with the entities FIPAG and CRA. By the end of the 1990s, PSP started in Maputo and four other cities in Mozambique. From then on, the report argues, "the targeted systems have been successfully turned around and achieved over 70 percent coverage (meeting the MDG [for urban areas]), as well as recovering costs, including (concessional) loan repayments" (ibid: 6). "Building on this success", the report continues, PSP in a selection of small towns was piloted in 2006, i.e. in NWDP I. This pilot was only evaluated in 2009, with mixed results. By that time, however, the abovementioned conditions between the MCC/WB and the GOM had already been negotiated and agreed upon, and the GOM had already announced the possibility of expanding the DMF to small towns (GOM 2007). In other words, whatever the outcomes of the pilot, the DMF would in any event be expanded to cover small towns as well.

[192] The MCC was founded in 2002 by the former President Bush jr. in the aftermath of the 9/11 attacks, aimed at "reducing poverty through growth". See Mawdsley (2008) and Soederberg (2004) for a critical introduction of the MCC and its neoliberal persuasion.
[193] Former AIAS director, 24 February 2017.
[194] The Water Sector Services and Institutional Support project.
[195] Indeed, the WASIS evaluation document states that the proposal for WASIS was designed specifically with the MCC (WB 2016: 7).

This is problematic enough, yet the claimed success of the DMF and PSP in large cities that informed the decision to replicate the DMF in small towns was no less troubling. Rather, I assess the experience with the DMF and PSP in large cities as deeply problematic. Even the WB itself produced documents on the experience based on which it is difficult to label it a success (e.g. WB 2009). As mentioned in the previous chapter[196], the consortium led by French multinational SAUR that entered into (lease/management) contracts for supplying water in Maputo and in four other cities had underbid and renegotiated their contract two years after they assumed operations in 1999. SAUR withdrew and Áquas de Portugal (AdP) took over as the lead entity. But between FIPAG and AdP, relations grew increasingly tense, rendering cooperation within their 'partnership' close to impossible and resulting in constant accusations about each other's lack of commitment and failures (Triche 2009; WB 2009). As one insider explained:

> AdP had accumulated bad debts and they had also performed poorly. There were a number of expectations that AdP could not meet, including a better performance than did the state before them, reduced leakages and improved billing services. FIPAG on the other hand did not meet all their targets either; their investment program to upgrade the systems was delayed. AdP took that as one of the main reasons of not being able to perform according to plan.[197]

Relations became so tense that the GOM, through FIPAG, prematurely bought back AdP's shares in 2011, assuming a majority ownership in the consortium. By then, FIPAG had progressively taken over the management of systems in other cities and became, next to an investor in infrastructure, directly involved in its operations. It had also reorganised its organisational structure, with a FIPAG head quarter in Maputo delegating operations to regional FIPAG companies using performance contracts, thereby mimicking the DMF. FIPAG continued another partnership that it had entered into since 2005, with Vitens-Evides International (VEI). VEI is the aid agency of various Dutch public water companies that profiles itself as a private sector actor in partnerships such as these. Yet, this partnership was vitally different from the one sketched above; VEI provided technical assistance (TA) and investment capital to FIPAG in a number of cities in the south (and later in other regions) of Mozambique, but did not itself assume operations.

The envisaged DMF, combined with international PSP, had not met expectations. A review by a water regulator association concluded that "...conceptually, the DMF embraced best practices and anticipated a bright future. The reality, though, has shown that those expectations were not achievable" (Wilson 2016: 7). The review stated that with the withdrawal of the international private sector, "the DMF underwent major changes", namely the expansion of the role of FIPAG, "...which began to play a much more active part in operations, distorting the model, but reducing the negative impact of withdrawals from the private sector". Yet this new situation severely complicated the Mozambican water regulator's (CRA) work, says one employee:

> Currently, if FIPAG is not complying by the regulatory rules, it is difficult to impose penalties, because at the end of the day, FIPAG is itself a public company. For the DMF to work well, it needs the private sector to operate the water systems. (...) FIPAG is doing the investments and operations. That is not right, it is

[196] See section 4.3.2.
[197] Interview, August 2016.

> not what was meant when the government adopted the DMF. For CRA it is difficult to have FIPAG act in compliance with the service levels that are agreed upon.[198]

All this is not to say that there were no improvements in the water supply systems in these cities. Yet, the above strongly suggests that this was not *because* of the DMF and PSP, but *despite* of it, and a better explanation for improvements are the many hundreds of millions of dollars that the WB and other IFI's and donors had invested in the systems. As an insider put it: "the investments were OK, but the model of private companies making the operations sustainable seems to fail. They say it has all been a success, but then I ask myself: where are all the private companies?"[199]

The 'success' of the DMF and PSP in large cities can therefore better be considered success *produced* by its propagators rather than based on firm evidence (Mosse 2004: 646), used for legitimising the DMF expansion and establishment of AIAS. It was not a question of whether or not the DMF and PSP worked well. At any cost this access mechanism had to remain in place. Alternative ideas such as FIPAG serving satellite (small) towns were not deemed acceptable, since this would basically mean cross-subsidisation between cities and towns, potentially compromising FIPAG's ability to attract and service debts.[200]

The establishment of AIAS appeared in a MCC evaluation report as a ticked box stating "met on time" (MCC 2016), but only because, in the words of one interviewee, "it was created in a rush".[201] The MCC and the WB had prepared the legal and most operational documents for AIAS to be set up, in order to meet the deadline of March 2009. While MCC could and did report home that it delivered on its promise of policy reform (US Department of State 2009; 2010), AIAS had become another addition in a long history of "extremely ambitious programmes of transformation [that] was beyond the ability of the Mozambican state to implement, either materially or culturally" (Hall and Young 1997: 80). A small group of about ten DNA employees was transferred to AIAS and formed its staff. It initially received a tiny budget of a couple of million dollars a year.

To get going, explained a WB employee, the WB and the MCC had made an "informal agreement (...) that if the MCC would invest in infrastructure, then the Bank would finance institutional support".[202] Specifically, the MCC said it would invest in 28 systems in the northern provinces of Cabo Delgado and Nampula. The WB would then help AIAS and provincial delegations, through its WASIS project, in tendering these rehabilitated systems to private operators. But this was not to be:

> Although the MCC wanted to invest in 28 systems, this was narrowed down to 18 systems in the first mission. Then in the second mission they said that 18 would be too much, so they reduced the number to 12. In the third mission they said: no, 12 is too much, we don't have budget for that, it can only be 6 systems. But in the end, it turned out that they had no money to invest in any system at all. Thus we ended up in the situation that the World Bank had reserved budget for the linked WASIS project, but there would be no investment in infrastructure.

Why these announced investments did not materialise, except for emergency works on the water

[198] Interview CRA employee, 7 April 2017.
[199] Interview former DNA employee, 28 February 2017.
[200] Interview former VEI employee, 24 January 2018.
[201] Interview AIAS employee, 7 November 2016.
[202] Interview WB employee, 20 February 2017.

system in the town of Mocuba, was not explained. Only studies were carried out. But according to a DNA manager, these studies "....have never been used. And they had cost a lot of money. In fact, we cannot now use those, because whenever an intervention will happen now, they'll need to do another study as the situation on the ground has changed since then".[203] Without rehabilitated systems, there was no point for the WB to provide TA. It decided to rehabilitate the systems of two towns in the provinces of Cabo Delgado and Nampula itself along with AUSaid, "so that the creation of the AIAS delegations [in these provinces] could be legitimised".[204] This event gave a clue of what AIAS could expect as an(other) aid-dependent water agency.

Indeed, with very few resources, AIAS had to attract investment grants and TA from more donors than the WB and MCC, but this proved very difficult for two main reasons. Firstly, because prospective donors were still mostly interested in large urban water systems rather than small ones that were deemed technically poor, financially unviable and public sector driven. Secondly, AIAS did not enjoy financial autonomy and was therefore considered another central state entity rather than a corporatized entity such as FIPAG. This did not help in gaining trust and hence, support of donors. Consequently, AIAS was initially seen as existing "only on paper" and as a very weak entity.[205] Only two years after its inception, and after the first director got replaced, did AIAS really become operational. It urgently needed institutional support as well as technical support for (potential) operators whom, the pilot of 2006 had made clear, lacked knowledge and capacity to operate the systems. Thus AIAS and its key partner WSP looked out for donors who, next to investments, could help provide TA for AIAS and operators. They found a willing ear at the Dutch embassy (EKN) in Maputo.

5.2.3 PO15: a bilateral water aid and trade intervention set up around AIAS and the DMF–PSP

The previous subsection tried to make clear how power expended by powerful aid agents in Mozambique resulted in the continuation and expansion of the DMF–PSP water access mechanism, despite problematic past experience with this mechanism. This subsection tells how Dutch state actors, after initial hesitation, became involved in taking this process further. I suggest that supporting AIAS in embedding this market-based access mechanism offered opportunities for the EKN to align its program with the (then) newly introduced Dutch aid and trade agenda. As such, this subsection explains how the process of expanding the DMF and establishing AIAS, once set in train but still very fragile, gains wider acceptance and becomes institutionalised.

The Dutch state already supported various public water agencies in Mozambique, notably DNA through the ASAS programs and FIPAG through the partnership with VEI. The question whether the EKN would also consider providing support to AIAS therefore did not come as a surprise. The EKN initially lacked confidence in AIAS, said an insider, but it did not reject the option altogether.[206] According to the former director of AIAS, the legal framework for increasing water access (via the DMF) was clear by the time the Dutch state was approached and, she added, "the World Bank was already there, supporting AIAS, which I think gave some comfort to the Netherlands".[207] Indeed, what sparked the interest of the EKN was the combined DMF–PSP strategy that AIAS was meant to follow.

[203] Interview DNA employee, 10 April 2017.
[204] Interview WB employee, 20 February 2017.
[205] Field notes, 22 January 2016; field notes 26 January 2016; field notes, 22 November 2016;
[206] Interview Dutch water consultant, 8 June 2016.
[207] Interview former director AIAS, 24 February 2017.

This blended in well with the aid and trade agenda that a newly installed Dutch government had just adopted by that time, the early 2010s (GON 2010; 2011a). It soon became clear that in this policy, water would be a focus area, a strong(er) emphasis would be placed on market-based water access through PSP, and that Mozambique would remain a partner country. Decision-makers within BZ increasingly pushed embassies to establish a more commercial relationship with aid partners. One consultant who did various 'scoping missions' to Mozambique indicated that during this time, the question how the Dutch private sector could benefit from Dutch water aid in Mozambique played a particularly prominent role.[208]

In view of this changing policy context, Dutch state actors began to see AIAS through a new lens; not just as another weak state agency, but one that offered opportunities for operationalising the water aid and trade agenda. In several missions from early 2011 onwards, the idea of providing support to AIAS was raised and it was also mentioned in a 'water market scan' (Pietersen 2011). However, prospective Dutch aid agencies who could provide such support were reluctant to engage, as they lacked confidence in AIAS. Their perspective changed when the EKN voiced the prospect of €9mn. becoming available for project support to AIAS. Following a formal request and talks at the Amsterdam Water Week in November 2011, a consortium of Dutch water aid agents started negotiations with AIAS, followed by several missions in 2012 in which it developed ideas for a four-year project. While AIAS was continued being seen as a weak entity and doubts remained on providing support, its 'aid and trade' potential was evaluated positively. In November 2012, a 'Water Mondiaal' mission was undertaken "...to improve insight in market opportunities for the broader Dutch (private) water sector in relation to (future) investments in Water Supply and Sanitation in the small towns and villages in Mozambique" (RVO 2012). Those involved assessed that

> In general the opportunities for investments in the Water & Sanitation Sector in Mozambique have a positive outlook, given the current initiatives in Mozambique to address the uncertainties around protection of investments and supportive regulation to allow private operators to address the market demand currently un-served by larger water & sanitation service providers.
>
> Ibid

A month before, Dutch and Mozambican politicians had already signed a Memorandum of Understanding in a high-profile economic mission, meant to intensify water cooperation between both countries (GOM and GON 2012). The contract for setting up the public-private water platform PLAMA was also signed.[209] The foreseen intervention with AIAS fitted in this chain of new water 'aid and trade' activities, with the EKN branding the intervention as a vehicle to "increase the market for Dutch water technology" and which "will develop new concepts and models to finance, implement and operate small urban water supply and sanitation systems, with a strong involvement of the private sector" (GON 2013c: 12).

In practice, the project involved a mix of 'traditional' TA-type and 'modern' market-based water aid activities. The lead implementing agent, VEI, basically copy-pasted the key aid activities it had carried out with FIPAG since 2005, namely 'institutional development' of AIAS in a first Work Package (WP) and 'capacity building' of water operators in another (WP2). VEI joined forces with three other Dutch aid actors: World Waternet (WWn), the aid organisation of the water cycle company of Amsterdam;

[208] Interview Dutch water consultant, 8 June 2016.
[209] See also previous chapter, section 4.3.3.

SNV, a large NGO; and BOP Innovation Center (BoP Inc.), a private entity specialised in 'inclusive business models' for the 'Base of the Pyramid' (BoP)—which refers to the poorest four million in the world who are seen as consumers, producers and entrepreneurs. WWn and SNV engaged in more or less innovative approaches aimed at building capacity among sanitation providers (also part of WP2), while BoP Inc. was responsible for developing 'innovative water and sanitation business models' and an 'inclusive business incubator' (WP4). The third WP concentrated on investments in water and sanitation systems. Among the investment vehicles envisaged was a 'demand-driven trust fund' in which donors put funds, which in turn can be applied for by water and sanitation operators. In all, the project amounted to €7.6mn., of which €7mn. was financed by the EKN.[210] Figure 5.3 summarises the intervention's 'logical framework', that is, how 'input' was expected to lead to 'output' and 'impact'. The project became known as 'PO15', referring to its initial aim to support water and sanitation providers in 15 out of the 130 small towns AIAS was responsible for.

The overall objective of PO15 was to increase access to sustainable water and sanitation services. Moreover, each of the WP's had a strategic objective (which were in turn specified in measurable indicators):

1. stable AIAS organization at central and provincial levels with a capacity to guarantee sustainability of services to attract more funding from third parties;
2. sustainable operation of urban drinking water and sanitation services in 15 towns;
3. mechanisms in place for extension of infrastructure and increased number of water and sanitation facilities;
4. increased involvement of the private sector, contributing to sustainable services

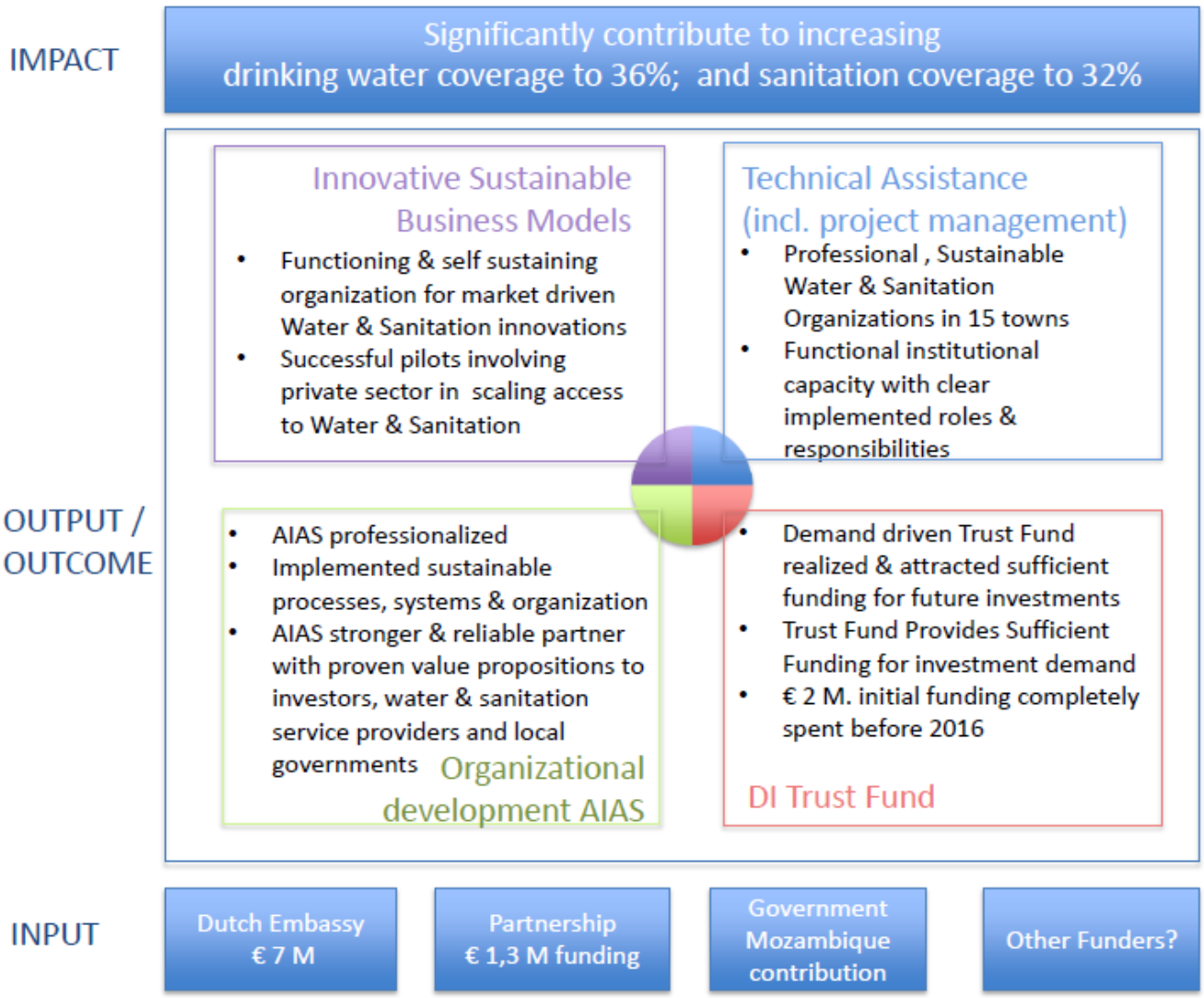
AIAS and Consortium 2013: 32

The proposal was finalised early 2013, but it took another half a year before the intervention actually started, because of disagreements over activities to undertake and financial matters.[211] The project eventually started early 2014 with an 'inception phase' of six months, followed by a 'GO / NO GO' decision to proceed, as Dutch agencies were still not confident whether agreements made with AIAS and the GOM were going to be met. The decision hinged on a 'green light' for 19 indicators, which ranged from hiring a PO15 project leader to gaining commitment of the GOM to cover most of the operational costs of AIAS by 2015 (AIAS and consortium 2014: 7-8).

In all, AIAS and PO15 were established as permanent and temporary structures rooted in the DMF and PSP as principal access mechanism. This mechanism fitted the private sector (and private finance) imaginary of aid agents who took the lead in establishing AIAS and/or PO15, notably the MCC, WB and the EKN. Yet, I argue this mechanism should be seen as an 'overvalued idea', with actors rigidly holding on to it despite deep-seated problems. Therefore, a challenging context was to be expected in which to implement the intervention PO15. The next sections sketch this context and examine the implementation within it.

[210] The final amount was thus €2mn. lower than originally projected. However, during the project, another couple of million euro became available from the EKN for investments, raising the amount to over €10mn.
[211] Interview WWn employee, 17 December 2015.

Figure 5.3—Summary of PO15's logical framework at the start (source: Schouten and Rundberg 2013: 6)



5.3 Implementing the DMF and PSP in a challenging hydrosocial context

This section and the next examine the implementation of the DMF–PSP mechanism by AIAS and PO15 in the project's 'target towns'. The target towns of PO15 are indicated by the arrows in the map shown in figure 5.4. While the project originally targeted 15 towns, during implementation, a number of additional towns whose water system had become operational were included. These towns, as well as the others falling under AIAS' mandate, can briefly be characterised as follows.

The 130 towns that AIAS is responsible for are dispersed over the country's territory, and so are the 15+ target towns of PO15. This means their demographic, ethnic, political economic, socio-cultural and material-biophysical contexts often vary considerably, particularly (but not necessarily) between towns in the different provinces/regions of Mozambique. Mozambique's regions have different histories and have benefited from, or been affected by, Mozambique's integration in the world economy and economic spin-off in highly uneven ways. At the same time, the development of these towns since late colonialism (from approx. 1890 onwards) are also comparable in a number of ways. In short, while some of these towns have ancient histories, e.g. as trading posts, many have developed or been

created by the Portuguese coloniser as military, economic and/or administrative posts from where they attempted to control and exploit the territory.

These towns are characterised by what Andersen et al. (2015) call an 'extreme spatial duality'. With this he refers to a built environment at the center of cities and towns known as the *cidade cimento* and, from the perspective of this cement city, peripheral urban environments sometimes referred to as *cidade de caniço* (cane city). Urban planning during colonialism applied to the cement city, but not to the peripheries, which led to the presence of modern infrastructure in the former and its absence in the latter. Water pre-eminently reflects this; all PO15 towns had a small and relatively simple piped water supply system in its centre that served the Portuguese population and a small number of privileged Africans. African people living in the peripheries were left to their own devices, and relied on sources varying from the most proximate surface water to hand dug wells *(poços)*. A lack of (interest in) urban planning on the part of the GOM after independence has reproduced rather than transformed this uneven spatial development (Jenkins 2013). The water projects of numerous aid actors after independence, along with state and individual initiatives, has created in these towns what Schwartz et al. (2015) call a "meshwork of water service provisioning". That is, a minority of the town's population has relied on 'formal', piped water supply services and another part on (aid sponsored) public standpipes *(fontenários)*. The majority (still) rely on any available and not formally recognised source that they can afford, such as *poços* and increasingly, private individuals selling water to neighbours.[212] It is in these towns that AIAS and PO15 carried out their tasks.

This section sketches the challenging hydrosocial environment in which the DMF's implementation occurred and how PO15 dealt with the challenges it faced. The next subsection points out that the basic socio-material conditions considered essential for operationalising the DMF–PSP were deeply challenging or simply missing. In this disabling rather than enabling environment, subsection 5.3.2. argues that PO15 managed to (temporarily) address some of these conditions with considerable effect, although not necessarily according to plan. It did not fulfil some objectives, however, which happened to be (or were considered) crucial for the progress of implementation.

