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Water service providers and debt emitters: Kenya's transformation of public water and sanitation utilities' financing

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Abstract

Infrastructure backlogs and basic services provision gaps in rapidly urbanising contexts precipitated a reappraisal of commercial debt for development purposes. Donors and international organisations have started to support the mobilisation of private finance, which has promised to create a sustainable means of financing the extension and improvement of publicly operated basic services and 'fill the gap'. This research sought to explain how this has changed basic services provision in significant ways despite limited mobilisation of commercial resources.

Grounded in an understanding of borrowers as socially positioned entities, the research explored how basic services provision has historically been transformed to enable commercial borrowing by public utilities, who traditionally relied on non-commercial funding sources. Kenya's water and sanitation sector and several of its public services companies were studied in depth through interviewing key sector and utility officials, observing their interactions, and reviewing documents.

The analysis foregrounds the initial lack of capacities to borrow commercially, ongoing difficulties to enforce norms about recovering costs from water users and borrowing from commercial lenders, and the nascent external disciplinary effect of commercial financing – even when merely considered – on utilities and water users. The latter explains the continued support given the non-success in actually and substantially mobilising commercial resources. The thesis suggests that commercial financing is a technically and normatively transformative process that independently of actual transactions reorganises public services provision.

It furthermore argues that commercial financing is best understood as the purposeful practice of *debt emission*. Two contributions to social positioning theory and the concept of normative circles are developed: *Assistive circles* are proposed to explain the practical, next to the normative, influence on occupying and performing the debt emitter position; and *linked positions* or *linked positionings* are proposed to explain the debt emitter position and its relation to the service provider position.

Declaration

I, the author, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (www.sheffield.ac.uk/ssid/unfair-means). This work has not been previously presented for an award at this, or any other, university.

Contents

Glossary **4**

List of Figures **7**

List of Tables **8**

1 Sustainable development and public basic services in financialising times **9**
1.1 Commercially financing basic services for sustainable development? 11
1.2 The research 14
1.3 Thesis structure 18

2 The twofold social positioning in basic services provision: conceptual and theoretical framing of the research **21**
2.1 Causal explanations of laminated systems 22
2.1.1 The critical realist starting point 23
2.1.2 Causal explanation 24
2.1.3 Laminated systems 25
2.1.4 Social activity 26
2.1.5 Underlabouring an empirical inquiry 27
2.2 Social constitution 29
2.2.1 Social positions and their occupancy and performance 30
2.2.2 Collective practices, rights and obligations, power-over relations 33
2.2.3 Multiple positioning 35
2.2.4 Seeing relational structure 37
2.3 Normative circles 38
2.3.1 Norms and their endorsement and enforcement 40
2.3.2 Seeing institutional structure 43
2.4 Complexes of practices of basic services provision 44
2.5 Disentangling debt 47
2.5.1 Finance: the debtor position 48
2.5.2 Power-over relation: extraction and discipline 52
2.5.3 Set of norms: duty 57
2.5.4 Blending social utility with creditor supremacy 59
2.6 Unpacking basic services 60
2.6.1 Material objects and practices of the foundational economy 62
2.6.2 Commodities in the market economy 66
2.6.3 Assets for the fictitious economy 68
2.6.4 Blending public duty with private sector participation 73
2.7 Seeing the complexes of practices in basic services provision 74

3 Research design, data generation, and analysis 77
3.1 Research design: a critical realist case study . . . 78
3.1.1 Questions and aims . . . 78
3.1.2 Ontological and epistemological specificity . . . 80
3.1.3 Case study research strategy . . . 81
3.1.4 Methods for a qualitative case study design . . . 82
3.2 The case and included entities and sites . . . 84
3.3 Data generation and collection . . . 87
3.3.1 Interviewing . . . 88
3.3.2 Observation and workshop attendance . . . 91
3.3.3 Documents . . . 92
3.4 Data interpretation and analysis . . . 92
3.5 Reflections . . . 95
3.5.1 Validity and generalisability . . . 96
3.5.2 Reflexivity and positionality . . . 97
3.6 Exploring and explaining – and evaluating and imagining alternatives? . . . 99

4 The possibility of commercially financing Kenya's water services 100
4.1 The creation of *debt emitter* candidates . . . 103
4.1.1 Local water supplies and corporatisation . . . 104
4.1.2 Strengthening of local level and "political interference" . . . 109
4.1.3 WASCOs' debt emitter candidacy . . . 115
4.2 The positioning of WASCOs as commercial WSPs . . . 116
4.2.1 Revenue ring-fencing and ownership . . . 118
4.2.2 Cost-recovering tariffs setting . . . 119
4.2.3 Underwriting WASCOs' candidacy . . . 122
4.3 The cascade of positioning trials . . . 124
4.3.1 The starting point: grant and concessional funding . . . 126
4.3.2 'Proof of concept': (micro-)financing community projects . . . 128
4.3.3 Scaling up: introducing commercial finance to WASCOs . . . 131
4.3.4 Big money: tapping the capital market . . . 136
4.3.5 The cascade of 'alternative finance' . . . 147
4.4 Alternative *debt emitter* occupants . . . 148

5 Water utilities' capacities to self-reliantly emit debt 151
5.1 Towards WASCOs' self-reliance . . . 153
5.2 Practical adjustment . . . 156
5.2.1 Professionalising companies: practices of managing utilities . . . 158
5.2.2 Commercialising operations: practices of generating cash flows . . . 162
5.2.3 Packaging debt: practices of creating assets . . . 164
5.2.4 Cultivating relationships: practices of gaining support and credit . . . 167
5.2.5 The new practices adjusted to debt emission . . . 171
5.3 The adjustment process . . . 173
5.3.1 Training: capacity development . . . 174
5.3.2 Instructing and doing: guidelines, templates, experiential learning . . . 177
5.3.3 Promoting and liaising: external support and internal exchange . . . 180
5.3.4 The assistive circles transforming utilities . . . 183
5.4 The alignment of WASCOs' practices with *debt emitter* performance . . . 185

6 Constructing the commitment to reliably emit debt 188
6.1 Normative adjustment . . . 189
6.1.1 Accepting the *debt emitter* position . . . 190
6.1.2 Accepting debt emission practices . . . 198

6.1.3 Accepting self-positioning as *debt emitters* . . . 204
6.1.4 The new norms adjusted to debt emission . . . 211
6.2 Discipline beyond donor exit: handing over to local normative circles . . . 212
6.2.1 Initiating donors . . . 213
6.2.2 Supportive state . . . 215
6.2.3 Acquiescent WASCOs . . . 216
6.2.4 Enforcing lenders . . . 217
6.2.5 Localised norm endorsement and enforcement . . . 221
6.3 A