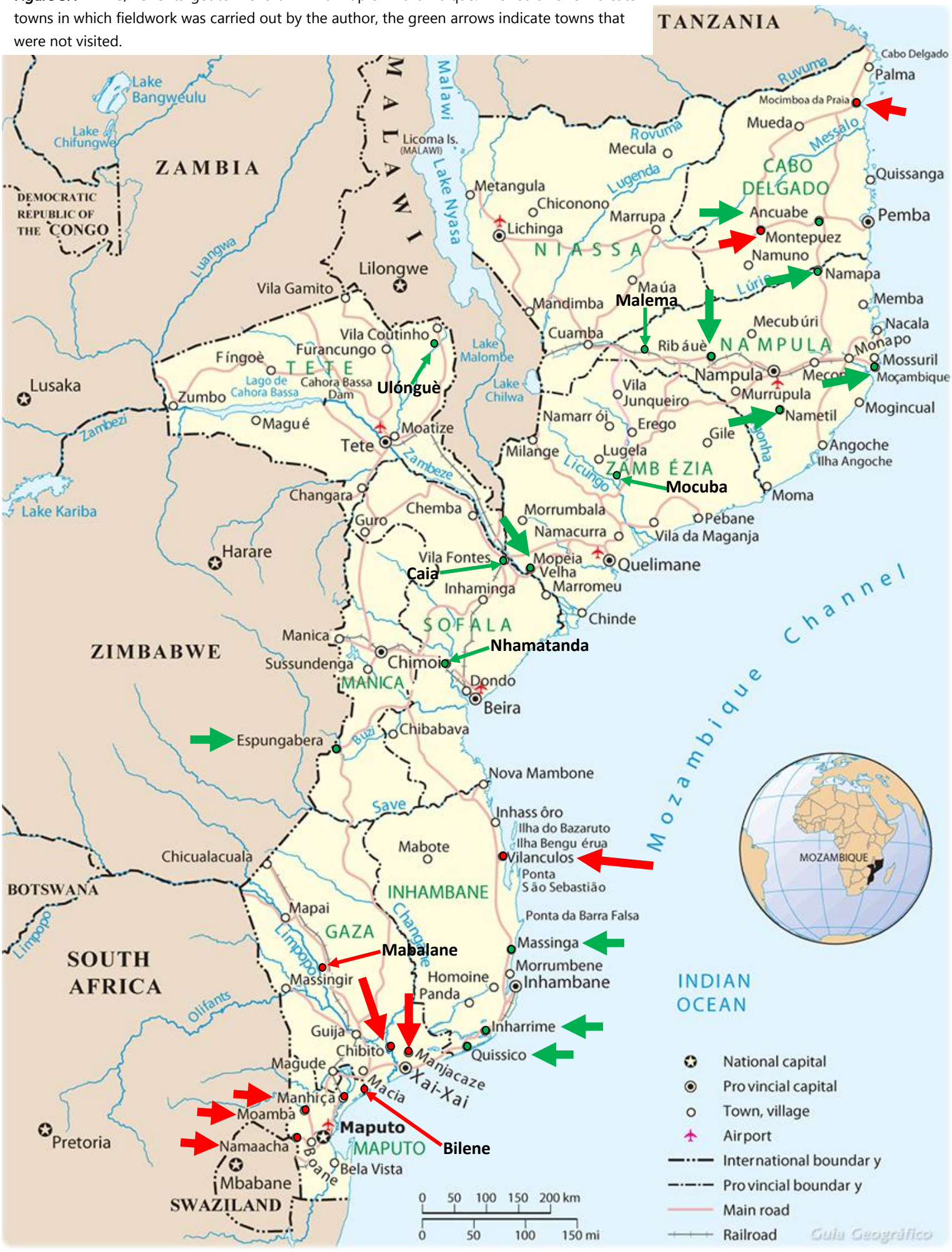
5.3.1 Challenging socio-material conditions and the politics of aid dependency

AIAS had a difficult time getting established. Interviewees indicated that the small staff (around ten employees) transferred from DNA to AIAS lacked capacity to operationalise the DFM and PSP.[213] AIAS was thus set up as another public entity in which low-paid and mostly unqualified staff relying on a small state budget worked side by side with well-paid and experienced external advisors from, or hired by, the WSP and MCC. As a public entity without much autonomy and unattractive salaries, it furthermore had a hard time attracting or retaining qualified personnel. AIAS was provided with a tiny state budget, initially receiving only a couple of million US dollars a year. This budget increased to around $10-12mn. annually, but this was still (considered) miniscule in light of its huge mandate and objective. The head of AIAS' technical department put this amount in context:

[212] These individuals are often called 'small-scale independent (water) providers (SSIPs)' (Ahlers et al. 2013a; 2013b), but they must be seen as distinct from the private operators that AIAS contracts in the context of the DMF. See for the debate about 'formal' and 'informal' water service provisioning Kooy (2014); Bakker (2007; 2010c); Ahlers et al. (2013a; 2013b; 2014).

[213] Interview VEI project manager, 21 November 2016; interview Mozambican water consultant, 26 January 2016.

Figure 5.4—AIAS/PO15 'target towns' drawn in a map of Mozambique. The red arrows indicate towns in which fieldwork was carried out by the author, the green arrows indicate towns that were not visited.



> ...consider rehabilitation works [on three water systems] going on in [the province of] Inhambane that are financed by the European Union: they already amount to 10 million US dollar. Another project we do takes place in Mocuba, funded by the World Bank for 7 million US dollar.[214]

Hence, the bulk of expenditures, as in the sector more generally, were to be borne by IFIs and donors, with all (familiar) aid dependency strings attached. Besides these internal issues, the (domestic) private sector that was expected to take up operations in water supply in the towns was small and inexperienced. The profit motive that was supposed to stimulate the private sector was questionable, given the specifics of the 'market', that is, the small size of most towns and their water systems, poor customers, and uncertainties regarding tariffs and politics.[215]

Considering this, AIAS and PO15 adopted a pragmatic and opportunistic course in implementing the DMF, in which it seized opportunities as they came and picked the proverbial low-hanging fruit. This meant building on initiatives that were already ongoing or planned, with the technical state of systems being particularly important:

> Given that operators cannot be expected to manage loss-making systems, a basic principle of delegated management is that the system must be in a viable operational state for delegated management to work.
>
> Simone et al. 2016: 8

By the time the proposal for PO15 was finalised, in 2013, there were about 15 such systems/towns. Some of them were part of the WB pilot that started in 2006 (see above). Private operators had started in seven towns since 2006, but at least four of them had terminated operations before contract's end due to poor performance of the operator (discharged by local authorities), the lack of profitability (operator himself quitted) and/or technical deficiencies in the system.[216] PO15 included those towns in which new private operators or municipal entities had become operational. Systems that had just been or were planned to be rehabilitated complemented the list of PO15 towns, with the PO15 project manager explaining that "technical assistance simply follows investment paths". He added that "this starts with the big boys", referring to the largest towns in terms of population size and density.[217]

The process of bigger towns being served first is one of those 'strings' attached to aid dependency. In other words, where investments take place is primarily driven by the preferences of aid agencies (IFIs, donors) that finance the rehabilitation of systems. Increasing access is a, if not the, key objective of many donors. The potential to increase access through PSP the quickest is considered best in large towns. In large towns, essential conditions for the system's financial viability are (considered) most favourable, including a high population density and high 'ability' and 'willingness to pay'.[218] The obvious consequence of this process is that AIAS's activities (and those of PO15) followed donors and their investment preferences for towns and regions rather than the other way around, leading to a

[214] Interview AIAS employee, 7 November 2016. UNICEF also co-funded the construction works in Inhambane.
[215] Interview Mozambican water consultant, 26 January 2016.
[216] Interview AIAS representative Inhambane, 15 March 2017; AIAS and Consortium (2013); WSP (2010).
[217] Interview VEI project manager, 21 November 2016. The situation for water supply was thus taken as the criterion for selecting the target towns, not sanitation. Considering the low state of sanitation in all AIAS towns and cities, it was assumed that "any town is a good one to work on capacity building in the area of sanitation" (AIAS and Consortium 2013: 32).
[218] Interview AIAS representative Inhambane, 15 March 2017.

patchwork of activities around the country not bound by an overarching strategy. This led one insider to argue that AIAS has to

> ...better organise investments. They'll have to strategically think about investments, ask themselves the question where they want to invest in and why. They might say that their priority is to invest in Nampula and Cabo Delgado, but then money becomes available for say a system in Inhambane, and the focus changes to there. This is due to a lack of capacity, and not having a funding strategy in place.[219]

Moreover, even if donors had pledged investments, it remained to be seen how much is actually made available, and exactly when, how and to what extent promised investments materialise. The abovementioned case of MCC funds that were agreed to be invested in some twenty systems in northern Mozambique, but in which only one system got rehabilitated (and then only partially in anticipation of full rehabilitation), poignantly illustrates the extent to which AIAS' planning hinges on aid agencies' agendas and peculiarities.

How (well) a system is actually rehabilitated then depends on who does the construction. AIAS and local authorities that organise the tendering and outsourcing of construction works tend to award these works to the lowest bidder, such as Chinese companies. The idea behind this is that AIAS, according to one employee, supposedly "gets most out of the dollar spent".[220] But systems rehabilitated by Chinese companies were the prime targets of criticism by Dutch water aid experts with whom I spoke or did fieldwork with. "Everywhere they come, they deliver that 'cheap crap'", said one such expert.[221] Another became agitated when inspecting a system in one of the towns rehabilitated by a Chinese constructor, saying they are the "perfect imitators". System components appear to be of high quality, he mentioned, but it is mostly "shit". Parts which last for decades in the Netherlands break down in a matter of years or even months. This may be due to poor quality of materials used, but also by AIAS lacking capacity and knowledge to supervise these works and ensure they are carried out well. Moreover, these systems were often not maintained well. And this was another one of his frustrations: the lack of maintenance on the part of operators. Criticism also targeted donors. Donors' preoccupation with increasing connections results in 'more pipes in the ground', he said, but few are interested in making investments available for maintaining existing systems. Moreover, instead of replacing or removing obsolete systems dating from colonial times, these colonial systems are often the starting point for rehabilitation and extension. Old and new system parts thus become entangled, which increases the likelihood of malfunctioning (sub)systems.[222]

Another oft-heard challenge was that systems were not rehabilitated according to design, or according to a design that was ill-prepared for seasonal fluctuations or changing hydrological/ climatic conditions. In the town of Manjacaze, for instance, essential elements of water treatment were either missing or too small, forcing the operator to revert to boreholes with water of poor quality and slightly salinised. Later, a pump broke down, forcing the operator to reduce the number of hours of supply and getting the operator into a quarrel with AIAS over who is responsible for fixing it.[223] In Mabalane, the river level was very low due to drought in 2016, and the water intake as constructed was clogged

[219] Interview WB employee, 20 February 2017.
[220] Interview AIAS representative Inhambane, 15 March 2017; field notes, 19 October 2016.
[221] Interview WWn employee, 17 December 2015.
[222] Field notes, 13 October 2016.
[223] Field notes, 19 October 2016.

and ill-suited to pump water to the treatment plant. The operator had himself placed another pipe and had diverted the electricity cables, so that he could resume water production, but treatment facilities were also suboptimal.[224] In Mocimboa da Praia, a new treatment plant was unable to sufficiently clean water in the wet season; the turbidity tended to rise to such high levels after rainfall, that it eliminated the effect of chlorination, producing water of poor quality.[225] Many systems therefore had problems due to an incomplete or poor design and/or construction, but not to the same extent—their overall condition and quality differed. What also differed were the elements included in the rehabilitation of systems, again depending on donor's investment size and conditions. For instance, the system upgrade in Mocimboa da Praia included three cars made available to the operator and large-scale extension of the network and connections, giving it a head start not available to operators in many other towns.

Notwithstanding these differences, and whether or not in a 'viable operational state', AIAS often proceeded with the step following rehabilitation: outsourcing operations to a private operator. With initially little choice between operators, and depending on place, AIAS again reverted to pragmatic behaviour. The tender invitation for operating the system in Mabalane, a small and isolated town without a paved access road, received a bid from only one operator, and he was contracted.[226] In the town of Moamba, a private company had already assumed operations of its refurbished system before AIAS took effective control of it. This company, called Collins, had sold water treatment products as part of the system's rehabilitation and was asked by the public authorities to also consider operating the system, which it did. Then AIAS took over control of the system from DNA and without other suitable operators, asked Collins to continue operating:

> AIAS knew we were operating in Moamba and asked us whether we could stay and continue operating. They said it was complicated to find operators and if we continued operations, it would mean a good solution to them. But they also said that a tender must formally be issued for contracting an operator. For AIAS this meant issuing a tender and for us to submit a bid. So we did. We won the tender and could formally operate the system.[227]

Over time, the number of individuals and companies interested and willing to operate water systems in small towns was growing. Even in places where systems were not yet (fully) rehabilitated and in questionable condition, such as in Montepuez and Nametil, there were companies willing to operate these and they were indeed contracted by AIAS. In the case of Montepuez, the operator said that AIAS had ensured him that the system would soon be rehabilitated. However, the system in Montepuez was one of the 28 systems planned to be refurbished using MCC funds, which did not materialise. The operator in Nametil started operations despite obvious problems with the system, because he wanted to "get into the market".[228] He managed to do so, and assumed operations in two other towns shortly thereafter, Manjacaze and Espungabera. This growing interest on the part of operators was interpreted differently; for one Dutch consultant it meant a signal of trust by operators in AIAS, with operators feeling they are backed up rather than squeezed by the state in their attempt to invest.[229] An AIAS employee welcomed this trend, but was critical of the parties showing interest: "...many of them are

[224] Field notes, 10 October 2016.
[225] Field notes, 22 September 2016.
[226] Field notes, 28 July 2016.
[227] Interview director Collins, 17 August 2016.
[228] Interview director PB Construções, 22 August 2016.
[229] Interview Dutch water consultant, 8 June 2016.

part of a construction company and think: why not give water supply a try? But AIAS is not searching for a carpenter who also wants to supply water. It is searching for those who know how a pump works".[230]

Most companies contracted by AIAS were indeed inexperienced in water supply operations, but their levels of professionalism differed. Collins, the company that entered the water supply market in Moamba, had soon built up a good name and managed to expand its operations in a number of other AIAS towns. It had professionalised, with local management and personnel guided from a head quarter in Maputo. It applied what its director called "engineering thinking" in selecting a system/town: it would generally only bid on systems that it itself assessed to be in a good condition.[231] In contrast, the only party interested in and contracted for operating the system in Mabalane was widely discredited, with the director and personnel showing "zero ownership", according to a Dutch expert.[232] There were quite some individuals or companies in construction that entered the water supply market, while the tender for operating the system in Bilene was won by a lecturer in civil engineering, who had started his own small company next to his university position.[233] While most of them were eager to succeed, they and/or most of their personnel lacked advanced and often basic knowledge, which did not help operating (often deficient) systems. What also did not help, was a sheer lack of capital for investments or maintenance on the part of operators.

In all, this subsection pointed out that the basic socio-material conditions considered essential for operationalising the DMF–PSP were deeply challenging or simply missing. These included a lack of skilled AIAS personnel, knowledgeable operators and organisational or investment capital as well as ill-functioning water supply systems in relation to place-specific biophysical conditions. Considering this, AIAS and PO15 adopted a pragmatic course, concentrating on towns with the best (or least-worst) conditions. It also made them follow aid agents willing to invest in systems and hence, conform to these agent's preferences in terms of where to invest (in). While this is a well-known feature of aid dependency, I suggest it does not help tackle, but rather tends to reproduce, uneven hydrosocial development. The next subsection examines in more detail how PO15 dealt with some of the key challenges.

5.3.2 Addressing challenges with PO15 support

The challenges described in the previous subsection were not new; similar issues were experienced in the pilot that started in 2006 (WSP 2010). This was precisely why PO15 was set up: to address a number of what were considered 'gaps' in implementing the DMF and PSP in small towns. This section describes what PO15 did to tackle some essential such gaps.

Firstly, a lack of knowledge was addressed by PO15 through providing TA to (the personnel of) water operators. This took the form of on-the-job training by water professionals from one of the associated Dutch drinking water companies making up VEI. Such professionals typically engaged in a three-week short 'mission', in which operators in three towns were each trained for a week in aspects related to

[230] Interview AIAS employee, 24 March 2017. Quote translated from Portuguese.
[231] Interview director Collins, 17 August 2016.
[232] Field notes 28 July 2016;
[233] Field notes, 6 February 2017.

water treatment and distribution or in maintaining and operating the electric power system. Moreover, they were trained in financial and business management through classroom-type trainings, also delivered by short-term Dutch experts.

Secondly, operators' lack of investment capital prevented them from properly maintaining the systems and/or growing as a business. PO15 had an investment budget, which was used to buy IT-applications and various kinds of material for operators, such as an invoicing system, connection kits, water quality measurement equipment and office tools. It also covered emergency rehabilitation works of systems in a couple of target towns. A more structural way to tackle this lacuna was supposed to be the 'demand-driven fund' of PO15. While a plan for this 'Infrastructure Investment mechanism' was written, proposed and discussed with the steering board of PO15, it was not accepted. "The word 'fund'", explained the PO15 project manager, "had a negative connotation" in Mozambique, referring to similar initiatives in other sectors that had ended up as slush funds. This was unfortunate, according to him, as it would have enabled the bundling of money from various donors into a fund that is managed separately from AIAS, thereby reducing overhead and bypassing the state bureaucratic procedures that AIAS is supposed to follow.[234] A one-off alternative presented itself in the project's final stage, when the EKN announced the availability of another €2mn. to be spent on investments before year's end (i.e. 2017).[235] Operators were asked to prepare investment plans and a list of materials they desired, and the amount was used to cover these relatively small investment needs, ranging from water meters and pumps to pipes.

Thirdly, PO15 covered part of the operational costs of AIAS itself. Next to small items such as office equipment, it financed salaries of personnel as well as a Performance Based Incentives Scheme, in which the provision of incentives relied on employees' quarterly evaluations. Such a scheme stands in a long tradition, with incentives being paid to water bureaucrats at least since the early 1990s[236] and was based on a similar scheme that ASAS financed for DNA personnel in the 2000s and early 2010s. One former EKN employee said that such incentives were paid to make AIAS more attractive as employer. Without this scheme, this person said, "...people from FIPAG would never go to AIAS where they would be paid a state salary, which is much lower than the FIPAG salaries".[237] As with ASAS for DNA, the incentive scheme at AIAS was supposed to be a temporary facility. In other words, personnel whose salaries were covered by PO15 were to be included on AIAS' payroll. As an EKN employee motivated it: "...it is like a child that has to grow; we cannot keep paying for their costs".[238] The plan was for the EKN subsidy that covered for this scheme to end in late 2015. This, in turn, relied on the 'financial sustainability' of AIAS.

A fourth gap that PO15 helped addressing was thus AIAS' lack of financial autonomy. In line with the DMF, AIAS was supposed to obtain a lease fee from water and sanitation operators, which should enable AIAS to cover salaries and part of its operational costs. But for AIAS to be able to fully use these fees, it required financial (next to administrative) autonomy. This, in turn, required proof that AIAS

[234] Interview VEI project manager, 21 November 2016.
[235] A BZ interviewee said that this was common practice, to make "budgetary meters' before the end of the year – and water projects are good candidates for spending one's budgets (in order for the budget not to be reduced the next year) (interview BZ employee, 6 February 2018).
[236] Interview former Dutch water expert, 15 November 2016.
[237] Interview former EKN employee, 8 November 2016.
[238] Interview EKN employee, 4 April 2017.

could in fact cover two-thirds of its operational costs. Obtaining financial autonomy was a key aspect of the 'organisational development' component within PO15 (AIAS and Consortium 2014: 39), and the EKN was anxiously awaiting fulfilment of this aspect during the project's implementation.[239] To this end, PO15 paid for studies that investigated the needs and abilities to become financially sustainable/ autonomous. Were prospects to attain two-thirds of its costs still considered unfeasible in 2014, a new study conducted in 2015 concluded that it should be possible, even though this study was based on 'major assumptions'.[240] A proposal was handed in at the Mozambican Ministry of Finance and the project anticipated a final (and positive) decision by late 2016, based on which AIAS' statutes could be changed. Yet, the proposal was not approved.

Even if it would have been approved, AIAS' financial sustainability would still rely on the financial sustainability of water operators, who had to pay for the lease fees. None of the operators had yet paid fees, because most of the systems were not (yet) financially viable. A range of elements determine such viability, not least tariffs. Tariffs are set by the water regulator CRA. Newly contracted water operators were initially summoned to charge a singular tariff of 18 Meticais per m^3 water distributed to customers.[241] This singular tariff was set because of a lack of historical data on the systems, required for validating different tariffs. This tariff soon proved (far) too low for operators to recover costs, make a profit and/or to pay fees.

Another significant activity of PO15, fifthly, was therefore to help AIAS develop a suitable tariff structure. Such a new structure was made and proposed to CRA in 2015. The tariff would have had to increase to an average of 23 MZM/m^3, for operators to become financially self-reliant. CRA approved the tariffs by the end of 2015. This should have sufficed, were it not for AIAS to additionally ask the minister for approval of the revised tariffs. However, this approval and hence, these new tariff's implementation, took a long time. Meanwhile, in April 2016, a major economic crisis had broken out in Mozambique[242] and under crisis conditions such as rapid inflation, the revised tariffs had become outdated. This led to a revision of the revised tariffs, but the minister's approval was still awaited for nearing the end of the intervention.

In all, PO15 provided budget, institutional, financial-economic and technical support essential to filling major and minor gaps in the implementation of the DMF during AIAS' first operational years. The project was widely appreciated as a result of this support and the way most of it was delivered. Yet, this subsection and the previous one already gave a glimpse into issues that kept on hampering implementation, issues that were considered essential for AIAS' and the DMF's long term viability. In order to better understand this, the next section examines the various liquid power struggles that shaped the implementation of this access mechanism.

[239] Interview EKN employee, 15 September 2017.
[240] Interview VEI project manager, 21 November 2016.
[241] Excluding a fixed monthly fee for the water meter. The Metical is the Mozambican currency, in plural: Meticais. Henceforth it is abbreviated as MZM (Mozambican Meticais). The exchange rate by early 2016 was approx. 50 MZM to one US dollar.
[242] This crisis is dealt with in the next chapter.

5.4 Shaping access in a terrain of liquid power struggles

The implementation of the DMF–PSP mechanism, I contend, represents a terrain of liquid power struggles (cf. Li 1999: 316). In this section, I discuss three distinct, but connected types of liquid power struggle that AIAS and PO15 were implicated in, in their quest to operationalise the DMF–PSP mechanism. These are struggles at the national level with central state agencies and Frelimo-cum-GOM members as key actors; struggles at the level of the towns with local authorities and citizens as principal agents; and struggles between AIAS and operators over various legal-administrative affairs. In discussing these, I make two points. One is that issues of which I said keep on hampering implementation of some of PO15's activities are inherently political issues. These do not lend themselves to be solved by technical, non-political intervention, at least not structurally. Second, the three types of liquid power struggle discussed here show that access to water is inherently shaped by various kinds of territorial logics which tend to defy the very market-rational logics underpinning the DMF–PSP mechanism.

5.4.1 Liquid power struggles at the national level

I argued in the previous chapter that important and politically sensitive water affairs have remained subject to centralised decision-making and that water (supply) has been used by Frelimo as a political instrument ever since independence. This subsection contends that central state and GOM-cum-Frelimo politics also very much affected AIAS' development and attempts to implement the DMF–PSP mechanism. I discuss three specific instances of how this occurred.

First, that AIAS did not develop as a support agency for provincial water boards, but the other way around, must be considered in this light. As mentioned above, the original idea was for AIAS to operate as a support agency for provincial water boards. But instead of AIAS supporting such new provincial entities, a revised decree turned AIAS into the leading agent, and provincial delegations and councils were set up to represent, support and advice AIAS at the provincial level (GOM 2011). This move, interviewees suggested, was intended to keep decision-making power over water affairs that AIAS was responsible for, centralised. One insider summarised the GOM's reasoning in relation to this as "if I decentralise, I lose power and I lose control". Having long worked in the Mozambican water sector, this interviewee had become accustomed to this type of politics:

> AIAS was created with a push from the World Bank and everybody was saying to decentralize the work of AIAS. Thus, in Maputo, there should only be a team of three to five skilled people to support the provincial level in their efforts to manage water and sanitation services in their towns. Their original task was to develop AIAS into an entity that empowers the provinces to manage their systems and to do fundraising. This empowerment of provinces by AIAS was the idea, but that is not the case now. Again you see that implementation is different. AIAS has even created delegations now. That is not decentralization if you ask me, because those delegations have no or hardly any power.[243]

Secondly and similarly, granting AIAS financial autonomy is in the first place a political matter related to (losing) control. The delay in decision-making, but even more so the difficulty in obtaining this type

[243] Interview UNICEF employee, 7 September 2016.

of autonomy on which the sustainability of AIAS hinged, hindered or frustrated various actors involved. As one AIAS employee explained:

> You see, we basically work now as any state institution, we have the same legislation. But what we are trying to find out is whether we can have more autonomy as organisation, more flexibility, other rules than the ones we have now. Look at FIPAG; different rules apply to them. If they need a technician today, then they hire one today. FIPAG can do that. But we cannot. That is why we want the same structure as FIPAG.[244]

As mentioned, financial autonomy for AIAS was a key issue for the EKN who financed (the bulk of) PO15. That the request for financial autonomy was first rejected, then revised, handed in again and still not approved was disappointing and frustrating, said an EKN employee.[245]

Thirdly, water tariffs have equally been a deeply sensitive and hence, political issue since independence and therefore remained ultimately subject to decision-making by GOM members and central state agencies. That AIAS asked the minister for approval of the new tariff structure, even though this was not formally required, must be considered against this background. The DMF instead stipulates that approval of the water regulator CRA is sufficient. This "interference of the government" annoyed CRA employees, as did the decision of AIAS to ask for the minister's approval in the first place:

> CRA already presents to the government new tariff structures every five years, in which is indicated what will be reformed. That is sufficient what the government's role is concerned, and AIAS shouldn't have gone to the minister on top of that. They were probably afraid to implement the tariffs without asking approval of the minister, but the consequence is that the process is already taking a year now (...) AIAS should just have followed up by implementing those [new tariffs]".[246]

While these three are pre-eminently issues dealt with in Maputo (with implications on other scales), the GOM's use of water as a political instrument is also prevalent locally. A local event I learned of during one of the short-term missions I participated in related to the inauguration of the water system of Mocímboa da Praia by President Nuysi in 2015. Inspections take place before such visits, and the water system was almost, but not yet fully finished. The system's construction was quickly completed with parts that were at hand, but ill-suited for the task it was supposed to fulfil; in this case, a pump with a very small capacity was installed rather than a suitable, stronger one for pumping water into one of the neighbourhoods. It was promised that this pump would be replaced after the inauguration, but this promise was not met anytime soon. When we checked the pump, it evoked laughter, but the consequence was real:, it left households in the destined neighbourhood with an inadequate or no supply.[247]

5.4.2 Liquid power struggles at the level of towns

Another power struggle with major implications for the DMF's implementation, unfolds at the town level. At the end of the day, water is or is not supplied locally to citizens, and this calls forth local

[244] Interview AIAS employee, 7 November 2016.
[245] Field notes, 15 September 2017.
[246] Interview CRA employees, 7 April 2017.
[247] Field notes, 19 September 2016.

authorities, bringing them into a power relation with operators and AIAS alike. This subsection shows that local authorities and politicians are deeply involved in the implementation of the DMF–PSP, sometimes in congruence with the roles formally attributed to them, and often not.[248] Yet, how power relations unfold differs, depending on place and specific actors.

To start with, it matters whether a town is a municipality or not. Municipalities have local elections, a council and a mayor, and have more autonomy and decision-making power than towns that have the status of 'administrative post'. The director of Collins, the operator serving various AIAS towns, remarked that it is easier to deal with the latter than with municipalities. Administrative posts directly fall under the central government and issues regarding water can therefore generally be dealt with in Maputo. This is often politically motivated, he says; they are mainly interested in 'numbers' and 'connections', especially prior to elections. Municipalities are more difficult to deal with, in his experience. They do the planning themselves and deal with many issues that they preferably discuss with "the guy that gives the orders"—i.e. the director.[249] The director of the operator in Bilene, called Águas do Bilene, likewise indicated the many challenges with the municipality he and his personnel had to deal with. Not everyone in the municipality was happy to see him as an external actor being in charge of operating the water system.[250] Generally, a good relationship with the municipality, and in particular the mayor, is important; the mayors I met during fieldwork were said (and indeed appeared) to be powerful figures, with the operator's managers often acting compliant in their proximity—careful not to breach trust and confidence.[251]

In Montepuez, the operator was even discharged by the mayor. Although PO15 actors did not consider this operator very apt for the task of operating water systems, it operated a system that had not been rehabilitated.[252] The system was in a dire state, and drought in 2016 only exacerbated an already troubled water production and distribution. Inevitably this agitates local authorities. The operator was constantly summoned to explain what goes wrong and what would be done about it, making him feel a "manager of political affairs" rather than a water manager.[253] He was eventually discharged on the instigation of the mayor, who is a member of the national Frelimo Political Commission, and who was not much later charged with serious allegations of corruption. Among other things, this mayor was accused of making a borehole worth 300,000 MZM on his private premises, the water which he sold to his very own citizens.[254]

Next to private operators, there are a number of AIAS/PO15 towns whose systems are still, or once again, operated by a municipal entity. Naturally, they are no less involved in local politics. The DMF allows a public entity to operate systems, as long as it is 'autonomous' from local authorities. But 'autonomous' is a very relative concept, as the municipal operator in the city of Chibuto exemplifies. This operator had managed to open up its own bank account, allowing payments to be collected

[248] Local authorities' role and rights are part of the contract between operators and AIAS. They also sign the contract as witnesses.
[249] Interview director Collins, 17 August 2016.
[250] Field notes, 6 February 2017
[251] Field notes, 11 July 2016; Field notes, 21 September 2016;
[252] This was the system that MCC promised to, but did not, rehabilitate. According to the AIAS delegate in Cabo Delgado, this also related to politics on the part of the constructor who was supposed to carry out light works, which he failed to do (interview AIAS employee, 28 September 2016).
[253] Field notes, 12 September 2016.
[254] Savanna newspaper, 18 November 2016.

independent of the municipality. However, local politicians still managed to frequently interfere in financial matters of the operator, to the general manager's deep frustration.[255] The head of planning explained that some local politicians had built up major debts with the water operator, which they refused to pay and they also still tried to influence decision-making in the entity. Because of this and other issues, the entity wanted to become a private operator, but this proved hard to accomplish.[256]

In Nametil, the system was also in a bad shape, but the system's operations were nevertheless handed over to a private company. According to the director of this company called PB Construções, AIAS did so under pressure of local authorities. "So to take away the pressure", the director said, "AIAS put a private operator there, thinking that along the way, they would be solving the problems with the system".[257] Then cholera broke out in the wet season (December/January 2016), after which the provincial governor promised to organise capital for rehabilitating the system. This did not materialise, however. And as this town is situated in what the director called 'the district', notably in central Mozambique where not Frelimo, but Renamo won local elections, "...you cannot only look at the commercial part of supplying water, although this is not written in any document". Instead, he said that "...we need to balance commercial goals with not making politicians feel they are in a bad position in relation to the people of Nametil". Water in "the district" is thus a "social and political issue", he had found out. He referred in particular to the large number of customers in Nametil not paying their bills:

> We discuss with the district governor and the worst ones, we cut [their connection]. You must know that such a district is very different from here in Matola. Here, if you don't pay your bill, Águas de Região de Maputo[258] will cut you off the next day. But in the district you need to treat this issue with much more caution, you need to deal differently with the problem. There was once a private operator before in Nametil, but he was thrown out because of this type of political situation. Therefore, we deal with this situation with care.

A VEI professional acknowledged that there were many issues between operators and municipalities, but that the town of Malema, close to Nametil, topped the list, with its mayor having promised free water in local elections. "How should a private operator survive if water is delivered for free?", he asked rhetorically.[259]

But as said, the intensity of politics differs. The same company that operates the system in Nametil also operates the system in Manjacaze, but here

> ...it is completely different. The way the authorities look at it is very different. They see we operate the system commercially. Manjacaze is not politicized. The only thing here is that they demand results, new connections, because if we do badly, that can reflect on the manager of the municipality. But if someone is not paying, I can go and cut—no problem.

So, water is in fact also political in Manjacaze, but when the system runs reasonably fine, this is not (nearly) as salient as it is in Nametil.

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[255] Field notes, 11 July 2016.
[256] Interview head of planning EMSAS, 30 March 2017.
[257] Interview director PB Construções, 22 August 2016.
[258] Matola borders Maputo city and is generally considered part of the greater Maputo metropolitan area. Águas de Região de Maputo is the water company serving both Maputo and Matola.
[259] Field notes, 11 July 2016.

(Not) paying for water is, next to (poor) water quality and (a lack of) network extension, a major source for liquid power struggles in towns. All operators, to a greater or lesser extent, deal with this. They indicate that especially public entities and figures, from hospitals and prisons to the police and officials such as governors, tend not to pay their water bill:

> It is very hard to cut them. Here in Mozambique, when you try to confront the government with such a thing like cutting their connection, you have a big problem. They will not help you anymore. They will say: this country is ours, if you want to do that [cutting the connection] you are out of business. So we always fall back on having the conversation, that we really need the money. Then they'll say: yes, the money comes, but it doesn't come.[260]

The most notorious debtors are local politicians, said one interviewee. They "…say things like if we don't provide them with water, they won't vote in favour of the company".[261] Consequently, some operators had built up debts that added up to millions of Meticais.[262]

Not all citizens who are connected to the network pay their water bills either, but operators have generally (more) space to apply the power to exclude them. In other words, citizens can and often are disconnected when not paying their bills, after one or a couple of warnings. If they want to be reconnected, they often pay a fine. The strategy of operators, supported by AIAS/PO15, is to educate citizens into becoming modern, rationally acting customers—or in Portuguese, to raise customer's *sensibilisação* or awareness. Citizens need to become accustomed to paying their bills, they say, understand that their money pays for the operations and maintenance of the system, or alternatively, to accept being disconnected/ excluded. Moreover, if they are unhappy with the operator's services, they can or should be able to file a formal complaint with the operator. Yet, a strategy of citizens is to go to the local leader in their neighbourhood or directly to the municipality/mayor to complain. This frustrates operators, as municipality members and often the mayor himself put pressure on the operator to forget about debts or fines of citizens, especially prior to elections.[263]

Overall, local authorities and figures of power, as well as citizens, indeed play crucial roles in the DMF-PSP mechanism, yet they have political agendas and (not seldom personal) interests that do not necessarily facilitate a smooth implementation of the DMF. In all towns, water is a deeply political issue and a source of struggle. Citizens demand water supply and put pressure on local leaders, who in turn put pressure on operators and AIAS. However, the intensity of struggle differs; in towns where operations run reasonably fine, not least because the system is in reasonable shape, struggles are often not as intensive as in towns with deficient systems and unreliable supply.

5.4.3 Liquid power struggles over formal-legal affairs

The third and last type of power struggle discussed here is that between AIAS and operators over formal-legal affairs, notably role division and contractual obligations. This subsection makes clear that

[260] Interview employee Águas do Bilene, 8 December 2016.
[261] Interview head of planning EMSAS, 30 March 2017; field notes, 14 September 2017.
[262] Ibid; interview regional director EMA, 6 March 2017.
[263] Field notes, 28 July 2016; field notes, 10 October 2016; interview employee Águas do Bilene, 8 December 2016.

while the idea of PSP forces them to work together, under the conditions outlined above, they also stand in an uneasy and sometimes antagonistic relationship.

A key element in the DMF–PSP mechanism is the contract, which grants private/autonomous operators the formal right to supply water in a designated area. In this case, relations between the owner (the state, via AIAS) and the operator of the infrastructure is formalised through a lease contract.[264] The contract is a generic one, outlining responsibilities of both parties regarding investments, duration, performance, tariffs, rights and wrongs and role division of third parties. Generic contracts may be adapted and specified to town and system, with regard to performance or other contract items. The contract AIAS uses is based on a revised version of the contract used in the pilot that started in 2006. The current contract, argues WSP,

> ...was designed to avoid the recurrence of previous incidents where systems remained out of service for weeks or even months due to disputes about responsibility, affecting the overall objective of increasing access to sustainable, affordable, and good quality water supply services. In the cases where the operator will make capital investments, the operator is required to submit adequate justification, such as records of operation, inventory, and the capital investment plan, as part of this request. It is subject to asset holder (AIAS) approval so that proper compensation can be established, mainly through extension of the contract duration. At the end of the extended contract period the assets are handed to AIAS.
>
> Simone et al. 2016: 11-12

"Previous incidents" inter alia relate to conflicts that emerged over investments in the systems. This is one of the most problematic issues related to this (and many other) type(s) of PPP: the question who is responsible for what type of investments—"risk sharing" in WSP's terminology.

Time is a crucial element in relation to this. The duration of the contract is five years, which can be extended for another two years, provided that performance is satisfactory. Based on the 2006 pilot, the WSP already concluded that five years is a limited timeframe for operators to build up a financially viable business and to recover potential investment costs. This "cautious" timeframe was nevertheless maintained by the GOM, according to the WSP (Simone et al. 2016: 22), so as to avoid "being locked into contracts with dysfunctional operators". Most of the operators I met were contracted by AIAS in 2014 and 2015, so by the time I did fieldwork, they were about halfway their contracts. Two major options were available to render their systems viable in a short period of time. One is raising tariffs, but this option was formally not available as the minister had not yet approved of the revised tariffs (see above). Most operators did not charge higher tariffs. An exception was the operator in Mueda in the extreme north of the country. Without consent, the operator charged 125 MZM/m^3 rather than the contractual 18 MZM/m^3, given that water had to be elevated to the town that is situated on a plateau, which requires major volumes of (costly) electricity. Neither the regulator CRA nor AIAS was able to do much about this.[265]

The other major option was to expand the customer base by increasing the number of household- and other connections. One operator mentioned that "there is a big need for this business as local people

[264] See for types of contracts in the outsourcing of water supply, Budds and McGranahan (2003).
[265] Interview CRA employees, 7 April 2017.

all want connections. The systems have big potential to grow were it not for three factors or conditions that hamper growth and which are not within our control."[266] He explains the first as follows:

> A first such condition must be seen from the technical perspective. If you consider AIAS on the one side—they have to create conditions for the systems to be operational. They rehabilitate or build systems that usually only cover one part of the towns. But on the other side, there is us who have a contract that says we are entitled to supply water to all people in the entire town. Like ourselves, AIAS wants us to grow, to expand, but in order to do so, the system needs to be extended. And such extensions require extra funding, which AIAS does not have. So the situation now is that if we want to expand, we have to cover the costs ourselves.[267]

He found a bank willing to give a loan for such investments, on the condition he could somehow guarantee operations longer than the contract's duration of five years. However, AIAS refused to issue a letter with the intention to prolong the contract and hence, he was refused the loan.

A second factor related to the potential to increase the number of households along the existing network, which was hampered by the costs of connection. These costs range between 2000 (excluding materials) and 4000 MZM (including materials), an amount that many people in towns cannot afford.[268] The easiest way to increase connections is to buy and sell connection kits, he said, but "...there is no profit making involved in that. I am selling water, not kits". Kits indeed formed an obstacle, which is why PO15 delivered to operators 500 such kits. The third factor

> ...is about different visions. As Collins, we are a business. And in some cities we see directions in which we want to expand the system, as it would mean a good impact on our business. But this direction is out of the area that our contract prescribes. Still, we see opportunities. We then negotiate with AIAS whether we could develop into that direction that falls out of the contracted area. We have had some cases like that, but AIAS told us that there needs to be a legal framework in order to do so. It is good for them also, as it means a quick development and progress in water connections in those areas. But I don't see any movement from AIAS.[269]

AIAS indeed tends to operate in a cautious and risk-avoiding way, careful to operate within legal boundaries. Yet, AIAS is under pressure from multiple sides, needs to reconcile diverging interests and is sometimes forced to operate in ways contrary to what the DMF prescribes. This is illustrated by those cases in which it, not least under pressure of local authorities, proceeds with outsourcing operations of systems that are clearly not in a 'viable operational state'.

A preferred strategy of AIAS therefore seems to be one of negotiating, making promises, buying time and hoping for solutions to pop up along the way. This was noticeable in the case of Mocuba, a town in Zambezia and the largest one under the mandate of AIAS, with over 200,000 inhabitants. This was the only town of the originally planned 28 systems that actually got rehabilitated by MCC funds, although these were just 'emergency works' in anticipation of full rehabilitation. When floods undid these emergency works in 2015, UNICEF and the WB stepped in to provide for yet another set of emergency repairs. AIAS then negotiated with Collins to assume operations of the system in Mocuba.

[266] Interview director Collins, 17 August 2016.
[267] Ibid.
[268] Field notes in all towns.
[269] Ibid.

The system was not in a good state, so in this case, Collins took a "measured risk" and decided to help AIAS to "avoid a social problem in the city", said its director. It took this risk because the system in Mocuba was potentially the biggest they could operate, meaning "the impact for our business could be big".[270] It agreed taking over existing staff, and in return, AIAS promised to improve the quality of the system among other things. Treatment appeared to be problematic shortly after Collins started operations, and it called upon AIAS to fix the problem. AIAS in turn called upon PO15 to see whether they could finance these works, and this request was honoured through extra funding by the EKN. Still, the system was supposed to undergo full rehabilitation, but this promise was not met. The system remained a loss-taking enterprise, and these losses were compensated for by the other, viable systems that Collins managed.

While Collins and other operators were still halfway their contracts, there were a couple of towns that had participated in the WB pilot that started in 2006, and their experiences give an idea of how private operators and contracting agencies went about terminating or renewing contracts. One of them was Vilanculos, a touristic town of economic significance at the coast in the southern province of Inhambane, with some 45,000 inhabitants.

Vilanculo's water system dates from colonial times and was rehabilitated in 2005. A private operator was contracted in 2006, called EMA, which has a mother company Moza Business Corporation, headquartered in Maputo. AIAS did not yet exist in 2006, so a contract was signed first with DNA at the central level after which the municipality took over as contracting agency. The first five-year contract was renewed in 2011 for another five years, which expired by the time I arrived in Mozambique, in 2016. With financial support from third parties, EMA had invested in more than half of the current length of the distribution network, which amounts to 31 of the total 56 kilometres in 2017.[271] While the network only reaches into parts of neighbourhoods, this extension and that funded by others allowed EMA to increase the number of domestic connections from approx. 250 to 3000 in the period 2006 – 2015. EMA had a new office built in the centre of town and had it furnished with all equipment needed for carrying out its role as operator. It gained support of an EU project until 2015, which paid for laboratory equipment for analysing water quality as well as an administrative and billing system.

A conflict already appeared over the issue of investments between EMA and the municipality prior to the first contract extension in 2011. EMA had invested in the system's extension bit by bit, each in itself small investments, but combined, it added up to a considerable investment. This raised the question who should pay for these investments, given that the contracting agency (i.e. the municipality) has a contractual obligation for large investments (WSP 2010). The contract was renewed for another five years[272], but prior to the second contract's expiration, in May 2016, a similar conflict occurred. A new municipal administration and mayor had been installed in the meantime and this changed the relationship between EMA and the municipality. The new administration/ mayor did not want to renew the contract, but EMA could continue operating until a new operator was contracted. EMA listed the investments and its properties as well as its debt of four million MZM, and demanded that these would

[270] Ibid.
[271] Interview Regional Director EMA-Vilanculos, 6 March 2017.
[272] This was still an old contract, which stated that the lease term would be automatically renewed for another five years unless one of the parties wanted the contract to end (GOM 2006: 2).

be compensated for. The municipality, on its part, claimed that EMA never asked for approval of their investments in the system, which it was obliged to do. The conflict escalated to the level of the provincial governor, who had to make a decision in this conflict, but EMA was prepared to go to court if that decision would mean it would not be compensated.[273]

Although AIAS played a minor role in this particular conflict, it illustrates a (if not the most) prominent struggle between 'partners' over contractual obligations vis-à-vis 'territorial realities' on the ground. All operators spoken to dealt with this, to a greater or lesser extent. As mentioned, many systems experienced problems, which became the subject of discussion of who should pay for solving them. It became sufficiently clear that rehabilitation was often incomplete or flawed, which meant that AIAS had to take up responsibility. But operators' knowledge and capacity to operate and maintain the systems were often considered poor. This raised the question whether a problem was either due to poor construction or poor maintenance, and hence, whether AIAS or the operator is in charge of solving it. Both parties generally lacked capital, which provided an incentive to hive off responsibility to the other party.

AIAS and operators are thus stuck in a complicated relationship that unfolds under challenging hydrosocial conditions. They depend on each other, have congruent objectives such as extending the network and increasing connections, yet the different nature, scope and characteristics of the two types of organisations also turns it into an antagonistic relationship. In particular AIAS's spatiotemporal properties are fundamentally different from that of an operator; AIAS is a state entity and bears ultimate responsibility for all systems in the country, for an indefinite period of time (or for so long it exists). An operator's responsibility is limited to the system(s) under contract, for a limited timeframe. This is not to say that an operator's intention or commitment is necessarily with short-term profits. Some operators entered to make quick money, but soon quitted, such as the one in Quissico. In that case, it is AIAS who is back in charge. Most operators I spoke are well-aware of the difficulty of making a system financially viable and profitable. They are in the game for the long term, hoping to expand their business by operating more systems in the future. To achieve that, however, they rely on AIAS and hence, they need to build a track record as well as a degree of trust and confidence with this state entity that they do not fully trust.

In all, this section pointed out that the DMF–PSP's implementation is an inherently political affair, involving power struggles that play out at different scales and between different actors. The section highlighted various types of territorial, i.e. extra-economic, political and state, motivations that play a key role in these power struggles. These not only mediate access to water and to various resources required for the mechanism to work; I conclude that these shape access to such an extent and in ways that often tend to negate the market-oriented principles that the mechanism ostensibly requires to work well. The next section takes this point further and assesses the role of PO15 in this process.

5.5 PO15 as a mediating device and the question of sustainable access

Any water access mechanism is built on working principles and assumptions. In this section, I contend that the DMF–PSP is built on generic principles and assumptions rooted in the Post-Washington Consensus (Post-WC), but these principles stand in a dialectical and contradictory relationship with the

[273] Interview Regional Director EMA-Vilanculos, 6 March 2017.

logics and principles outlined in the previous section. PO15, I argue, has functioned as an important mediating device in the abovementioned power struggles and associated clashes of logics, allowing the intervention and the mechanism's implementation to move on and expand. Yet, it could not take away fundamental issues related to sustainable access.

The introduction of the DMF and PSP in Mozambique stems from the time that the Post-Washington Consensus (Post-WC) informed key development programs and GOM policies, i.e. the late 1990s. Rather than that markets flourish and spur development by themselves, the Post-WC has centrally revolved around 'getting the institutions right' as a prerequisite to market-led growth, development and poverty reduction (WB 1997; 2002; Burki and Perry 1998). The problem that the DMF and PSP faced in small towns, in the perspective of the WB/WSP and other agencies, is precisely a deficiency in institutional performance and market- and growth-enhancing governance.

Therefore, firstly, the task ahead was to get formal-legal aspects related to the water bureaucracy 'right', in this case, the organisation AIAS as well as legal documents such as contracts and operational frameworks and mechanisms. This functionalist line of reasoning applied to institutions is especially well noticeable in the aforementioned WSP report on the DMF in towns (Simone et al. 2016). Table 5.1 filters from this report some principal problem perceptions (the left column), which should lead to their 'photo-negatives' (right column).

Table 5.1—Problem perceptions and solutions for a smooth application of the DMF in secondary towns in Mozambique according to the WSP (derived from/ based on Simone et al. 2016)

Problem perception		Solution
AIAS as a weak, state-dependent entity	→	AIAS as a strong, autonomous entity
Messy procurement (tendering) process(es)	→	organised procurement and tendering
Unclear division of responsibilities for investment between AIAS and operator	→	clear division of responsibilities
Unclear role division between different agents involved	→	clear role division
Undefined mechanisms and structures for regulation and monitoring	→	defined mechanisms and structures

The logical conclusion in this line of reasoning is that

> ...given the right institutional and legislative environment, the domestic private sector can emerge, and become interested in, the water supply business for the benefit of consumers—even in a country where water is not a traditional business and the private sector in general is weak.
>
> ibid: 21

The second prerequisite for the DMF to work well is getting the market and private sector right. In the words of the WSP:

> If the PPP seeks to take advantage of the private sector's business dynamism and technological knowledge, it is essential for the operators to have these characteristics.
>
> WSP 2010: 22

But as outlined, many operators lacked these characteristics and the domestic private sector was small.

PO15 was therefore designed to address a number of lacunas in both domains, the water bureaucracy and the market. In particular, its objective to 'stabilise' AIAS and to increase and improve the quality of PSP ought to address the problems sketched above. In doing so, PO15 was intended to help develop and 'connect' the two domains such that they work in complementary ways. This depoliticised problem-framing and technocratic problem-solving is, I argue, typical of the Post-WC. But it is at odds with my understanding that the implementation of the DMF–PSP is an *inherently* political affair, due to the 'territorial' nature of water that calls forth (sub)national state agencies, politicians, citizens and who are motivated by various types of extra-economic reasoning and agendas. How, then, to assess the role of PO15 in the terrain of liquid power struggle that the DMF's implementation is?

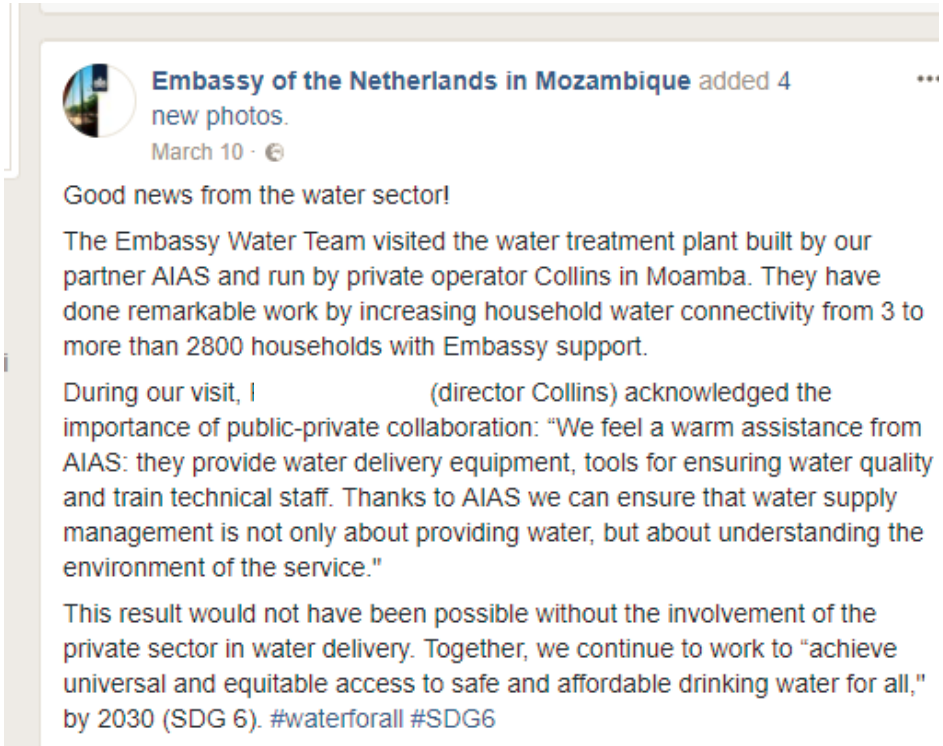
My assessment is that PO15 assumed a role not unlike ASAS fulfilled for DNA[274]: it functioned as 'grease' to let the AIAS and DMF machinery work (cf. Van Woersem et al. 2007: 44). To sustain the DMF and PSP in spite of deep-seated problems, PO15 served as social lubricant for both the water bureaucracy (AIAS) and the private sector (operators). Many of the access mechanisms of which Ribot and Peluso (2003) argue influence one's ability to benefit from water were concentrated in and applied by PO15. This notably included access to various types of knowledge (technical, managerial, financial) and mobile and fixed capital investments (e.g. finance, various kinds of equipment, water system's attributes). These types of investments were often (relatively) small, compared to the large sums of money that other donors made available for rehabilitating one or more water supply systems. But notwithstanding the size of PO15 investments, they were many, and they were provided over a longer period of time. They therefore covered essential smaller or larger cracks and gaps in the entire DMF–PSP chain that have kept popping up, inter alia related to legal and regulatory issues (lack of financial autonomy, unsuitable tariffs), labour (AIAS as unattractive employer), 'business dynamics' (lack of financial-economic and technological knowledge on how to run a water supply business) and investment (lack of private capital, often even for small items).

Considering this role and the way key actors within PO15 fulfilled it, the water-related activities within PO15 were widely appreciated, not least by operators. Operators had to deal primarily with AIAS regarding technical problems or contractual issues, but, said one of them, "...AIAS is a governmental organisation, they have problems that are typical for any governmental organisation in Mozambique. That is also why PO15 is there to help them".[275] In other words, as they knew AIAS often lacked the resources and sometimes the flexibility to help them solve problems, operators stood in close contact with PO15's project managers, who were accessible and whose material and immaterial support helped many of them through critical moments. Operators discussed with PO15 actors not only project activities such as trainings, but also (daily) operational matters, potential pathways to follow and they often asked to help them fix a problem or for other support. PO15 therefore not only used technical means to (temporarily) fix problems, but also applied diplomatic skills to ease the tensions that arose between AIAS and other agents, notably operators. To put it differently, PO15 handsomely mediated the contradictory interplay between the capitalistic and territorial logics of liquid power as they became expressed in the implementation of the DMF–PSP—by being more or less deeply engaged in the power struggles that ensued (of course, behind the cloak of technical and institutional assistance).

[274] See chapter 4, section 4.3.1.
[275] Interview director PB Construções, 22 August 2016.

PO15's main financier, the Dutch embassy, used PSP in PO15 to brand the project favourably in relation to the aid and trade agenda and the SDGs, as the social media clipping in figure 5.5 (see below) poignantly illustrates. But this clipping exemplifies the problem that this chapter started with, the emphasis on access ('for all') through modern, market-based approaches. Especially the phrase that "...this result would not have been possible without the involvement of the private sector in water delivery" is an obligatory and problematic statement. In view of the broader structure, dynamics and politics of the DMF discussed in this chapter, we should rather rephrase it as that without PO15 and other aid interventions, PSP would not have been possible. The same goes for the suggestion that AIAS delivered equipment, tools and training, which in fact came from PO15. AIAS largely lacked the means to take care of these services, while its relations with operators like Collins were often much more tense than this message make-believe.

Figure 5.5— Social media (Facebook) clipping of the Dutch embassy in Mozambique referring to its support to the DMF and PSP in small towns in Mozambique (publishing date: 10 March 2017)



Not less problematic, and just as illustrative, is the clipping's causal inferences between PO15/ EKN support and increasing access to water. It is very plausible that the intervention helped increasing access in Moamba and other towns.[276] But while it is already challenging to quantify increase in access in towns, it is certainly difficult to causally relate PO15 with increased access. Increasing access in towns is attributable to a mix of elements, in which PO15's share has generally been indirect. While the

[276] Not least because PO15 simply provided connection kits to operators, which is arguably the easiest way to increase access—even though some operators I spoke to still sold these 'free' kits to citizens.

EKN and project partners realised this[277], both had to adhere to an accountability regime that had become increasingly focused on quantified results and indicators (see previous chapter). They therefore engaged in creative writing in informal and formal accounts (GON 2017) as they did in the clipping below, by listing access figures and the project in one and the same text, suggesting a causal link that is in fact rather fragile. To respond to a growing desire for quantified results, the EKN also searched for activities that were better suited for quantification, notably 'investments':

> ...thus far we have mainly provided institutional support to AIAS and FIPAG, but with this type of support you cannot indicate how many more people have gained a tap. It is mostly other organisations, such as the World Bank, who profit from that. The country team that reviewed the [water] program here [at the embassy] also already said it would be good to increase investments in infrastructure, because these deliver measurable results. But for measurable results, you need to search for big amounts [of money]. That is why we have made the investments of 2,6 million euro to AIAS.[278]

But even more challenging than this issue of increasing (or in Ribot and Peluso's account, *gaining*) access, is the objective of *sustainable* (long term) access which has become a prominent element in the DGIS water and sanitation policy quoted in the introduction above (GON 2017a). Sustainable access suggests ensuring conditions to *maintain* and *control* access that has allegedly been gained since the project's start. Conditions that the project itself considered crucial for this included the 'stabilisation' of AIAS by helping it obtain financial autonomy and bringing personnel on the organisation's payroll, among other processes. These were not fulfilled, nor was the projected sustainable investment mechanism put in place. Instead, AIAS and operators kept relying on 'one-off' investments by PO15 and other donors. The dependence of operators on PO15 for training furthermore calls into question the sustainability of operations of systems. Inside the intervention, the vision on how to ensure sustainability also differed between project partners. The idea of WWn was that AIAS personnel should be involved in PO15's capacity building activities for operators and itself be capacitated to take over these activities. An AIAS employee agreed, saying that even though PO15 did a good job training operators, "...it is us who need to fulfil that task in the future, not PO15".[279] This vision was acknowledged by the PO15 project manager, but he argued that AIAS was understaffed to fulfil even its regular tasks, let alone join technical training missions to the towns. For WWn this was a major reason to withdraw from the water activities in PO15, early on in the project.

External factors that are "beyond the control of AIAS" and other PO15 partners were mobilised as reasons why the intervention as yet failed to achieve several essential "GO/ NO GO indicators" and other objectives in support of sustainable access (e.g. AIAS et al. 2014: 6; Bouman and Beete 2016). The GOM and state agencies other than AIAS were mentioned as key in preventing AIAS from gaining financial autonomy, setting up the investment fund and approving new tariffs. The way I assess it, is the factors that throw up obstacles for sustainable access are not external to AIAS or PO15, but are inherently part of their structure and *internal* to the implementation of the DMF–PSP mechanism. The contradictory logics are therefore also internalised. Technical intervention sufficed to smoothen the contradictory interplay between these logics as they played out in the implementation, but it did little to change the form of these logics, political as they were rather than technical or economic. Rather

[277] This point was explicitly addressed in a mid-term review of PO15.
[278] Interview EKN employee, 7 February 2017. The investments were spent on emergency works on the water system of Mocuba and were added on top of the original project budget.
[279] Interview AIAS employee, 24 March 2017.

than actively directing AIAS and DMF onto a path of equality, sustainability and the like (see GON 2017a), I suggest AIAS and the intervention were set up and taken along a familiar path designed, financed and driven by aid actors according to their imaginaries, but steered and adapted to the wishes of the GOM and, in this case, local state agents.

This tactic of blaming external factors did allow the project to continue, however. While non-fulfilment of essential goals led to deep frustration on the side of the EKN, a follow-up intervention known as PO35 opened up space and time for another endeavour to stabilise AIAS and operators alike. Once more, tensions were eased, *for the moment*. The orientation could once again become, in the words of Mosse (2004: 640) 'future positive'.

5.6 Conclusions

In the first part of this chapter, I argued that despite a short and problematic first experience with the DMF-PSP as water access mechanism in some of Mozambique's main cities, this mechanism was maintained and its scope even expanded to water supply in the country's small cities and towns. In connecting this chapter with previous ones, I explain this event as an effect that emerged from a strong capitalistic logic of liquid power at work in [1] the Mozambican waterscape and in [2] the bilateral relationship. Regarding the first, powerful water aid agents, notably the WB, were intent on reproducing and expanding the scope of this mechanism and successfully expended money and power towards this end. While this move was legitimised based on an alleged successful application of the DMF-PSP in the past, I assessed this application as deeply problematic. My findings suggest that this decision was rather ideology-driven, rooted in the neoliberal idea that water supply by private operators trumps that by public agencies. But even though established on fragile grounds, it had been installed as formal policy nonetheless, around which AIAS as a new public water agency became established. In relation to the bilateral relationship, the need to bring the DMF-PSP further coincided with the introduction of the aid and trade agenda. This agenda spurred Dutch state agents into embracing market-based and private sector-driven aid processes and interventions. The DMF-PSP mechanism in towns offered an opportunity to align the Mozambique water aid program with this agenda. Even though the fragility of the process was clear, PO15 as a bilateral water aid intervention was set up to help implement the DMF-PSP in small towns.

AIAS faced the difficult task to implement this ideal-type market-based access mechanism in a very difficult socio-material environment. A conducive material environment was essential for the mechanism to work, but the technical state of water supply systems in many towns was poor. Many systems were ill-suited to cope with the particular biophysical conditions in towns and hence, unable to produce and supply a sufficient quantity and quality of water year-round. The market was no less fragile; there were few private or other 'autonomous' operators with know-how, equipment and/or investment capital. Moreover, AIAS was itself struggling with its own organisational development. It lacked personnel and budget to make significant strides. It thus relied, like other public water agencies, mostly on aid agents like those in PO15. In essence, PO15's task was to help develop the 'institutional' environment (i.e. AIAS and the formal-legal roles it had to fulfil) and the market (i.e. private operators) so that the two work in complementary ways—a quintessential 'aid and trade' assignment so to say.

However, I contend that PO15 rather acted as a mediating device in the contradictory interplay between the capitalistic and territorial logics, as they became expressed in this implementation. These became expressed, firstly, in power struggles between AIAS and operators. They inherently relied on each other, but also often collided. AIAS had to create an enabling (material and legal) environment in which operators could expand their networks and customer base, and thus render their systems financially viable. But with very few resources, this proved difficult and often not possible. Operators on their part generally lacked investment capital and not seldom know-how. This inevitably led to tensions. More than once, PO15 eased tensions by fixing small, often technical problems while it addressed a lack of capacity by training. Secondly, this contradictory interplay was noticeable in power struggles between AIAS and operators on the one hand, and the GOM and central state, local and national state actors as well as citizens on the other hand. The latter actors were crucial to make the DMF work, but their involvement was not always—or often not—according to their 'formal roles'. Political agendas of the various state actors and local politicians often made them become more deeply involved than desired by operators and AIAS, and in ways that undermined rather than facilitated implementation and operations. These struggles were arguably far more difficult or indeed, simply impossible, for PO15 to settle; technical or technocratic solutions could not solve issues that were inherently political, whether on the local or national level. PO15 actors could and did prepare documents for essential formal-legal matters to be arranged, such as for AIAS to obtain financial autonomy, the approval of new tariffs and arranging investment funds. However, these were deeply political matters that, once more, hinged on centralised decision-making.

On the whole, I conclude that PO15 very much functioned as 'grease' to let the AIAS and DMF machinery work. This is not to say that its role as discussed here was insignificant, on the contrary. It allowed the implementation to move on and helped the overall goal of increasing access to water in quite some towns. Yet, AIAS and PO15 were themselves established in what had already turned out to be a problematic terrain of liquid power struggles. The contradictory interplay between the two logics was clearly noticeable in previous implementations of the DMF-PSP mechanism, and was 'exported' to the towns that AIAS became responsible for. These contradictory logics were therefore internalised in the set up of AIAS and PO15. While it could technically ease some of the tensions arising as a result of these logics clashing, the nature of these logics and the way they operated was very much left intact; it could not render them 'complementary'. And this, I suggest, calls into question the sustainability of this mechanism and its capacity to ensure access for the long term.

Chapter 6

Powers and politics of water (aid) exclusion

6.1 Introduction

This chapter's focus is on what Hall et al. (2011) call 'powers of exclusion' in the Mozambican-Dutch water aid relationship. Hall et al. (ibid: 7) inverse Ribot and Peluso's (2003) definition of access to natural resources that informed the previous chapter, and refer to exclusion as "...the ways in which people are *prevented* from benefiting from things". In this chapter, I examine three empirical events that, I argue, produced exclusionary hydrosocial effects and reveal powers of exclusion at work in the bilateral (water) aid and trade relationship.

The first event, examined in the next section, is the debt crisis that broke out in Mozambique during my fieldwork in 2016. This crisis, which coincided with a politico-military and environmental crisis, produced immediate and longer-lasting exclusionary effects in the Mozambican waterscape. This crisis poignantly illustrates the workings of the political economic system as it has developed vis-à-vis global capitalism, and how the Dutch and Mozambican political economies are connected other than through its aid relationship. More specifically, the crisis illuminates once more how class power and state power in Mozambique have become deeply intertwined, in the sense of Frelimo-cum-GOM members having been able to deploy the state apparatus in pursuit of political agendas that have benefited a few economically to the expense of the majority.

The second and third events, discussed in sections 6.3 and 6.4, embody so-called 'ambient exclusions'. These are powerful construals driven by Dutch state and non-state agents, meant to spur bilateral aid and trade processes and interventions. One such construal is an idealised representation of the 'Dutch water sector', which is extensively promoted in global water networks and in foreign countries like Mozambique. It is aimed at selling hydrosocial concepts, products and services 'made in Holland' to foreign agents. The other is the concept of water and sanitation 'business models'. These models are portrayed as innovative, financially viable ways to increase access to water and sanitation. I argue that these events reveal ethnocentric tendencies, in the sense that they take the own political economic and hydrosocial context rather than that of the host as point of departure—despite market pundits' claims to the contrary.

These events, rooted in a capitalistic logic of (liquid) power, have narrowed down rather than opened up agent's imaginaries and pathways for hydrosocial development. I show that these were therefore contested events and countervailed by agents based on social, political and environmental, rather than economic, grounds.

6.2 Capitalist crisis and its hydrosocial repercussions

In chapter 1, I mentioned the debt crisis that broke out in Mozambique in 2016 and discussed some methodological implications this crisis had for my fieldwork. This crisis not only had implications for my fieldwork, but much more importantly, for citizens and water (aid) agents in Mozambique. In this section, I show how this capitalist crisis, which coincided with a politico-military conflict and a water crisis, not only had major hydrosocial repercussions, but also severely restricted the agency and strategic options of various actors involved in hydrosocial development. This crisis illuminates how the production of the Mozambican waterscape is inextricably linked to that of the broader political economy and how it has incorporated a tendency to produce exclusionary effects. This crisis had major repercussions and triggered fierce criticism aimed at the economic and political elites and their international allies that combined created the conditions for this capitalist crisis to occur.

6.2.1 The debt crisis as capitalist crisis: background, origins and contestation

The debt crisis in Mozambique broke out in April 2016, around the same time that I arrived in the country for a yearlong fieldwork. It was triggered not so much by the then receding global financial crisis of 2007-2008 as by the disclosure of hidden debts. The latter related to loans contracted for three newly established private companies managed and controlled by state agents and which were backed up by government guarantees. One loan worth $622mn was borrowed from Credit Suisse and VTB Bank in the first half of 2013 for a state company that was just established, called Proindicus. Second, an amount of $850mn was raised by the sale of Eurobonds for another state company, Empresa Mocambicana de Atum (EMATUM), set up in August 2013. A third loan of $535mn was provided by VTB Bank to Mozambique Asset Management, set up in May 2014. All three loans were secretly negotiated and illegal, in the sense that neither the Mozambican parliament nor IFIs and donors were informed or asked for consent. The EMATUM loan was already disclosed in 2013, and met with mild criticism by some donors and the International Monetary Fund (IMF). The two others, worth $1.2bn, were kept secret until April 2016, when the *Wall Street Journal* (WSJ 2016) was the first to disclose their existence.

From then on, events rapidly succeeded each other. After the disclosure, the IMF, the World Bank and the major bilateral donors all suspended financial aid to the Mozambican state. What followed was a rapid devaluation of the country's currency, downgrading of its credit rating to junk level and significant inflation. The government's debt-to-GDP ratio increased from 88 per cent to 112 per cent between 2015 and 2017, while interest on debts and future loans rose sharply. Economic growth fell to an average of 3.8 per cent annually. Next to reduced tax income, the government also missed some $400mn. of donor aid, impacting on the state budget and state expenditures. Despite this, the state budget has been expansionary since the crisis, ironically with the deficit between income and expenditure financed by more debts (Francisco and Semedo 2017). A growing part of the budget has been used to service debt, while other government investment expenditures fell from 870bn MZM to some 55bn MZM[280] between 2014 and 2017 (CIP 2018). Meanwhile, the state resorted to austerity measures. Among these were the lowering of budgets for social expenditures and a moratorium on hiring new state personnel. It also reduced or eliminated subsidies, including on basic goods such as wheat flour.

[280] The Metical fluctuated post-crisis, but in late 2016 one US dollar equalled approx. 72 MZM.

Living and working conditions for many Mozambicans further deteriorated under the crisis conditions. This led to great unrest in Mozambican society. In particular, domestic and foreign civil society organisations demanded that the burden of the debts should not be shoved onto the Mozambican people.[281] But this is precisely what happened, with the illegal debts made legal through inclusion in the state budget. This fuelled unrest and contestation. Increased oppression and (threats of) violence were tactics used to prevent major protests (C.H. Büscher 2019a).

A critical discussion followed within and outside Mozambique on how to interpret and explain the debt scandal and the resultant economic crisis. In particular, the question who was and must be held responsible for the debt scandal was widely discussed. Members of the previous, Guebuza-led government (2010-2015) and certain actors within the state are generally held primarily responsible. It is widely shared that the illegal contracting of such huge loans would not have been possible without the centralised and exclusive political structure created and maintained by Guebuza and his allies (Africa Confidential 2016). One news item quoted Rui Baltazar, one of the "founding figures of Mozambican law" saying "Mozambique is currently plunged into 'a deep political, economic and social crisis', with the country shrouded in 'corruption, nepotism and social exclusion'" (All Africa 2016).

Hanlon (2017) lays part of the blame on the role of IFIs and donors in Mozambique's integration into global neoliberal capitalism. According to him, "...the US$2.2 billion deal was the direct result of conditions carefully created by the same lenders and donors during four decades" (ibid: 753). Most donors made their aid in the 1980s and 1990s conditional on acceptance of IMF and World Bank programmes, notably the SAPs outlined in chapter three. As a group, he argues, they have had a major role in making the GOM embrace a development trajectory rooted in contemporary capitalism. The political and economic elite in Mozambique were incentivised to rapidly open up its economy to foreign business and investments, which it did in often obscure ways. A secretive and rent-seeking culture gradually developed, for a long time condoned by donors. Massive flows of FDI have typically been negotiated between the domestic ruling class and international agents such as industrial and financial capital, a process which also underpinned this debt scandal, according to Hanlon (ibid).

Castel-Branco and Massarongo (2016a; 2016b) do not causally relate this crisis to conditions imposed by donors in the past, but they do argue that this crisis stems from the way in which the Mozambican political economy has developed vis-à-vis contemporary (neoliberal and financial) capitalism. That is, they point at how domestic and international elites have come to organise, and reap the benefits of, an economy increasingly focused on mineral extraction and associated financial speculation. Debt accumulation has been part and parcel of this system, and according to them, the latest debts must therefore not be considered isolated incidents. Even before the illegal loans were contracted, the state had already tripled its total public debt between 2006 and 2015 from $3.5 to $10bn. The share of commercial debt, with higher interest rates and shorter payment periods, had increased eightfold over the same period to $2.4bn (ibid). This and the extractive economy had spurred the development of a speculative financial system—the fastest growing sector in Mozambique at the time (Santos et al. 2017: 4)—in which financial assets were given preference over real investments (Castel-Branco and Massarongo 2016a; Castel-Branco 2014).

[281] See e.g. FMO et al. (2016) or this international statement to the IMF by national and international groups.

Indeed, as both Hanlon and Castel-Branco and Massarongo suggest, there are always at least two parties involved in debts, i.e. creditors as well as debtors. The banks that made possible and supplied the debts, Credit Suisse and VTB Bank, have also been subject to fierce criticism and sued for alleged loan pushing and odious debts. Moreover, there have been various intermediary agents servicing the debts, including a so-called Dutch *brievenbusfirma* or letterbox company, which enabled the EMATUM deal. Letterbox companies are used by companies and investors as a special purpose vehicle for channelling investments to evade paying taxes. EMATUM BV, established and managed by trust office TMF in Amsterdam, issued bonds worth $850mn., which Credit Suisse and VTB Bank sold to investors worldwide. The money raised was subsequently lent to EMATUM SA in Mozambique. Later, these were turned into government bonds, thereby socialising these debts.

Mozambican newspapers rarely dedicate space to events happening in the Netherlands, and neither do Dutch newspapers on Mozambique, but this event was widely covered in both Mozambican and Dutch news channels (see e.g. Canal de Moçambique 2016 and NRC 2016 in figure 6.1). Questions were asked in the Dutch Parliament about this case, as trust office TMF was accused of not having carried out due diligence in the EMATUM deal (GON 2016b). The Dutch central bank promised an investigation into this deal, but so far it has not reported on progress or outcomes. This letterbox company may have been a minor player in the overall debt scandal, but it illustrates, in my view, the interconnectedness between Mozambique and the Netherlands, through a financialised capitalist system.

This crisis can thus be considered a capitalist crisis. A question that keeps scholars in political economy and political ecology busy is how state and non-state actors respond to crises and whether these crisis responses reproduce or change the status quo (Ekers 2015; Ekers and Prudham 2017; 2018). On the one hand, with the GOM resorting to austerity measures and socialising the debts, it chose not to radically change the political economic situation. On the other hand, this crisis triggered many actors in countervailing these measures and the forces that have co-produced this crisis. This pressure from civil society, as well as IFIs, donors and many other agents, intensified friction among the ruling elite. However, political power in Mozambique remained firmly with this elite (Macuane et al. 2017). As aforementioned, Frelimo goes a long way to settle internal frictions in order to remain in power and to protect established patterns of rent distribution. Thus, instead of critically investigating the scandal and perhaps holding some of its own group members responsible, the GOM attributed the crisis to adverse global economic conditions. Only under intense pressure of aid and civil society actors did the GOM agree with an international audit into the illegal loans, but then it frustrated the work of the auditor. And when the GOM had the chance to challenge VTB Bank and Credit Suisse in the courts of London for loan pushing, it chose not to do so, since it then would have to disclose information on the deals that could jeopardise the ruling elite's unity (ibid: 22).

This leads me to conclude that even though the specific capitalist development route has been subject to fierce criticism after the debt crisis, it did not lead to a fundamental rupture in power relations or in the workings of the political economy in Mozambique. The next section replaces this political economic lens for a political ecology lens and examines the hydrosocial implications of this crisis.

Figure 6.1—Front page and page 2 of Mozambican newspaper Canal de Moçambique of 8 June 2016. The heading on the front page *(Apanhados)* translates as 'Caught' and the three persons below the heading are, from left to right, the former President Armando Guebuza, the former minister of Finance Manuel Chang, and the former minister of Defence and the current President Felipe Nyusi. They were thought to be central figures in organising the illegal loans.

The section on the right side of the front page (see extension) has three bullet points: the first mentions the letterbox company headquartered in Amsterdam, the second mentions that questions were asked by Dutch parliamentarians to the Dutch minister of Finance about his viewpoint of Dutch involvement in the 'theft of 750 million euro from the Mozambican people' and the third mentions one Dutch newspaper that states that EMATUM was a symbol of the largest frauds on the African continent. The title on the second page reads 'The tuna that the Dutch do not accept' and a picture of the article in the Dutch newspaper NRC titled 'Robbery worth millions in Mozambique was partly channelled through Amsterdam'.

6.2.2 Repercussions for hydrosocial development and water aid relations

This subsection examines the profound impact the crisis had on the governance and management of water in Mozambique and on the bilateral water aid relations, and shows how it confined the agency of actors on both sides of the bilateral relationship.

To start with, austerity measures impacted heavily on state water budgets. This was in spite of the government's promise that investments in social sectors would not be affected post-crisis and despite water being a priority sector in the government's five-year Economic and Social Plan (CIP 2017). When it revised the budget in response to the crisis in 2016, the government significantly reduced its water budget. It even reached "…an all-time low in the 2017 budget (…) as a consequence of the 2016 economic crisis" (UNICEF 2017: 7). According to UNICEF, the government contributed 0.9bn MZM to the water sector in 2016, which represents 12 per cent of expenditures in the sector. While the state contribution to the water sector budget had always been low, 2014 and 2015 were different in that its contribution amounted to some 35 per cent of total expenditure (UNICEF 2016; 2017). In light of this, the decrease in 2016 and 2017 is substantial and has considerably affected public water activities. As one employee of the central state agency for water supply and sanitation DNAAS explained in 2017:

> We have two types of budgets, an external one and an internal one. The internal budget, from the government, went down, down, down. I am concerned for this year, especially regarding the overall management of the department (…) Management is not going to be easy this year, in terms of making things work, in terms of paying for energy, fuel, security, operations and maintenance of the department, travel of staff to the field. I feel that we will have to be more strategic in what we spend our budget on.[282]

AIAS, the public water supply and sanitation agency discussed in the previous chapter, faced the same problem, said its technical manager:

> Our budget for this year has diminished and for next year it is going to be even worse. If I ask the financial department about our debts to contractors, then they say that the debts of this year will be added to those of next year.[283]

Thus, activities in the new year were already compromised before they had started, as their debts had to be covered by the following year's budget. It made AIAS rely more, not less, on its aid partners, among which those in PO15. On top of this, it remained to be seen whether, and when exactly, public water agencies would receive the lowered state budgets allocated to them. This uncertainty played its part in postponing, delaying or abandoning projects, and contributed to already low project execution rates in the water sector—the lowest of social sectors (CIP 2017: 8).

The deteriorating macro-economic conditions as a result of the debt crisis had various other kinds of hydrosocial implications. The government stopped providing guarantees, making it nearly impossible to contract loans or to attract investors for major water supply[284] or other types of water infrastructure:

[282] Interview DNAAS employee, 21 February 2017.
[283] Interview AIAS employee, 7 November 2016.
[284] Interview DNAAS employee, 9 August 2016.

> For the infrastructure we need to build, such as small and medium dams, dikes and basin plan studies that would indicate what kind of infrastructure is needed in each of the basins, there are not enough resources. And even for big dams we need to go out and look for funds. In the actual environment no one is able to give us support, not even the private sector. All ask for guarantees, which the government cannot now provide. But this is what funders ask for, they want to know whether they get their money back in case they finance infrastructure.[285]

With regard to PO15, the crisis conditions made it more difficult to meet some of the project's objectives, which were deemed important for the sustainability of AIAS and the DMF. First, the GOM's moratorium on new state personnel complicated the inclusion of personnel funded by PO15 on the payroll of AIAS. Second, the crisis may help explain why the proposal for changes in the tariff structure received no approval from the GOM. People faced price rises for all kinds of essential services, including bread and transport. Such price rises for essential services had led to massive unrest and protests in Maputo and elsewhere in the past, and the GOM was keen on preventing protests this time, inter alia by regulating prices for essential services. However, as discussed in the previous chapter, water operators required tariff increases to make their businesses viable even in 'normal' times, let alone during the crisis. Indeed, the crisis created additional obstacles for operators that aggravated their already precarious situation. Of these obstacles, inflation was arguably the worst. Especially electricity prices had risen quickly, but also prices of chemicals and other goods and materials had gone up, significantly raising operational costs. This provided an incentive to save on costs by not paying the electricity bill, reducing the hours of water supply, lower the use of chemicals or deter paying staff.[286] Moreover, PO15 supplied operators with materials for fixing and maintaining the water systems, but these materials had to be imported. Such imports required foreign currency, which the Mozambican Central Bank temporarily stopped issuing, leading to goods delivered with a severe delay or not at all.

The debt scandal also led to an 'aid crisis' or 'trust crisis' between the Mozambican government and its international partners (Orre and Rønning 2017). Given that these partners finance over 90 per cent of the water sector's expenditures (UNICEF 2017), such a breach of trust had profound hydrosocial impacts. Financially, donors suspended direct support to state water entities and common funds. This translated into water projects and programmes being put on hold, delayed or even called off entirely, all under severe time pressure:

> I am frustrated now; due to the money problem resulting from the national debt, everything will change. The whole rationale will be changed again. And because some donors have already decided to reduce their investments, we don't have time to think strategically about how to move forward under the current circumstances, how and where exactly it would be best to reduce investments. Tomorrow we just need to cut, cut, cut…[287]

The GON cut €5mn. of its €34mn. budget for 2016 entirely and redirected another €5.2mn. that was meant to be spent through the national treasury to programs not financed this way (GON 2016c). The contribution of the Dutch embassy (EKN) for DNA through ASAS V (the fifth program of the Sector Wide Approach funded by the Dutch state) was frozen as a result. Still, the impact on the Dutch water

[285] Interview DNGRH employee, 16 November 2016.
[286] Interview PO15 project manager, 10 April 2017.
[287] Interview DNAAS employee, 11 May 2016.

aid program was relatively small, as the EKN had already suspended part of the ASAS V budget as a result of the bilateral frictions discussed in chapter 4.[288] The Dutch state had also already pulled out of the common fund for rural water supply after the introduction of the aid and trade agenda in 2013, and it considered AIAS and FIPAG corporatised water agencies not directly under state control (ibid), allowing the projects with these two agencies to continue.

But the impact was not just financial. It also affected power relations between Mozambican water agencies and donors. When donors suspended direct funding to the state after the debts were disclosed, senior water civil servants at once had another mission to fulfil: making sure donors were kept on board. Endless meetings and negotiations followed about how donor support could continue. This was a frustrating and tiring process, according to one of them:

> The pressure on us became too big and reached a point that somehow, you feel that you have lost the energy to fight any further. But as a team we tried to follow, to respond and to run, run, run—donors asked us to produce this or that, then we tried our best and managed to come to some sort of compromise.[289]

Building trust and keeping donor budgets somehow available shaped the everyday management within DNAAS, but this stifled aspirations for a more autonomous, less donor-driven course:

> ...we now need to develop trust and that could perhaps best be gained by hiring external staff accepted by donors. The course we were on was actually to gradually free ourselves of this relationship—one in which you depend heavily on external staff and not your own —but under these circumstances we must do this.[290]

Negotiations between civil servants and donors often led to changing aid modalities. Instead of direct money transfers, for instance, a third partner had to become involved. The latter, on behalf of donors, would receive and distribute aid money to (projects of) water state entities, and take care of project management and accountability matters. While on the one hand this ensured a continued flow of aid money into water activities, on the other hand, it further complicated already complex water governance arrangements in Mozambique. According to one EKN employee:

> The crisis has caused such a shock that things are profoundly changing again. You could say we go thirty years back in time; we [donors] all carry out our own projects again and some hire UN organizations for the implementation of projects, which means putting a lot of money in overhead. The IMF and the G19 speak of a fundamental breach of confidence and are no longer doing business with the Mozambican government. They first want to see trust restored. Financially, the country is pretty much bankrupt.[291]

In a letter to the Dutch parliament, the (then) Dutch Minister of Foreign Trade and International Cooperation stated that "there can be no *'business as usual'"* and that "in the short term, confidence-building measures are required that demonstrate that the Mozambican government takes this matter seriously" (GON 2016c: 1). In short, the debt crisis had immediate and far-reaching hydrosocial implications and also complicated the bilateral water aid relations.

[288] See section 4.3.1.
[289] Interview DNAAS employee, 21 February 2017.
[290] Interview DNAAS employee, 11 May 2016.
[291] Interview EKN employee, 27 June 2016.

As if this were not enough, hydrosocial development was further compromised by two other 'crises' in 2016/ 2017, a politico-military conflict and an environmental/water crisis due to the El Niño effect. The politico-military conflict ensued between the ruling party Frelimo and its political rival of old, Renamo. It escalated into armed attacks and periodic fighting in Mozambique's central region in 2016, effectively isolating it from the rest of the country. The El Niño effect caused very little rainfall in large parts of the south and in some parts of the north of the country, while other areas received above-average rainfall, leading to severe droughts and floods. These events aggravated the uncertainties caused by the debt crisis, argued Francisco and Semedo (2016), and synthesised into very dire hydrosocial conditions. These conditions manifested themselves unevenly over Mozambique's waterscape, as did some of the GOM's interventions to mitigate its effects. The isolation of Mozambique's central region as a result of the conflict prevented water aid activities from being carried out here, such as in towns that were part of PO15, while it is here where (water) poverty levels are highest (WB 2018; 2020).

What arguably best illustrated this unevenness, was what Mozambican newspapers and state agents spoke about: a water supply crisis in the capital of Maputo. Due to a lack of rain, the Pequenos Libombos dam, which is the main source for water supply in Maputo, reached critical water levels in 2016. So much so, that the Maputo water supply company had to drastically reduce its supply. It implemented another supply schedule, with neighbourhoods officially receiving water on alternate days. In practice, water supply was much more random and unpredictable, with low-income households suffering most since they largely lacked equipment such as tanks to store water. A temporary group of high-level (water) bureaucrats was formed, led by the minister of public works and water management, to deal with this crisis and to come with emergency solutions. Among these solutions was the reopening of abandoned boreholes, to increase water capacity on the short term. The minister and high-level water bureaucrats visited donors to help finance these works, among whom the Dutch embassy, which contributed approx. €2mn.[292]

Surely, this proved to be an exceptional situation for those parts of Maputo that have direct or indirect access to piped water services. But that this event was called a crisis, and received such special treatment, was quite at odds with the rest of the country. Many more places suffered as much, or more, from drought (or floods) and a majority of Mozambican people have always lacked access to piped water services, or even to reliable water sources. A similar criticism was voiced at a meeting of a donor group on water and sanitation, that is, why so much effort was put into solving this water 'crisis' as opposed to the many other places in Mozambique that were at least as much suffering from drought (or floods) and received little or no extra help. The director of DNAAS replied to this criticism and legitimised the emergency measures referring to Maputo as the national capital, which is home to many people and important institutions such as ministries and the foreign diplomatic corpses.[293] While not downplaying the severity of the situation in some parts of Maputo, this event clearly illustrates the selective behaviour of agents in what is and is not called and treated as a crisis.

In all, the debt crisis in Mozambique in 2016 and 2017—the time that I did fieldwork—provided a startling but unique insight into the workings of the Mozambican political economy and how hydrosocial development is implicated in this system. The debt crisis may have been an exceptional

[292] Interview EKN employee, 13 April 2017.
[293] Field notes, 24 February 2017.

event, but was generated by processes that are structural rather than exceptional; they illustrate how the Mozambican political economy has been organised in ways that provide a small elite access to many resources, not least those of the state apparatus, excluding the majority. Even before the debt crisis, Castel-Branco (2014) stated the following in an analysis of the Mozambican political economy:

> The levels of porosity, the direction and the high capital costs of the current development strategy, the volatility of commodity markets and the role of the debt in restricting development options through its impact on the capital market may all pose challenges to Mozambique's future macroeconomic stability as great as or greater than those of the second decade after independence, which resulted in two decades of IMF-driven stabilisation programmes. The present strategy may be contributing to limiting the options of future generations, since future resource inflows are already earmarked for financing the ups and downs of indebtedness in the present.
>
> Ibid: S39-S40

The 2016 debt crisis corroborated this statement. He also argued that this system "crowded out other development options" (ibid: S39), a point that this section confirmed for water. Indeed, it restricted the agency and strategic options of various state and non-state actors involved in hydrosocial development, from both sides of the bilateral relationship. Yet, this section also showed the deeply contested nature of this crisis and its origins, and how it triggered actors to call for a fundamentally different hydrosocial development course, one that opens up rather than narrows down access to resources like water.

6.3 Ambient exclusions I: "Bring in the Dutch"

This section and section 6.4 investigate 'ambient exclusions' (Hall et al. 2011) prevalent in the Mozambican–Dutch water aid relationship. With ambient exclusions, Hall et al. refer to the management of socionatures according to an approach that has become "ubiquitous" and which is often legitimised by "notions of the common good", all the while having "quite uneven social effects" (ibid: 20). In the context of this thesis, I refer to ambient exclusions as influential, but contested construals (or a set of construals making up imaginaries) on how water ought to be seen, treated and managed. This and the next section each take one construal, driven by Dutch agents and both rooted in a capitalistic logic of liquid power, as departure point.

This section focuses on attempts by Dutch state and non-state actors to render powerful supposedly 'Dutch' hydrosocial construals, through a process I call 'imagineering'. The next section (6.4) focuses on the concept of 'business model' applied to water and sanitation, which has popularised in the aid and trade era. Both sections aim to make the ostensibly ambient (or familiar) character of these processes strange, by unveiling the ethnocentric tendencies that underlie them. Ethnocentric in this context refers to an "uncritical preference for one's own mores and culture" (Bidney in Lemaire 1976: 93). In line with this, I argue that these ambient exclusions motivate Dutch aid actors to take the own political economic and hydrosocial context rather than that of the host as point of departure for hydrosocial development. This makes these processes contested and has spurred agents at both sides of the relationship to countervail these tendencies and to offer alternative ways of thinking and doing in relation to water and sanitation services.

6.3.1 Imagineering the Dutch water sector in a multi-scalar waterscape

The emergence of what Heun et al. (2003: v) dubbed the Netherlands as "a 'champion' in water management" was discussed as part of the historical background given in chapter 3. To briefly recall, section 3.5.4 argued that from the late 1990s, the Dutch nation-state was increasingly profiled as a domain of global water expertise. As part of this, Dutch state and non-state agents were positioned as experts in tackling problems pertaining to the 'global water crisis'. This process occurred in a globalising water governance context and was driven by an expanding world market for water products and services. The Netherlands Water Partnership (NWP) was established to help position and profile the Dutch water sector abroad. Elsewhere (C.H. Büscher 2019b) I use the term 'imagineering' to describe and analyse this process of positioning and branding the Dutch water sector (DWS) abroad, in order to increase the competitiveness of Dutch water agents in the world market and to strengthen their power position in global water governance networks. Imagineering is a portmanteau of imagining and engineering. In relation to the DWS, it involves construing an imaginary of (parts of) the Dutch waterscape that should help persuade foreign agents to "bring in the Dutch" (Stravens 2018) and to help 'engineer' foreign waterscapes using hydrosocial concepts and products invented in the Netherlands. This subsection examines what this process entails.

The DWS imaginary connects to a grander project of state-building and building a national identity, with the Netherlands portrayed as a quintessential 'water nation' (Ovink in Dijkshoorn et al. 2018). The

imaginary emphasises the historical link between water and the country, evidenced by statements such as that "Delta management has been core business in the Netherlands for centuries" (NWP 2014: 9) or, as part of "the story of water technology", that "water treatment is just as much a part of our DNA".[294] It creates subject positions of other, supposedly similar waterscapes such as Mozambique that lie at the downstream end of rivers, which are labelled 'Delta countries'. These Delta countries are said to face similar problems, notably population growth, urbanisation and climate change, and 'building blocks for a sustainable delta' allegedly apply to all of them, including 'innovation', an 'integrated approach' and the 'anchoring in legislation and depolitization' (ibid: 6-12). Dutch hydrosocial approaches such as 'Room for the River', artefacts like the Delta Works, or 'smart' water technologies function as material support for these discursive claims. Producing this imaginary links up with a place-branding project of the Netherlands as a whole. The label 'Holland' and a logo in the form of a tulip were part of this project, and these were also often used in branding DWS-related items.[295]

The Dutch state is a major driver behind, and financer of, this process of imagineering the DWS. It also fits especially well with Dutch state policies, projects and accumulation strategies launched in the 2010s.

Figure 6.2—The picture above shows promotional items on the Dutch water sector, handed out at the WISA biannual conference in 2016 and Aquatech Amsterdam in 2017. The pictures below and on the next pages show the Holland Pavilion at the Aquatech Amsterdam and a Dutch company branding itself and its products (under the slogan "turn your (waste)water into profit") as part of the Dutch water sector. The rest of the pictures show other states branding their water sector, including Great Britain, Scotland, Denmark, Korea and Taiwan. (Source: pictures by the author)

[294] See "Dutch water technology; our story" at the website www.dutchwatertechnology.com.
[295] The Holland and tulip logo was recently replaced by a new logo, but had long been used for national branding purposes.


GREAT
BRITAIN & NORTHERN IRELAND
GREAT
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SCOTLAND
SCOTLAND
Upgraded efficiency by innovative design


SOLID SOLUTIONS IN A FLUID WORLD
nijhuis INDUSTRIES
nijhuis INDUSTRIES
"Turn your (waste)water into PROFIT"
"Turn your (waste)water into PROFIT"
H2Ozone


PAVILION OF
DENMARK
PAVILION OF
DENMARK
AQUA
kamstrup
cembrane
QL-TURBO
let's work together
DANISH WATER TECHNOLOGY
IWA World Water Congress and Exhibition 2020
Pavilion of Denmark

Whether the aid and trade agenda, the proclamation of water as a so-called economic 'Top Sector', or the interdepartmental 'International Water Ambition'[296], these state initiatives were more than before driven by a capitalistic and nationalist logic, or so I argue. They emphasise the importance of water for domestic economic ends, the need for market approaches to solve water crises and water as a national symbol and pride. Construing the DWS occurs online, through various websites[297], as well as in physical spaces such as international and national water conferences and associated trade and exhibition fairs. At such fairs, Dutch water organisations typically display their products and services in booths situated around a central, so-called 'Holland Pavilion', coordinated by the NWP. Information on the DWS is displayed, meetings and cocktail events are held here, and NWP personnel hand out various kinds of DWS-related promotional items, from leaflets to buttons (see figure 6.2).[298] Incoming and outgoing aid and trade missions are other ways of forging relationships and displaying what the DWS has to offer.

The Dutch state appointed a 'Special Envoy for International Water Affairs', who personifies the project of imagineering the DWS. The current Special Envoy, Henk Ovink, was appointed in 2015 with economic diplomacy defined as his key task, which means "...to reinforce Dutch ambitions in the water domain [and to] contribute to boosting the international market position of Dutch know-how and expertise" (GON 2015). He took over from the King of the Netherlands, Willem Alexander, who fulfilled various functions in global water governance networks when still a prince[299] and who was also widely considered an icon of the DWS. As the DWS 'ambassador', Ovink has travelled the world extensively and has been an invited guest and/or speaker at many water meetings and conferences.

[296] See chapter 3, section 3.6.
[297] Such as dutchwatersector.com, dutchwatertechnology.com, netherlandswaterpartnership.com, waterallliance.nl and watertopsector.com.
[298] Field notes WISA, 15 – 18 May 2016; field notes FACIM, 31 August 2016; field notes Aquatech Amsterdam, 2 November 2017.
[299] He was the patron of the Global Water Partnership, chair of the 2000 World Water Forum held in The Hague and chair of the United Nations Secretary-General's Advisory Board on Water and Sanitation (UNSGAB). See Royal House of the Netherlands website: https://www.royal-house.nl/members-royal-house/king-willem-alexander/preparing-for-the-role-of-monarch/areas-of-interest-until-investiture. (last accessed 18 September 2020).

Among these was the biannual conference of the Water Institute of Southern Africa (WISA) in May 2016 that I attended for fieldwork purposes. One session I participated in illustrated Ovink's approach. He delivered a flashy presentation from a 'global perspective on water', listing numerous water problems that combined make up the number one 'global risk', in line with reports published by the World Economic Forum (WEF 2015; 2016). He summarised this global risk as 'a clear business case', based on calculations of the economic damage caused by water problems. He presented a multi-dimensional 'transformative approach' as the way forward, at the core of which is water pricing. If implemented across the globe, he argued several times, water pricing will improve water security.[300] His insistence on water pricing did not emerge out of the blue. Under the more common label 'valuing water', it was put forward as a panacea by another global water network of which he was part: the UN/World Bank High Level Panel on Water (HLPW 2017: 2). The HLPW was launched at the 2016 World Economic Forum and Ovink functioned as 'sherpa' to the Dutch Prime Minister Mark Rutte, who was a member of the panel. This was another platform used to promote the DWS in more or less overt ways (NWP 2019; HLPW 2018).

The message that Ovink and other Dutch actors sent out did not go unnoticed; a New York Times article, for instance, talks at length about how the Dutch see "climate change and rising seas as opportunities for, rather than drags on, its economy", and that "the world is watching" the Dutch (Kimmelman 2017). A magazine called *strategy+business*, in an article titled "Water Experts for the World" reports on how "The Dutch turned adversity into a compelling economic opportunity" and suggests that "other countries could do the same" (van der List 2019).

Other countries in fact do the same; various platforms similar to the NWP have been established to imagineer (parts of) their waterscapes.[301] One platform, the United Kingdom Flood Partnership (UKFP), was even launched in order to "...compete with the Dutch in improving the UK's flood skills narrative" and, in doing so, to gain a bigger share of this "commercial market worth billions of pounds" (UKFP 2017). At the aforementioned biannual conference of WISA, I learned about and observed how Denmark imagineered its water sector in relation to its development policy which is similar to the Dutch aid and trade agenda. The Danish state had just closed its embassy in Mozambique to focus entirely on South Africa, and at the conference, it organised a reception to launch and celebrate a 'Strategic Water Sector Cooperation Program' between the Danish and South African governments. This programme aimed to

> ...facilitate institutional relationship building, knowledge sharing, exchanges of experiences and capacity building, while paving the way for public-private partnerships, with the possibility of introducing Danish know-how and technology that underpins a social, economic and environmentally balanced development of the water sector in South Africa.[302]

[300] Field notes WISA, 17 May 2016.
[301] Such as the Danish Water Forum, the France Water Team and the French Water Partnership, the German Water Partnership, the Portuguese Water Partnership.
[302] Field notes WISA, 16 May 2017.

In an accompanying speech, the Danish ambassador said that countries like South Africa could very well copy the Danish water supply system. This system follows a corporatised model with publically owned water companies that are run in a financially accountable manner, as if they were private companies.[303] A statement like this could have just as well, and has in fact, been uttered by Dutch actors.[304] It reveals how imagineering waterscapes other than the DWS are rooted in state policies, projects and accumulation strategies similar to the ones propagated by the Dutch state in the 2010s, increasingly focused on 'the self', trade and market-based approaches. Moreover, this semiotic terrain of power struggle on the global scale seems to be dominated by (actors from) industrial and emerging economies. A walk across the 2017 edition of Aquatech Amsterdam, self-proclaimed "the world's leading water trade show" that accompanies the biannual Amsterdam International Water Week (AIWW), illustrated this well. A large Holland Pavilion was accompanied by pavilions and booths of other

Figure 6.3—Above: booklet promoting Dutch water technologies for the Mozambican water sector. Below: the Netherlands Water Pavilion at the WISA, South Africa. Next page: a session on innovative water technologies at the Holland Pavilion, part of the national trade event FACIM in Mozambique (source: pictures by the author)

[303] Ibid.

[304] Such as by the former director of VEI who praises Dutch water supply companies with a "mix of public ownership and private sector operations" and which according to him, also appeals to water supply companies in developing countries (interview in a DWS promotional booklet, undated).

Western countries and by water agents from large Asian economies like China, South Korea and Taiwan (see figure 6.2).[305]

Precisely because of this domination of industrial and emerging economies at global water conferences/ trade exhibitions, said a BZ employee, specific water aid and trade events are organised for partner developing countries like Mozambique. These events were known as 'Country Platform Days', organised by the NWP. They were set up in a market-like manner, where representatives of organisations/ businesses in the DWS could find out what the problems and challenges are in the Mozambican waterscape and how they could potentially become active there with their innovation, technology, service or product. A civil servant from BZ who opened one such Country Platform Day on Mozambique said that development cooperation is losing relevance and that developing countries increasingly look for developing trade rather than receiving aid. The Netherlands is responding to this change by better linking water aid to trade through the water Top Sector program, he continued, which requires looking at the 'demand side' of developing countries.[306] He referred to a 'Market research and positioning survey for the Dutch Water sector' (Aidenvironment and Water is Essential 2015) that had assessed this demand ('pressing needs') in the Mozambican water sector as well as the 'interest and skills (supply)' of the DWS, which combined made up 'Product-Market Combinations (PMCs). The study concluded that "...Mozambique is (becoming) an attractive country for doing business for the Dutch Water Sector" (ibid: 5), but that support from the Dutch state and platforms such as the NWP and PLAMA are crucial. The imagineering of the DWS also occurs at events in Mozambique itself, such as those organised by PLAMA or at more generic trade events such as FACIM, the biggest annual trade exhibition in Mozambique (see figure 6.3).

This process of imagineering the DWS, I argue, epitomises two things. Firstly, it is a process very much driven by industrialised countries. This is not to say that Mozambican water actors are not present at or involved in discussions, meetings, conferences, trade events and the like on the global scale. Indeed, what Alba and Bolding (2016) call the 'elite' of the Mozambican water sector is very internationally oriented, and members of this group travel extensively to participate in water-related events around

[305] Field notes, Aquatech Amsterdam, 2 November 2017.
[306] Field notes Mozambique Country Platform Day, 2 November 2015.

the world, such as the AIWW. Yet, 'at the end of the day', one Dutch water consultant said, 'it is the still the North' where the driver behind this process comes from.[307] As a corollary, it is also a process in which the Dutch political economic and hydrosocial context rather than that of the host is taken as point of departure for hydrosocial development. Low-income countries like Mozambique tend to figure as targets and recipients of ideas, concepts and products made in wealthier countries, even though they are discursively configured as demanding those. Secondly, this process emphasises depoliticised understandings of water problems and stresses technological, market-based and/or 'win-win' solutions (C.H. Büscher 2019b: 831). Altogether, therefore, it reflects the neoliberal and increasingly self-interested agendas of the previous Dutch governments. Or, as another Dutch consultant involved in water aid and trade processes in Southern Africa phrased it, it reflects "the 'Trumpisation' of the world" where "it is all about me, myself and I".[308]

This process is both supported and contested. In other words, this process represents yet another terrain of liquid power struggle.

6.3.2 Power struggles around imagineering the DWS

A growing emphasis on 'the self' and on trade in imagineering the DWS, which linked up with the water aid and trade agenda, was subject to fierce discussion among various Dutch agents, and among them and Mozambican counterparts. Exemplary was a presentation on an alleged innovative water aid and trade concept at the Mozambican Country Platform Day mentioned above. The Dutch water aid professional that delivered this presentation stated that the most important thing for Mozambican water actors is to 'vocalize your needs'. He then turned directly to the Mozambican delegation, consisting of senior and experienced water professionals, and asked them rhetorically whether "you guys know what your needs are?", followed by a moment of silence, then continuing: "I know this is key, and I also know that you don't know what exactly your needs are". When he was done presenting, one member of the Mozambican delegation was clearly annoyed by the patronising tone and reclaimed that "...we don't need [an innovation] in which others say what we need, we need [innovations] of Mozambicans. We don't need to import know-how from abroad, we need to create it ourselves".[309] The tone of the presenter was strongly objected by some other participants I spoke to, but it illustrated an extreme form of ethnocentric behaviour and its contested nature.

Overall, this process is both supported and contested. On the one end, a group of actors may be identified that by and large welcomes this trend. These are actors engaged in the water Top Sector-structure, in which the private sector and their representative bodies are deeply involved. Within the state, the Directorate-General for Foreign Economic Relations (DGBEB), who moved from the Ministry of Economic Affairs (EZ) to BZ as part of the aid and trade agenda, by and large supports this emphasis on trade and commercial solutions to water problems, where possible with Dutch private sector involvement.[310] On the other end are actors who are outright critical. One former civil servant from BZ denounced the emphasis on 'exogenous' thinking and technologically oriented solutions and emphasises the need to depart from an understanding of 'endogenous', country-specific conditions

[307] Field notes, 16 May 2016.
[308] Interview Dutch water consultant, 9 November 2016.
[309] Field notes Mozambique Country Platform Day, 2 November 2015.
[310] Interview employee DGBEB, 1 February 2018.

and to focus on social relations.[311] Some Dutch researchers very much agreed and said it was high time for a dissenting voice, pointing at a major 'The Hague-driven investment agenda' that actually drives alleged 'win-win' Delta solutions in low-income countries (Stravens 2018). While they agree that Dutch organisations have considerable water expertise and can play a valuable role in tackling water problems abroad, "it is horrible to see how we think we have a monopoly on wisdom (...) the white man who knows what is best" (ibid: 60). Yet other critics draw attention to ambiguities and concerns in actual processes where DWS-related companies are involved, such as in the development of comprehensive water 'master plans' in Mozambique or Indonesia. Such master plans are the quintessential win-win solutions for multiple development problems and they are captured in neat designs and images. However, they argue, these master plans involve potential environmental damage, high financial risks, forced displacement of people and, more generally, a trend towards increased private gains and public losses (Bakker et al. 2017).

In between these positions are various groups with more or less consensual, more or less critical opinions. There is a group of actors who welcome more emphasis on trade between Dutch and Mozambican businesses, but point at the need to further develop trade (structures) and an 'enabling environment' in Mozambique so as to better enable trade in the water sector. They believe trade is an equaliser; one interviewee believed this move makes possible "a more healthy relationship between them (Mozambique) and us, with more equality".[312] An EKN employee argued in the same way:

> Going from aid to trade will make sure you develop a more equal relationship. In the Netherlands, the private sector, the state and knowledge institutes join forces to jointly promote the Netherlands Inc., so this move from aid to trade can be beneficial for both the Netherlands and Mozambique.[313]

A Mozambican water professional said about this emphasis on (Dutch) trade in the Mozambican water sector that "...on the bright side, processes become more transparent. There is no pretending anymore, trade is just trade, with benefits for both sides". But it also had "a dark side", he said: "it is sort of going back to the old way of doing cooperation, what used to be called tied aid: we give you money, if you use our products and services".[314]

Those I interviewed at DGIS regretted the emphasis placed on trade in the benefit of the DWS or the association of the water aid and trade agenda with tied aid. They emphasised that aid money spent on Dutch companies, as was common in the tied aid era, is simply impossible nowadays, prohibited as it is by international regulations.[315] Moreover, the framing of the agenda this way does not do justice to what it was actually meant to do in their eyes: enabling trade in the (Southern Africa) region itself, so that countries like Mozambique could one day become self-supporting. Yet, one DGIS interviewee acknowledged that other agents like EZ, employer organisation VNO-NCW and NWP thought differently about this and knew that they rather emphasised and/or lobbied for the involvement of the Dutch private sector in water aid projects abroad. This led to difficult discussions within DGIS, and between them and colleagues of DGBEB. As one DGIS interviewee stated: "DGBEB is supporting the Dutch private sector; we know that and that is OK—but it is not always easy when it comes to making

[311] Interview former BZ employee, 24 November 2017.
[312] Interview RVO employee, 23 December 2015.
[313] Interview EKN employee, 13 April 2017.
[314] Interview former CRA employee, 7 June 2016.
[315] Interview former DGIS employee, 6 February 2018.

choices".[316] Another DGIS interviewee emphasised the importance of substantive discussions about water and sanitation. He said they rather visit conferences like the Stockholm Water Week or those organised by the UN than a conference like the World Water Forum, "which is mainly focused on the private sector".[317] The NWP, the platform representing the DWS abroad and with almost 200 members from across the DWS, found itself in the midst of this struggle. The former director said that NWP members "look at the NWP from their own perspective" and that by the one group of actors the NWP "...is seen as a development organisation, by the other as an organisation mainly representing businesses".[318]

In all, the imagineering of the DWS has been going on for a long time, has nurtured the idea of the Netherlands as water champion and basically advocates the message to "bring in the Dutch'. I view this process as an ambient exclusion, that is, as a dominant and ethnocentric construal that tends to narrow down one's imagination on how water problems ought to be solved, by whom and with what technologies (of power). However, intensive power struggles ensue between distinct but connected groups of water-related agents over this process and what it epitomises. These struggles essentially revolve around the question for whom and for what the DWS is imagineered and how to balance (Dutch) economic benefits and processes against burning political and other extra-economic water issues in countries such as Mozambique. Another ambient exclusion in bilateral aid and trade processes is that of the 'water business case/ model', which the next section examines.

6.4 Ambient exclusions II: "It's the business case, stupid!"

This is how the former director of one Dutch water NGO, called Aqua for All, phrased what he deemed to be the most important success factor for making PPPs in water aid contexts work (NABC 2017: 32-34). A viable business case or –model is crucial for ensuring the sustainability of water services, he argues, as is a business model's inclusivity:

> For inclusive business it is not only about who the potential customer is and how the enterprise is going to make a profit. There are other, equally relevant questions that must also be asked. How can the additional beneficiaries be targeted if they are not direct clients? How can the governance of the partnership be organised? How can the ecosystem in which operations are being carried out be improved? And what social impact will be created through the intervention of the PPP that will help to cover the deficit in revenues and costs?"
>
> Ibid: 33

Aqua for All was one of a number of Dutch aid agencies whose preoccupation with 'business models' and associated market discourses had grown considerably prior to and during the implementation of the water aid and trade agenda. As discussed in chapter four, business models occupied a central place in meetings of, or reports by, the Dutch water aid community as well as in established or new water and sanitation financing mechanisms.

This section further delves into the buzz around business models in the Dutch water aid and trade community and examines their rationale and attempted implementation in the bilateral aid

[316] Interview DGIS employee, 24 January 2018.
[317] Interview former DGIS employee, 6 February 2018.
[318] Interview former NWP employee, 15 December 2017.

intervention PO15. This intervention, as outlined in the previous chapter, had one Work Package (WP 4) that focused exclusively on 'innovative business models', meant to help increase access to sustainable water and sanitation services. This was the smallest WP of the intervention, with a relatively small budget of €200,000 for implementation. Despite its size, the WP provided an opportunity to assess the discourse around water and sanitation business models and how they were put into practice. The section makes two points. One, while meant to be 'demand-driven', this WP and the activities carried out as part of it were predominantly supply-driven. Second, while meant to be 'inclusive' and opening up access, the investigation of one particular model revealed instead its tendency to exclude, both in a discursive sense and in the way it was envisaged and set up.

6.4.1 The business model work package in PO15

The process of including a WP specifically on innovative business cases in PO15 is in line with how PO15 became established more generally.[319] Individuals from Aqua for All, BoP Inc. and VEI, three Dutch water aid agencies that would end up playing a role in PO15[320], had been involved in a study on water business models carried out in 2011 by Hystra. Hystra is a French consultancy firm, and their study was sponsored by the French Development Agency AFC and French multinationals Suez and Veolia, among other agents (De Carvalho et al. 2011). While the study had a global scope, the idea was to propose ideas and innovations for private sector participation (PSP) in French water aid. Inspired by this, similar studies were carried out for water and sanitation business models that could be used in Dutch aid (Pietersen 2011; BoP Inc. et al. 2012). Having been involved in these studies, Aqua for All was invited to help assess opportunities for PSP for the Dutch embassy in the Mozambican water sector (Jansen et al. 2011). The representative of BoP Inc. was granted a tender to assess the potential for implementing water and sanitation business models in Mozambique. The outcome of this latter mission was that the

> ....AIAS proposal has been extended with a dedicated component on 'Innovative business models'. BoP Innovation Center will be part of the consortium to support realization of a local Water & Sanitation Innovation HUB that will focus on identifying and facilitating innovative scalable business concepts for water & sanitation services, linking the Mozambique private sector and the Dutch private sector. Through this component Water Mondiaal embeds the activities for market driven innovation and linking Dutch private sector involvement.
>
> Partners for Water 2012

The project manager of PO15, who was not himself involved in setting up PO15, also linked the decision to include a WP on business models to the Dutch aid and trade agenda. He thought it probably had to do with the word 'innovation' and associated PSP that BZ as financier wanted to hear. He thought this move a bit odd, as PO15 already suited the rationale of the aid and trade agenda, with its focus on helping AIAS implement the DMF and PSP.[321] The WP on business models can indeed be considered an additional component within PO15 to 'strengthen the business side of the project', said

[319] See previous chapter, section 5.2.3.
[320] Aqua for All did not participate in executing PO15, but one employee was involved in setting up and periodically reviewing the intervention.
[321] Interview PO15 project manager, 21 November 2016.

one consultant involved, and 'perhaps for the Dutch embassy to 'score' in relation to the water aid and trade agenda'.[322]

Like the DMF, the WP on business models was rooted in a neoliberal discourse that emphasises the desirability and need for PPPs and the various outsourcing options and contracts available within them. They also partly overlap in the market terminology used, viewing water and sanitation aid processes as revolving around supply/suppliers and demand/customers, ability and willingness to pay and so on. Yet, the preoccupation with business models went one step further. It was embedded in what might be called an 'advanced' (but not new) neoliberal discourse, rooted in one 'theory of change' in particular: the Bottom (or Base) of the Pyramid (BoP). The BoP refers to the poorest four billion people in the world, those living on less than $1500 per year or up to $4 a day. It was Prahalad and Hart (2002) who coined the idea of the BoP in support of an 'inclusive capitalism' in which "...the real source of market promise (...) are the billions of *aspiring poor* who are joining the market economy for the first time" (ibid: 1). From a BoP perspective, poverty is a problem of the individual who has failed to integrate into the market. Escaping poverty, then, is equally an individual's responsibility, to be achieved by embracing entrepreneurship so as to successfully enter markets (Dolan 2012). It is assumed that doing business with the poor will lift them out of poverty, amongst other beneficial spin-offs (Prahalad and Hart 2002: 2).

Appropriately, the business model WP in PO15 was led by BoP Inc., the Dutch non-state actor whose name derives from Prahalad and Hart's theory. BoP Inc. and its members had deeply internalised market discourses and market thinking, and words like 'incubate', 'value proposition', 'bankability', the 'up-scaling' of models exemplify their business model vocabulary. It held bold assumptions and high expectations regarding WP4 in PO15, as the original ideas behind the WP convey:

> There is a fast growing interest from investors, including impact investors, which aim for a combination of social, environmental and economic impact and are willing to accept higher risk and lower returns. Hundreds of funds have been set up in recent years and billions of dollars are waiting to be invested. In order to attract these investors and realize initiatives by private sector and entrepreneurs we propose to demonstrate and realize the potential of *a Water & Sanitation Innovation Hub* closely linked or embedded within the AIAS organization facilitating and supporting promising innovations of relevance for scaling Access to Water & Sanitation for small villages.
>
> Through the realization of a local Water & Sanitation Innovation HUB, we will develop an initiative with a "mission-driven" commercial profile and "value proposition". The Hub contributes to improved access to water, sanitation and waste services and creation of income opportunities for people at the Base-of-the-Pyramid, by orchestrating a business development network that offers local entrepreneurs and Dutch private sector with the necessary services to incubate & market driven innovations, that represent a natural fit with the objectives of committed investors.
>
> AIAS and Consortium 2013: 29; 57

The hub thus played a central role in the prospected business model framework proposed by PO15, and the idea was in fact to position AIAS itself as the 'Water & Sanitation Innovation Hub' in cooperation with other actors, such as PLAMA. This idea never materialised, however. Although a hub, or so-called 'Inclusive Business Accelerator', was set up in Mozambique, this was done as part of

[322] Interview Dutch water consultant, 8 June 2016.

another project managed by SNV and financed by BZ. BoP Inc. was involved as a partner in this hub, together with Venture Capital for Africa, an organisation building 'robust entrepreneurial ecosystems across the African continent'. But this hub was quite different from the one envisaged by BoP Inc., as it focused on various sectors, including, but not limited to water and sanitation. Under the aegis of this hub, a couple of studies and other activities were carried out, but it had not worked out as planned and soon stopped functioning after the subsidy dried up. According to the BoP associate, the hub had itself followed the wrong business model.[323]

Without the envisaged hub, BoP Inc. concentrated on 'market scoping for innovation opportunities' and the 'incubation of innovations'. The goal was to "ensure start of at least 2–3 concrete pilots in both water & sanitation" (ibid: 57). A list of potential innovations carried names like 'Umbrella Water Utility', 'Mini Water Factories', 'Facilitator Household Platform' and 'Integrated Waste Collection & Processing'. Nearing the end of the project, in 2017, two innovations had been set up and were still ongoing. One was named 'Smart Water Metering', the other revolved around the use of biogas for sanitation purposes. The latter is examined in the next section.

6.4.3 Turning poo into profit? The 'decentralized waste-2-value business model'

Sanitation, broadly conceived of as 'the safe disposal of human waste' (McFarlane and Silver 2017: 128), is often taken together with water supply in aid programs, and combined the two are referred to as WASH: Water, Sanitation and Hygiene. As such, and notwithstanding the different discipline that sanitation is, the way aid agencies have approached sanitation development has been similar to water aid approaches. In the era of structural adjustment, WB-funded programs in countries like Mozambique sought to replace supply-side sanitation approaches with demand-responsive ones, which, according to Engel and Susilo (2014: 165), "...encouraged the poor to 'take responsibility' for their own development—and, of course, to pay for it". Compared to water supply, the development of sanitation and wastewater infrastructure is generally given low priority by state entities, not least because excreta is often treated as a taboo subject (Jewitt 2011). According to actors involved in PO15, this is also the case in Mozambique and AIAS also tends to prioritise water over sanitation. Moreover, said one interviewee, setting up and running sanitation services is more complicated and more difficult to attain than water supply services, and there is often a lack of know-how on social and technical issues associated with sanitation.[324] Traditional sanitation aid, at least in rural and peri-urban areas, often involved the placing of pit latrines, but many aid agencies now consider this insufficient and unsustainable in the long run. Rather, they have become, in the words of one WASH NGO, "...passionate believers in *the transformative power of markets and innovation"*, meaning "enormous strides can be made by bringing the local and international private sector into the urban WASH space (WSUP 2016: 3; italics in original).

Biogas as the basis for the business model

The 'transformative power' central in the examined business model is biogas. Biogas is embraced in sanitation business models for its potential use values and associated health, environmental and economic benefits. Yet, it is not new. Humans have produced biogas through anaerobic digesters ever

[323] Ibid.
[324] Interview WWn employee, 17 December 2015.

since the mid-nineteenth century (Jewitt 2010: 765). Such digesters have improved over time and come in a variety of designs and sizes nowadays. The principle has remained the same, however: liquid and organic waste types, such as those emanating from humans and animals, are put into an oxygen-free tank so as to allow waste to be fermented by micro-organisms. This process of anaerobic digestion (AD) produces a gas that can be used, inter alia, as cooking fuel, energy- and heat sources and for motor fuel, which is cleaner and/or easier to attain than alternative sources such as firewood or energy produced from fossil fuels. The slurry that remains after AD can be used as fertilizer, further reducing environmental impact. Maintaining and managing the digesters may create employment, and health conditions improve when biogas production in developing contexts is combined with the provision of improved sanitation facilities (Jewitt 2010; Sibanda et al. 2013). The prefix *bio* stresses the 'naturalness' of this process. The materiality of waste used in AD matters for the quality of biogas produced. Biogas is produced at different scales, from large quantities using sewage sludge in advanced AD processes, to smaller quantities using human, animal and household waste in simple digesters. The latter is usually the focus in sanitation business models for development.

Because of the potential benefits, biogas production has been applied in different development contexts. In Asian countries such as China, India and Nepal, biogas is already used quite extensively. In Sub-Saharan Africa, its application is not as widespread, but states, NGOs[325] and social enterprises[326] have proclaimed biogas in Africa amongst the most promising clean energy sources, and their initiatives have aimed at rapidly expanding the number of biogas plants in various African countries.

These actors view biogas as a potential commodity with an exchange value, on top of its multiple use values and, in the words of one agency, are eager to "turn biogas users into entrepreneurs".[327] This is achieved when individuals produce more biogas than the immediate family requires, selling the surplus to others. These entrepreneurs, together with suppliers and maintainers of materials, can then develop into a "commercially viable and market-oriented biogas sector" on the national level.[328] Biogas for and by the 'BoP' in Africa thus constitute a main pillar of these structures, and their sustainability is built on the premise of market mechanisms and private sector involvement. But this premise proves fragile. The Policy Evaluation Department (IOB) within BZ investigated this premise for a national biogas program in Rwanda and concluded that it does not hold (IOB 2014b; 2015). Kamp and Forn (2016) examined a nation-wide biogas program in Ethiopia and arrived at similar conclusions. They observed the absence of private sector involvement, the difficulties in developing a biogas market and a lack of understanding amongst experts how to develop this market component in a next project phase (ibid: 482).

In Mozambique, biogas initiatives have not been as many or as encompassing as the ones in Rwanda, Ethiopia or other African countries. The ones that have been tried out failed, and a study on the potentiality of the biogas market in Mozambique, carried out under the framework of the abovementioned hub, infers that this is due to approaches not being commercial:

[325] See for instance the Africa Biogas Partnership Programme (ABPP) by Hivos and SNV, funded by DGIS within the Dutch Ministry of Foreign Affairs (http://www.africabiogas.org/africa-biogas-partnership-programme/). It called itself the 'leading large scale Domestic Biogas Dissemination institution in Africa'.
[326] For instance (B)energy or Simgas.
[327] See (B)Energy: http://www.be-nrg.com/b-home/
[328] See the Africa Biogas Partnership Programme (ABPP) by Hivos and SNV, funded by DGIS (http://www.africabiogas.org/africa-biogas-partnership-programme/).

> A history of a handful of pilot initiatives backed by donor funding but with no commercially sustainable operational models has left Mozambique with biogas projects that have not been successful. There exist very few reference projects that have been commissioned and are currently still in operation.
>
> Hanekamp and Dietz 2016: 6

The biogas business model envisaged in PO15 was meant to tackle this lacuna and present an operational model that is 'commercially sustainable'. The basic plan was to place small anaerobic digesters in three locations in Manhiça, a town eighty kilometres north of Maputo and participating in PO15. The three locations are a school, a market and a slaughterhouse. Sanitation facilities would be provided or upgraded, and human and animal waste collected at the school, the market and the slaughterhouse for treatment in the digesters. The produced biogas would be put into small gas bags that can be connected to cooking stoves, thereby replacing charcoal as cooking fuel. The pilot would thus tackle sanitation, health and environmental issues, as sketched above. It was labelled a 'decentralized waste-2-value business model', referring to the expected exchange value of waste which ought to make the model financially viable, even profitable. Or, to put it in the more evocative phrasing of WASHplus, a platform linked to USAID, the idea was to 'turn poo into profit' (USAID 2012).

A contested and exclusionary pilot

In taking the initiative further, BoP Inc. partnered with ACRA, a like-minded Italian aid agency committed to 'innovative solutions tackling poverty', meaning 'market-based solutions with high social and economic impact'.[329] The consultant of BoP Inc., in the role of coordinator, had the most ambitious ideas for the business model. He was well-aware of the importance of sanitation 'software' next to 'hardware'. The model, rather than the AD technology per se, was what mattered most. It had to become a replicable, self-sustaining model, by generating a profit. He approached (human/animal) waste as both a resource and a potential commodity, but also knew that the mere production and sale of biogas would not make the model commercially viable:

> ...lessons learned in most biogas sanitation initiatives demonstrate that new business models are required that create value beyond the value of the 'products' of the AD themselves (...) Selling BioGas is non sustainable! Selling 'Cooking Concept & Services' will be more sustainable! Creating a Business around cooking on biogas is most sustainable!![330]

Hence, in moving up in the chain from poo to profit, he envisaged additional 'value drivers', notably creating a business around cooking on biogas. His idea was to partner with a food company who would use the biogas in "...new type of restaurants aiming at low-income groups to market their nutritious food". 'Waste-2-value centers' would be built, each with a sanitation and treatment unit. These centers would in turn be connected to a 'waste-2-value cooking/ kitchen service provider' who would sell such services to restaurants, schools and households.[331]

[329] Website ACRA: http://www.acra.it/
[330] Presentation on the viability of decentralized treatment solutions and promising service models, May 2016.
[331] Ibid.

Based on this idea, ACRA applied for and received funding from a 'clean energy financing facility' called the Energy and Environment Partnership Africa (EEP Africa)[332]. However, this severely complicated the business model. EEP demanded a private sector actor to participate in the process, who would take care of the biogas digesters. A Mozambican wastewater recycling company was found willing to participate, provided that one of its products, a decentralized wastewater treatment unit, would be included in the biogas business model. This request was accommodated; the unit was added as a post-treatment option in the business model, which would treat the resultant slurry after AD and turning it into clean water—thereby closing the cycle from wastewater to clean water. The only matter of concern was that this treatment unit consumes a considerable and costly amount of energy.

If the idea of a biogas cooking business already proved ambitious and based on questionable assumptions[333], this energy issue further undermined the viability of the business model. Calculations in the proposal to EEP did suggest that the model—including this post treatment unit—was commercially viable, but this was contested by a young Dutch expert hired by PO15 to work on the digesters for half a year. She said that the proposal contained unclear and wrong calculations as well as other errors, or "...various elements that made the business model much more appealing than it actually was".[334] This included unsubstantiated estimates of biogas production, completed designs for the digesters that were not yet there, and the indication of various locations for biogas production that were in fact not suitable.

Materiality played a key role in the process of getting the model sustainable. The school proved not to be a suitable location, because of the kids' poo. Their poo was based on a diet without much meat, with which the production of biogas would not be very good. The school's canteen also produced insufficient waste.[335] It was therefore decided to abandon the school as location, even before the EEP proposal was written. Of all locations considered suitable slaughterhouses topped the list, given the potency of animal waste for biogas production. Including slaughterhouses in the model as location thus made sense from a biogas production point of view, and it would have a positive by-effect: preventing animal waste from being dumped in the nearby river. However, excluding a school and including a slaughterhouse in the model raised the question for what or whom the model is set up. The model was supposed to be about sanitation and hence, about human waste, but rendering the model commercially viable was better served by the use of animal waste.

Rendering the business model commercially viable in fact became the biggest point of contestation within the partnership. The BoP Inc. consultant insisted that, in spite of the energy issue, the model could still become profitable. If a cooking business would not suffice, then other activities could help make it profitable. He proposed selling additional items like soap and condoms, or using bioslurry as compost with which to grow pineapple trees and make a business out of that.[336] The problem, said the young expert, is that "...he only talks about such ideas, but does not manage to put them in practice".

[332] The EEP in Southern and Eastern Africa was then funded by Finland's Ministry of Foreign Affairs, DFID and the Austrian Development Agency. Its overall objective was "...to contribute to the reduction of poverty by promoting inclusive and job-creating green economy and by improving energy security in the Southern and East Africa regions while mitigating global climate change". See website: http://eepafrica.org/.
[333] Interview young expert, 13 December 2016.
[334] Ibid.
[335] Interview ACRA representative, 24 February 2017.
[336] Interview young expert, 13 December 2016; Interview BoP Inc. consultant, 26 January 2017.

She became annoyed that the complications as a result of trying to make the case commercially viable 'raped' the otherwise sound idea of biogas production from waste.[337] The owner of the wastewater recycling company said that one should not expect "the system to pay for itself (...) that is not going to happen'.[338] The ACRA representative was outright sceptical. On a personal title, she did not think biogas was worth the effort, looking at the amount of resources needed to build up biogas plants and maintain them vis-à-vis the benefits of biogas. She hinted at biogas being a fashion internationally, which made NGOs like ACRA become involved nonetheless.[339]

These different viewpoints led to rising tensions and complications, further aggravated by financier pressure and bureaucracy. EEP made various time-consuming demands, notably that materials would be publically tendered. They also imposed a stringent project management regime that it outsourced to accountancy firm KPMG. KPMG did an unannounced audit and found that not all activities listed in the proposal had been carried out. Some of these activities had become redundant by then, but still had to be, and were, carried out for the sake of project compliance. Next to EEP, PO15 had reserved budget and wanted it spent with the project's end drawing near, so they too put pressure on partners to deliver. A quarrel arose over who would pay for the materials in Manhiça, since both PO15 and ACRA (through EEP) had money reserved for this. They finally agreed on placing digesters in another village paid for by PO15's budget, even though the potential for biogas production proved not as good there. And since it became clear to all that the inclusion of the post-treatment unit would curb any effort to recover costs, let alone make profits, the wastewater recycling company gave up its position in the partnership. It continued in the role of mentor of a recent university graduate, who had the ambition to start up his own biogas company and take over the original role of the wastewater recycling company.

AIAS was supposed to be the state entity taking responsibility of and ownership over the pilot, and while it became involved during the pilot's implementation, its involvement remained minimal. The idea of making money in the biogas model so as to render it self-reliant was not shared by AIAS, according to the young expert.[340] Another interviewee said that AIAS was reluctant to involve companies like soap distributors; it did not want to give the impression of privileging some companies over others, and it was afraid it would not adhere to procurement procedures.[341] The AIAS employee who was appointed as the 'focal point' for the pilot stressed that he and others at AIAS lacked any knowledge about biogas, but that it was necessary for them to gain such knowledge, as they had to ensure the sustainability of the concept. In any case, he and others at AIAS had low expectations. He stressed the importance for people in the village to see benefits accruing from the model, because that is the primary task of AIAS.[342]

Community involvement was also considered the foundation for success in WP4. As the project plan stated: "...only when the needs of low-income groups are taken as point of departure, it is possible to develop truly sustainable innovations and business models" (AIAS et al. 2013: 29). However, notably absent in the design and attempted implementation of this business model were citizens and

[337] Ibid.
[338] Interview owner of private company, 22 March 2017.
[339] Interview ACRA representative, 24 February 2017.
[340] Interview young expert, 13 December 2016
[341] Interview SNV employee, 6 February 2016.
[342] Interview AIAS employee, 24 March 2017.

communities as the prospected key participants and beneficiaries, or in the business model's vocabulary, the 'BoP'. Citizens of Manhiça had not been consulted directly, but through municipality members who, partners claimed, showed interest in the biogas plan. Citizens would only be informed about it once the design of the biogas digesters was decided upon and before construction would start. This procedure was agreed upon, said one interviewee, because in case the pilot would not succeed and communities would have been informed about its existence and potential benefits beforehand, they may become disappointed or even frustrated about yet another failed development project.[343] Consequently, the needs of the biogas pilot became leading rather than taking the needs of beneficiaries as point of departure. People had to be sensitised into adopting the (potential benefits of) the model, as the pilot required "buy-in to sanitation solutions and decentralized treatment plants"[344]. But according to the owner of the wastewater recycling company, communities would only become involved in matters of human waste "if it is good for their pockets".[345] This relied on the amount of biogas that could be produced as well as the price in relation to charcoal that is normally used for cooking. Yet, as mentioned, most actors involved regarded this highly unlikely.

In all, the idea of transforming poo into profit never materialised and proved a main factor in rendering the pilot's politics contested and exclusionary. This idea drew a line of separation among the participating actors; non- or for-profit agents that were familiar with or interested in this idea and the associated innovation and market discourse came to drive the pilot while others, notably communities and AIAS as the state entity responsible for sanitation, were marginally or not involved. Biogas plants were eventually installed in Manhiça and another PO15 town, Chibuto, but these risk ending up as another unsuccessful pilot, with this 'hardware' not being used in the longer term.

6.4.4 Business models based on the BoP: a new form of inclusive capitalism?

The exclusion of AIAS and citizens in the biogas pilot is indicative of the business model WP in PO15 in general, which evolved into quite an exclusionary WP. This process already started with the inclusion of this very WP in PO15, which was clearly pushed by agencies on the Dutch side rather than asked or desired by Mozambican actors. The former director of AIAS put it diplomatically:

> We did agree with it [WP4], to explore new things. In the beginning it was not easy (...) In the beginning, other components were considered more basic—say the first three work packages in PO15. We were fine with those, but the one about innovations was more complicated. So we started carrying out the first three work packages, leaving the fourth quite behind. We thought that once we have the first three work packages running, we'll look after the fourth one after that, a bit later.[346]

Indeed, AIAS was still in the process of getting fully operational as a relatively new entity. It lacked qualified staff and often sufficient know-how to fulfil its primary tasks, let alone more complicated and ill-founded business models. It was only after an external review of PO15 concluded that the WP on business models "is just an addendum to the project" (Bouman and Beete 2016: 18) that the aforementioned AIAS employee got appointed as the focal point for innovations in WP4.

[343] Interview ACRA representative, 24 February 2017.
[344] Presentation on the viability of decentralized treatment solutions and promising service models, May 2016.
[345] Interview owner of private company, 22 March 2017.
[346] Interview AIAS employee, 24 March 2017.

What did not help bridging the divide between AIAS and this WP was the business model discourse; the market vocabulary and ideas that underpinned the WP in general and the biogas pilot in particular were not well understood, used or shared by AIAS employees.[347] In the words of the technical manager of AIAS: "investing in water systems we already knew. But innovating our views is something new and challenging".[348] Even Dutch actors who were themselves involved in novel aid and trade approaches were critical of BoP Inc., claiming its employees are good at 'mixing newspeak'[349] and writing reports, but not so much producing concrete results.[350] On the other hand, the BoP Inc. associate as the key actor in WP4 said he felt himself an outsider. He explained this by opposing mentalities and ways of working; AIAS was like a factory, he said, focused on production, stability and regularity, while his way of working is more like a 'flexible machine'. He said he had spent little time at AIAS whenever he visited Mozambique in the context of WP4, as he saw it as his task to 'share the bed with the private sector'.[351]

The turn to business models is rooted in the idea of a failure of supply-driven (traditional) aid approaches managed and/or financed by state and non-profit entities, and the need to replace these by (modern) demand-driven, market-based approaches—in this case, driven by the demand of the BoP. As Dolan (2012) argues, this makes the BoP a "...compelling proposition, promising *a new form of inclusive capitalism* that simultaneously cleanses development of its paternalist and interventionist heritage and repositions capital accumulation as moral" (ibid: 3, italics added). Poverty reduction, she argues, is effectively outsourced to the poor who have to conform to market ideals of "responsibility, competition, risk-taking, a positive attitude and market discipline" (ibid: 6). This, according to her, produces a sharper division between 'who is in' and 'who is out' of development, as not everyone can (physically, financially or otherwise), or wants to, conform to such ideals and make it as entrepreneur. And those who do succeed as BoP entrepreneur, find themselves reliant on the peculiarities of often fragile consumer markets with uncertain long-term perspectives (ibid: 7).

In the case examined in this section, I conclude that people that were considered the BoP were hardly or not the point of departure. While marketed as demand-driven and inclusive, the discourses and practices related to BoP and business models were instead supply-driven and they tended to exclude and divide rather than include or unite the various other stakeholders. The entire BoP discourse that underlie water and sanitation business models in PO15, in sum, is a compelling proposition for those who have internalised this ostensibly 'inclusive' market thinking and therefore believe it to be of universal value. For other groups of actors, this narrowed down rather than opened up water and sanitation access pathways.

6.5 Conclusions

In reviewing Hall et al.'s work on 'powers of exclusion' that I started this chapter with, Corbera (2012) argues that rather than paying attention to either powers of access *or* exclusion, the two should be viewed as standing in a dialectical relationship:

[347] Interview young expert, 13 December 2016.
[348] Interview AIAS employee, 7 November 2016.
[349] In Dutch: *'het mixen van kretologie'.*
[350] Interview Dutch aid consultants, 9 November 2016.
[351] Interview BoP Inc. associate, 26 January 2017.

> Access (i.e. how and why people benefit from things) holds a dialectical position with exclusion (i.e. how and why people cannot benefit from things): they speak to each other and therefore the latter cannot be understood without the former.
>
> Ibid: 223

The present and previous chapter taken together indeed provide insight into powers of access and exclusion to water (aid), and their dialectical interplay. The previous chapter focused on the implementation of a market-based access mechanism, in which attempts to open up access stumbled upon different countervailing, territorial logics. This chapter inverted the entry-point by focusing on exclusionary events and tendencies impacting on or embedded in the bilateral water aid and trade relationship. These tend to narrow down individual and collective agency in pursuit of access to water and sanitation, but at the same time generate countervailing powers and voices.

In the first part, I used the debt crisis that broke out in 2016 as a tragic but (from a research point of view) revealing, empirical event to make two interrelated points. First, this crisis, and measures taken in response, reproduced and deepened already problematic social and material conditions in which water (aid) actors carry out their projects, and narrowed down the strategic options of where and how to deploy water aid interventions. Such exclusionary effects triggered deep frustration and contestation that was primarily aimed at the ruling capitalist and political classes in Mozambique and international private financial actors who together created conditions for the crisis to occur. Second, it shows how development in and of the Mozambican waterscape is inherently entangled with the Mozambican political economy. The second part of this chapter dealt with two so-called ambient exclusions in water aid and trade processes: the imagineering of the Dutch water sector and the preoccupation with water and sanitation business models. Despite discursive emphasis placed on 'inclusiveness', 'demand-driven solutions', equality, 'participation' and the like in Dutch water aid (GON 2017a: 10), I conclude that these are rather 'supply-driven' processes that tend to exclude important actors and privilege Dutch ideas and concepts over those of the host environment.

The latter two events exemplify what is problematic about the water aid and trade course pursued in Mozambique. They spur agents into designing and offering another set of technological fixes and solutions, rooted in the capitalistic logic of liquid power and deemed universally applicable. This is line with an emphasis on depoliticised perceptions of problems in the Mozambican waterscape. However, the debt crisis has once again made clear that hydrosocial problems and development is an inherently political affair and that to tackle uneven development requires, in the words of one interviewee, "deep system reforms". This interviewee pointed at reforms in power relations in Mozambique, and the need to decouple the toxic mix of the ruling class power and state power in Mozambique. It appeared as if the GON realised this when it acknowledged, in response to the debt crisis, that "business as usual" cannot continue with the GOM (GON 2016c: 1). Like other aid agents, it suspended aid and imposed other measures to emphasise this.

However, this call for system reforms equally applies to Dutch aid. The GON was the first of (Western) donors not to await the findings of the audit that had been initiated into the causes of the debt crisis and invited president Nyusi on an official state visit to the Netherlands in 2017. A key objective of this visit was to stimulate bilateral trade, among others in the fields of gas and water. This visit led to controversy, with one Dutch newspaper concluding that 'Fraud must not hinder trade' (NRC 2017). Critical questions were asked in the Dutch Parliament about this event, with parliamentarians saying

this gives the wrong signal. The GON rejected this criticism and claimed that "...increasing market access and improving the business climate, thereby strengthening the trade relations, are important elements (...) to combat poverty and enhance stability in Mozambique" (GON 2017b). In other words, the GON was one of the first donors to resume 'business as usual'. But this meant a return to a very problematic business as usual. What was needed was a transition to a radically different 'business as usual'—one that does not reproduce but radically challenge the status quo and rooted power relations in Mozambique. But that required a radically different development vision, one not rooted in the logics of contemporary capitalism.

Chapter 7

Conclusions

The first chapter started with Karl Polanyi's (2001) statement about the introduction and development of a market for land, which he considered a weird undertaking of our ancestors. The PhD project that resulted in this thesis started with a similar bewilderment, about the perseverance of subjecting water to the market, despite many and well-known social, moral and material obstacles.

This thesis looked specifically at the perseverance of subjecting water to market mechanisms in Mozambique, driven by policies and agendas adopted by the Dutch state in the early 2010s (GON 2010; 2011a; 2013a). These agendas aimed to tie aid–related agents, institutions, processes and finance closer to those of trade. Given their similar rationale, these agendas are commonly known under the rubric 'aid and trade agenda'. My initial entry-points for this research were two strategic choices in this aid and trade agenda. The first is water, as one out of four priority aid and trade sectors. The second was Mozambique, as one out of seven so-called 'transitional' aid and trade partner countries of the Dutch state. While the GON considered Mozambique and its waterscape to be a suitable aid and trade destination, the initial strategy was even to replace (water) aid by trade altogether. This decision to move from aid *to* trade was soon abandoned, as it was based on an economically reductionist imaginary about Mozambique's foreseeable future and considered far-fetched in practical terms and/or undesirable given the highly problematic state of development in the country.

How to 'read' and interpret this aid and trade agenda in the Mozambican-Dutch water aid relationship's longer run was a generic question asked throughout the research journey. I tackled this question using a political ecology lens. This means I approached development as a historical process of socio-environmental change unfolding in global capitalism as the dominant political economic system. This research must therefore not be seen as a 'policy study'. My intention was not just to look at the implementation of this Dutch aid agenda in Mozambique, reaching the inevitable conclusion that there is a gap between policy and practice. Such a gap can be assumed beforehand, as aid processes are nothing like the depoliticised and linear processes often sketched in aid project proposals, where a given 'input' leads to neatly defined 'outputs' and 'impacts' following a predefined strategy. On the contrary, drafting aid agendas or projects are themselves deeply political processes and their attempted implementation does not occur in a space devoid of context or pre-structured power relations.

From this relational and historical perspective, the aid and trade course pursued in Mozambique must be seen as representing an intensification of processes that were already going on. In other words, if trade in this context not simply represents the exchange and circulation of commodities in capitalist markets, but more generally applying capitalist logics such as competition or market mechanisms to (water) aid processes, then this has been going on for much longer in Mozambique. Phrased differently, Mozambique had already been integrated in global capitalism, and aid mechanisms and agents, including the GON, had played a significant role in this process. The way this integration occurred, through the specific political (economic) system built up in postcolonial Mozambique, has

(re)produced deeply engrained patterns of uneven development in the country and its waterscape. I thus departed from the assumption that 'aid' and 'trade' were intertwined long before this agenda was introduced and that this entanglement had co-produced, or at least failed to fundamentally address, a problematic type of hydrosocial development. Introducing an agenda that is focused on 'inclusive growth' and 'combating inequality' (GON 2013a), yet even more strongly committed to the idea of market-based and private-sector driven growth, was deeply puzzling against this background. Rather than taking water aid and trade as complementary processes leading to a more inclusive and more equal type of development, this thesis argues the agenda and its implementation in Mozambique can better be understood as deeply contradictory processes, complicating water management while leaving the root causes of uneven hydrosocial development by and large unaffected.

This concluding chapter recapitulates why I think this should be understood this way, guided by the main research question: how have contradictions within Mozambican–Dutch water 'aid and trade' relations and interventions evolved under contemporary capitalism, and how do these relate to the reproduction and transformation of uneven development in the Mozambican waterscape? In the next section, I elaborate on the main argument by summing up and tracing the linkages between the individual chapters. In doing so, I tackle the thesis' first aim, which was to come to grips with the ontology of contradictions as they played out in the bilateral water aid relationship. The second aim of the thesis will be addressed in section 7.2, by discussing and reflecting on the conceptualisation of socio-environmental contradictions proposed in chapter two.

7.1 Water aid and trade contradictions

I departed from the notion that the aid and trade agenda has fuelled contradictory 'powers' that had already been generated within the bilateral water aid relationship (long) before this agenda was introduced. These powers make up what I refer to as 'water aid and trade contradictions', after the agenda introduced above. I defined a primary water aid and trade contradiction that operates throughout the structure of the bilateral relationship, which in turn is derivative of and expressed in 'secondary' contradictions.

In chapter two, I have introduced the primary water aid and trade contradiction in terms of the territorial and capitalistic logics of liquid power. These logics are based on works in political economy (Arrighi 2010; Harvey 2003) and development studies (Kim and Gray 2016), and I relate these to what Swyngedouw (2015) calls 'liquid power'—the politics and power struggles revolving around water. The territorial logic of liquid power broadly revolves around place-based waters found in national territories and around water's elemental role in social reproduction and production. This renders it a key object of state agents and politicians. The capitalistic logic of liquid power refers to water as itself an object of capital accumulation and subjecting various water-related processes (such as water supply) and things (such as water technologies) to market imaginaries and mechanisms. Key actors related to this logic are those making up the private sector, but in the context of this thesis, a more diversified set of agents drive and are driven by this logic, including state entities and aid agencies.

Chapter three sketches the generic political economic and hydrosocial structures in which the bilateral relationship and indeed, this primary contradiction, developed from the mid-1970s onwards. It traces the gradual strengthening of the capitalistic logic of liquid power throughout the relationship's history,

which occurred in tandem with the rise of contemporary (neoliberal and financial) capitalism from the 1980s onwards. The chapter argues that the logics of contemporary capitalism have grown into an increasingly tense and indeed contradictory relationship with territorial logics of liquid power, and one in particular. This is a logic in which central state/bureaucratic power is regarded leading in governing and managing water affairs in Mozambique. The root of this particular territorial logic lies in the first decade after dependence. The GOM constituted of members of the ruling party Frelimo, who mobilised the state apparatus as the key means for (hydrosocial) development based on a socialist political doctrine. The state was also mobilised as a political apparatus, in which water was used to profile Frelimo and its socialist program favourably.

Driven by this logic, the GOM launched overambitious hydrosocial programs and imposed rigid and homogenous methods on a highly heterogeneous population. It did so in a context rife with challenges stemming from its colonial past, the hostility of its apartheid neighbours, global Cold War dynamics and an expanding civil war. Faced with these challenges and with its own errors, the GOM and its state-driven programs could not live up to expectations. Deep problems led the GOM to allow aid from hitherto despised Western nations and institutions to flock in. Together, these actors ushered in a transition in which socialist ideals were replaced by liberal ones, the one party system by a multi-party democracy and a central state-driven economy by a capitalist market economy. Formally, that is, as this transition had been messy and problematic, with the novel logics of contemporary capitalism beginning to operate alongside rooted territorial logics. In particular, social relations between Frelimo, the GOM and the state remained by and large as tight as they had been under socialism. This translated in the reproduction of the territorial logic of (liquid) power, whereby economic and hydrosocial development kept on being orchestrated centrally, not least in the benefit of a rising political and economic elite. Especially this territorial logic developed into a contradictory relationship with capitalistic logics that increasingly informed bilateral aid relations and programs.

I examined the empirical manifestation of these logics, and their contradictory interplay, in the Mozambican–Dutch water aid relationship in chapters four to six. Chapter four examined how a rising capitalistic logic of liquid power became expressed in a growing emphasis on water (aid) marketisation. Water marketisation aimed at transforming the centralised, bureaucratised and politicised approach to governing water affairs in Mozambique into a decentralised, depoliticised and market-oriented approach. In other words, the hitherto dominant form of territorial logic had to be rendered less powerful and be substituted by a variant complementary with the espoused capitalistic logics—one in which the central state has an 'enabling' and guiding role rather than a commanding or implementing one. As enabler of this transition, Dutch aid also itself had to change in a similar direction.

To this end, various market mechanisms were deployed and three in particular: corporatisation, outsourcing based on competitive tendering and the private sector imaginary. I have noted how these mechanisms have indeed transformed Dutch water aid and the Mozambican waterscape in various respects, but their attempted implementation was also one full of power struggles and complications. These politics and struggles, I contend, exposed a contradictory reality: rather than these attempts diminishing central state and bureaucratic power in Mozambique, they kept relying on and tended to be thwarted by this power that had only gained rather than lost in strength. This is a power, moreover, exerted by Frelimo-cum-GOM members intent on keeping decision-making centralised, so as not to

hamper their political agendas. The aid and trade course only intensified this contradictory reality, with the Dutch aid bureaucracy more focused than before on producing results and rendering—the deeply uncertain and political—water aid processes quantifiable, predictable and transparent.

In relation to water supply, the rising strength of the capitalistic logic of liquid power became expressed in a preference for market-based water access mechanisms and one in particular: the Delegated Management Framework (DMF), based on private sector participation (PSP). Chapter five examined the bilateral aid intervention called 'PO15' that helped AIAS implement the DMF in small towns in Mozambique. The chapter reveals two things. One is how the DMF became the preferred and indeed formally adopted mechanism for organising water supply in small towns in Mozambique in spite of its problematic past application in selected cities and small towns. This suggests the decision to maintain, and even expand the scope of, the DMF–PSP mechanism was driven by neoliberal ideology rather than 'based on evidence' that many aid actors swear by. Second, the implementation of the DMF in small towns showed how the ideal-based market logics underpinning the DMF was countervailed by various kinds of territorial logics and conditions. With territorial conditions, I refer to the 'material environment' that was ill-suited in many towns for PSP to work well. This notably included the poor technical condition of many water supply systems. Moreover, the DMF's implementation represented a terrain of liquid power struggles. The DMF relied on functional relationships between AIAS and operators on the one hand, and between them and central state agencies, local authorities and citizens on the other hand. However, relations were deeply political. While these actors sometimes acted in line with their 'allotted' functions and roles, their agendas and interests often diverged, which thwarted a smooth implementation.

PO15 handsomely mediated the contradictory interplay between the capitalistic and territorial logics as they became expressed in these power struggles, by fixing technical or organisational problems and resolving minor tensions through the delivery of various types of aid. This enabled the implementation of the DMF and PSP to move on. Securing certain conditions it itself deemed essential for the long-term sustainability of this access mechanism proved far more difficult and indeed not possible in the time span of PO15, including 'stabilising' AIAS as organisation or arranging mechanisms required for financially viable operations. These were conditions that relied on centralised and indeed, political decision-making. It indicates that while PO15 actors could technically ease some of the tensions arising as a result of the logics clashing, they could not change the (political) nature of these logics and were bound to operate within the boundaries set by these logics. Rather than these logics operating in a 'complementary' way, they have kept contradicting each other, which calls into question the sustainability of this mechanism.

Chapter six inverted this focus on water access, and examined the exclusionary nature and effects of three events impacting on or stemming from the bilateral water aid and trade relations. The first event is a major debt scandal that came to light in 2016 in Mozambique, which plunged its economy in a deep crisis. The debts likely benefited a few members of Mozambique's political and economic elite, but impacted negatively on the great majority of the population. This spurred a range of domestic and international actors into protesting the deeply exclusionary nature not only of this event (crisis), but of the political economy that structurally tends to privilege a minority to the expense of the majority. I showed how this political economic event is at the same time a political ecological event, having major hydrosocial impacts. The crisis led to a breach of trust between the two states and severely restricted

the agency and development options of Dutch aid actors, Mozambican water agencies and of operators and other actors in PO15, affected as they were by austerity measures and lower budgets, inflation, import and investment restrictions, the suspension of aid money and/or a change in aid modalities.

I have dubbed the second and third events 'ambient exclusions'. These refer to two Dutch aid and trade processes in which hydrosocial problem perceptions and solutions are branded as universally valid, desirable and applicable or as 'inclusive'. Yet, I argue, these processes tend to take ideas and products from the Dutch water sector as privileged frames for interpreting problems and offering solutions, rather than taking hydrosocial developments and recipient communities in Mozambique as the point of departure.

This tendency was, firstly, evident in the global branding of the Dutch water sector, inter alia aimed at giving Dutch water organisations a competitive edge in the world market for water services. This process is driven by the aid and trade agenda and other, compatible Dutch state agendas and projects with a nationalistic-economic orientation. Organised and supported by some state and non-state actors, it is at the same time contested by other Dutch state and non-state actors as well as by some Mozambican water professionals. The latter group pointed out that not Dutch economic interests and reasoning, but hydrosocial problems and needs in Mozambican territory should determine what type of Dutch support is delivered, and how. This tendency was also, secondly, noticeable in Dutch aid agents' preoccupation with so-called innovative and inclusive business models for water and sanitation. Such market-based models were promoted as 'modern', demand-driven alternatives to the 'traditional' supply-driven aid approaches managed and/or financed by state and non-profit entities. Likewise, business models proposed in PO15 that I examined were said to be demand-driven, that is, driven by the needs of 'low-income groups'. My findings suggest that they were rather supply-driven and exclusionary affairs. Models were proposed, designed and implemented by Dutch and other, mostly European, agencies, without much involvement of actors that ought to secure or benefit from them in the long run, namely AIAS and targeted communities. I explained this by these models being immersed in a market discourse and terminology that many Mozambican actors were unfamiliar with and which did not link up with their problem perceptions and realities.

On the whole, I argue, these contradictions severely complicate the governance and management of (Dutch) water (aid) in Mozambique. They have intensified power struggles between Dutch and Mozambican water aid actors, and within either of the two states. Specifically, I conclude that the aid and trade course pursued in Mozambique has failed to fundamentally address the problem that I started this and other chapters with: uneven hydrosocial development in Mozambique.

I started chapter three with sketching how the waterscape had been pre-structured *before* the bilateral water aid relations took shape. I concluded that this bilateral relationship was established in a political economic and hydrosocial context characterised by extreme inequalities and deeply rooted patterns of uneven development. This context was produced by colonialism with race, class and capitalist exploitation as key determinants. Undoing this legacy represented a massive task for the independent GOM and could only seriously be addressed after the civil war in 1992. The numerous efforts and large amounts of capital that have since then been geared towards developing the Mozambican waterscape have resulted in considerable changes and many improvements, some structural, others short-lived.

But these benefits have been distributed in highly uneven ways, studies by aid agents conclude, notably in the area of water supply and sanitation (WB 2018; Unicef 2016; 2017). These studies showed that inequality in access to these services has been consistently high and growing still. This inequality manifests itself spatially, between regions and between urban and rural areas, as well as socially, between different income groups. This in turn follows broader (under)development patterns; the poor have had growing difficulties in accessing improved water sources, while the wealthiest income groups have benefited most from improvements and investments in the water sector (WB 2018: 1; Unicef 2017: 19). Consequently, the gap in the ability to access improved water sources between poorer and richer groups has only widened in the past years (WB 2018).

This begs the question how such uneven hydrosocial development gets reproduced or transformed. The WB's lessons and recommendations with regard to this problem in the Mozambican waterscape, which resonate with approaches followed in the bilateral water aid and trade relationship, include making progress in water decentralisation, addressing the water sector's "high dependency on donor financing" and tackling "pressing financing gaps". The latter is to be done by, inter alia, "pursuing independent budget classifications for the sector and separating its financial allocations and budget cycles from other sectors" (ibid: 7). The study also points at an alleged 'vital change' that is needed in urban water supply, by better and more widely implementing the DMF and PSP.

This thesis casts a different light on the question and problem, departing from the observation that these lessons and recommendations have been put forward and tackled by the water aid community and the GOM for decades already. Decentralisation has been on the agenda ever since aid flocked into the country in the 1980s; water aid dependency has been consistently high throughout the same period; and corporatisation (including financial 'ring-fencing') has been part and parcel of the water architecture erected after the civil war ended in 1992. In particular, chapter five discussed at length the powers and politics involved to extend the DMF from cities to towns in Mozambique, and the multiple attempts to have it better implemented. In other words, this thesis suggests that another course is needed; one that more fundamentally addresses the root drivers of uneven development. This brings me to the final section of this chapter and thesis.

7.2 Conceptualising socio-environmental contradictions: a discussion

In chapter one, I claimed that socio-environmental contradictions are often problematic, but that there is also a problem with the use of contradictions in literatures I engage with. Conceptual premises, I observed, are often left implicit in scholarly work on socio-environmental contradictions. My aim has been to tackle this gap and to make my approach on contradiction explicit, so as to open up debates on what a contradiction is and does. By making this explicit it allows for targeted critique that, I hope, can be used for improving the use of this concept. This final section thus reflects on the premises of contradiction explored in chapter two in relation to my empirical data. In doing so, I return to the question what I think ought to be done to resolve or use these contradictions for more emancipatory pathways to hydrosocial development.

While in chapter two I explored and listed dimensions of contradiction sequentially, combined they define what a contradiction is and does. Thus, to briefly recall, I conceptualised contradiction not as a logical statement, but as a dialectical process—a historical process, that is. I treated a contradiction as

entailing two mutually constituting, but opposing (sets of) powers united in a single structure. I defined structure, as well as powers and human agency/events, in a critical realist sense. This means they are all ontologically real, but 'stratified', having different properties and qualities. Applied to the case, I looked at contradictions as having evolved in and along with the structure called the 'Mozambican-Dutch water aid relationship'. In other words, the logics making up the contradiction emerge from this structure, and from larger structures that this relationship is nested in. These larger structures are [1] Dutch aid, [2] the Mozambican waterscape, [3] both states and political economies and the most generic is [4] contemporary capitalism as a global, singular but spatially variegated system.

The implication of this process-based view on contradiction is that the primary contradiction examined in this thesis only came into existence after the capitalistic logic grew powerful, from the mid-1980s onwards. This is of course not to say that capitalism did not exist before that, or that it had no impact on the early relationship. I have examined in chapter three how Dutch aid and the colonial Mozambican waterscape were deeply entangled with global capitalism. Yet, the early relationship came into being during a time of major political economic and societal changes in both societies. These included, in Mozambican society, the abolishment of colonialism and the (rhetorical) denouncement of imperialism and capitalism by the independent GOM. In the Netherlands, this involved progressive changes in society and in government and state politics in the 1960s and 1970s. These changes in both societies opened up a certain sympathy and the potential for cooperation between the two on similar ideological grounds. The early relationship that became established in this context allowed for the territorial logic to emerge, the one that I argue has remained powerful in the structure, with the central state seen as the principal vector for hydrosocial change. In this context, a capitalistic logic was not suppressed nor absent, but the ideological and material environment proved unsuitable for this logic to prosper.

This capitalistic logic was able to prosper, again because of fundamental changes. This time, the major change was a rise in power of the neoliberal political doctrine and its insistence on a 'free market' type of capitalism from the 1980s. This doctrine had radical and swift impacts in Mozambican society, particularly through structural adjustment. Its logics also grew powerful in Dutch aid and in the bilateral structure, although more gradually. These changes opened up space for the (gradual) introduction of new agents, new frameworks and mechanisms, other types of money and the rising attention paid to other than Mozambican place-based waters in the structure. The simultaneous preservation of the dominant territorial logic in Mozambique was based on social relations between the GOM, the Mozambican state and the ruling party Frelimo that had established during socialism and which remained as tight as they had been since independence. Thus, powers making up a contradiction 'work' not on the basis of a single agent or other single elements in the structure. Powers are rather constituted by an assemblage of agents and 'things' in a structure, and by that structure in relation to broader structures in which it is nested.

The capitalistic and territorial logics are *internal* to the structure, but they are not *unique* to the structure. They are internal, in the sense that they define the properties of the structure as well as the scope in which actors implicated in the relationship do their work. This notion of 'internal relation' is important, as it relates to how I have assessed some of the aid and trade events examined. For instance, I noted in chapter five that the project PO15 did not meet some its own objectives/indicators,

but that the project could nevertheless continue as the fulfilment of these objectives was said to be beyond these actors' control. I agree that individual actors at once lacked the political power to enforce decisions required for these objectives to be fulfilled, which rested with GOM and other state actors. Yet, my point is that these political and state actors are inherently part of the structure; their influence and politics cannot be wished away. These codetermine any bilateral intervention in Mozambique and certainly those that, like PO15, are directly implicated in the state structure of Mozambique. These logics are thus also internalised in such an intervention. Both logics, however, are not *unique* to the bilateral relationship structure. That would not make sense; this structure, as mentioned, must be considered one structure ('case study') emergent of and operating in a larger set of structures. Both logics likely play out in other, similar structures. Yet exactly how these powers play out, and the events and outcomes they generate, is contingent on the particular structural configuration.

The two powers act tendentially on human agency. This means they enable or constrain actors to think and act in a particular way or direction. It depends on the type of actor and an actor's interest and vision whether a particular power is perceived as enabling or constraining. But if opposing powers grow equally strong and the strain between them increases, the agential implications are that one group of actors (are stimulated to) act in ways that conflict with how another group of actors behaves in the same structure. This is a breeding ground for feelings of frustration (which can be confined to a particular actor) or tensions (which always includes more than one actor). In the structure examined, this was best noticeable among agents most directly involved in the bilateral water aid relations and interventions, notably the central state entities on both sides (e.g. EKN, DNA), but also other state and non-state actors (e.g. AIAS, VEI, consultancies). These actors were 'squeezed' so to say between the two logics, most prominently in the aid and trade period. That is, the capitalistic logic has been an increasingly powerful driver for Dutch decision-makers, in turn spurring actors involved in the relationship to continue searching for ways to involve the private sector, attract private finance and apply market mechanisms. This was challenging and problematic enough on its own, but the particular territorial logic and associated state politics and practices maintained by the Frelimo-led GOM simply negated many of these processes.

These powers should, however, not be considered all-powerful. There is more or less scope for human agency to act in line with their own ideas and to contest, circumvent or even undermine the pressure exerted on them by these powers. The contestations and power struggles that I have paid attention to throughout the thesis attest to this. These included not only power struggles between Mozambican and Dutch state/non-state actors, but also struggles unfolding within either of the two states. Such struggles occurring in one and the same state indicates that states are not homogenous entities, but rather comprise of social relations between different groups, with different idea(l)s and interests. That actors withstood the pressure mounted on them was best noticeable in 'extreme' events generated by the powers. For instance, the decision to move from aid *to* trade in Mozambique illustrated the exertion of the capitalistic power via decision-makers, but was considered too drastic a decision by other actors in that same state. The latter thus refused to accept it as a fact and successfully contested this decision. The debt crisis, to take another example, invited subtle but fierce criticism from water civil servants aimed at Mozambican politicians, for having put them in the difficult position they were in. In sum, these powers act tendentially in the sense that a pressure is exerted, but this not necessarily

translates into the actualisation of events. Precisely this scope for autonomous behaviour enables powers to be challenged and changed.

Whether and how these powers translate into specific events and certain behaviour not only hinges on human agency, but also on nonhuman nature and material properties. This is what my investigation of the DMF-PSP mechanism in chapter five tried to make clear; a conducive material environment was essential for this mechanism to work well, but was in reality often not conducive at all. Challenging were the biophysical conditions in many towns, not least during my fieldwork when various regions were afflicted by drought or floods. This being the case, the success of piped water supply then depended on other material conditions, notably water supply systems in good technical shape. These were insufficiently available in many (though not all) towns, which spurred a chain of other events. Precisely these material properties and technologies 'fixed in earth' sets a socio-environmental contradiction apart from social contradictions. If agents fail to render the nonhuman and material environment suitable for water supply, which proved to be the case in many towns I did research in, then this will immediately give rise to all kinds of struggles, first and foremost at the 'local level'. This thus adds another, crucial element to the territorial logic of liquid power and to the contradictory interplay between this logic and the capitalistic logic underpinning the DMF. It implies that in order to make the DMF work, not only social relations and institutions had be rationalised, but indeed also environmental relations. Rationalising nature was not easily, if at all accomplished. But rationalising social relations proved all the more difficult. State and non-state agents not only engage in 'partnerships' and 'cooperation' to make mechanisms such as the DMF work, but also engage in harsh power struggles, chasing interests beyond those listed in cooperation contracts and project proposals.

During the aid and trade course followed in Mozambique, these struggles have been particularly intense. I explain this by the contradictory powers exerting stronger pressure on actors during this period than before. In other words, these powers had further narrowed down the scope of actors to act independently of these powers. Dutch and Mozambican state/aid actors were pushed stronger than before to think and act in accordance with the capitalistic logic, for instance due to pressure from BZ, adapted funding conditionality and tightened accountability mechanisms. At the same time, the hegemony of hard-line factions over other, more moderate factions within Frelimo had only strengthened. This translated in attempts by GOM members to centralise decision-making power, and to extend its influence in the state, even more. Moreover, what also makes these powers strong is that they build on the implementation of past decisions and frameworks that have gained a relatively structural position in the Mozambican waterscape. For instance, even though I and others assess the past implementation of the DMF and PSP in Mozambique as deeply problematic, these mechanisms are still in place. They still provide one of the dominant frames for organising water supply services in the country. And they provided an opportunity for the EKN to bring its water aid programme in line with the aid and trade agenda, thereby reproducing this same mechanism. Yet, the fact that the original plan to organise the extension of the DMF and PSP to small towns in a decentralised way was changed by the GOM into a much more centralised approach, illustrates the dominant territorial power at work.

A final dimension I paid attention to in chapter two, concerns the outcome(s) of contradictions and whether and how a contradiction can be resolved. This dimension allows me to come back to the question what ought to be done to ease or resolve the contradictions I observed. In tackling this

question, it is imperative to acknowledge the differences between structure and agency. In critical realism, structures are relatively enduring and powers relatively strong, as they are made up by an assemblage of agents and things in the here and now as well as in the past. These must be distinguished from human agency and specific events in the here and now, with a more short-lived character and impact (Fleetwood 2014; Archer 1995).

We should therefore also distinguish contradictory powers from the effects they generate and consider, in the words of De Ste. Croix (1981: 49-50), "'conflicts', 'antagonisms', 'oppositions' or 'tensions', arising as (in a sense) the *result* of 'contradictions'". Resolving conflicts is not the same as resolving contradictions; a conflict between human agents may be resolved by them through conversation or some kind of practical solution. In the aid and trade processes I examined, tensions and frustrations were often (temporarily) ameliorated through technical means or the extension or modification of 'intentional' aid. For instance, contestation over the initial aid *to* trade strategy in Mozambique led to the aid *and* trade consensus. PO15 often solved minor problems between operators and AIAS by providing equipment. PO15 did not, however, secure some of the conditions it itself considered essential for the future of AIAS or the DMF. Therefore, this task was shifted to its successor project PO35, bringing new hope that it would be achieved after all. PLAMA had met few of its objectives, presenting dilemmas whether or not to go ahead, but support to it was extended. The fifth ASAS program was a source of tensions between Dutch and Mozambican state actors, and was put on hold, but would end up in negotiations on a modified ASAS VI program. In the case of the breach of trust between the two states as a result of the debt crisis, the GON offered a way out by inviting the Mozambican president on a state visit and (water) business trip to the Netherlands. There are more examples, but the point is: resolving disputes and conflicts in specific events such as these does not necessarily affect the powers or resolve the contradictions that give rise to them. This often requires more fundamental changes in (parts of) the structure, and by implication, within the broader political economies and waterscape the relationship is embedded in.

The 2016 debt crisis offered the GON a perfect opportunity to radically confront Frelimo-cum-GOM politics *and* to fundamentally reflect on its own politics. In other words, a crisis this big could have been used for spurring positive and progressive change and to attempt to ease or resolve more fundamentally the primary water aid and trade contradiction. It offered an opportunity to break, in the GON's own words, with "business as usual" (GON 2016c: 1). Yet, as mentioned above and in the previous chapter, the GON was among the first of donors to resume business as usual and to normalise relations with the GOM, by inviting the Mozambican president on a state visit and (water) business trip to the Netherlands. This was a controversial move, as research into the causes of the debts was still ongoing. This was thus a lost opportunity, leaving power relations in Mozambique very much intact, and preventing Dutch agents from radically changing its course in Mozambique. It indicates that the logics not only clash, but that in order to make the aid and trade agenda work in Mozambique, the Dutch state also inherently depends on and makes use of a contested GOM—just like the GOM deeply depends on the aid offered by the Dutch and other donors.

In all, fundamental changes in the structure of this relationship are difficult for a single actor to bring about and therefore require, in the words of one interviewee, "deep system reforms". Indeed, it starts by acknowledging the political nature of water and that a rupture in established power relations is required. This interviewee pointed specifically at reforms required in the Mozambican political system,

i.e. to change the form and direction of the dominant territorial logic. This is indeed needed, but I suggest the same critical lens needs to be directed towards the capitalistic logic of liquid power. This logic keeps incentivising agents to think and act in line with market imaginaries and mechanisms, which has all too often proven to be a problematic guide to understanding and tackling problems in the Mozambican waterscape. It is time to open up space for alternative territorial and economic logics of liquid power to rise in strength, those that put water's use value considerations in the common interest before those of powerful political and economic classes.

The question is thus not one of eliminating logics of liquid power, or pretending they do not exist, as our actions are always ultimately political. The quest is to change the form and direction of these logics of power in such a way that they drive hydrosocial development in Mozambique into a more emancipatory direction. These logics need not be invented. They *are* already there, within both states and societies, and they need to be strengthened. This requires political struggle not just in Mozambique, but in the Netherlands as well.

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Annex I – List of semi-structured interviews

The following table provides an overview of the number of interviews carried out per type of organisation. The names of the interviewees are not provided for reasons of anonymity.

Organisation/ affiliation	Number of interviews
MPOPHRH/ DNAAS / DNGRHR	17
EKN	10
AIAS	5
CRA (water regulator)	3
BZ / DGIS / RVO Foreign affairs/ development cooperation Netherlands	11
Dutch and Mozambican consultancy / private company	12
Municipality members	3
Non-governmental / non-profit organisation	18
World Bank	2
Private water operator	6
Total	**87**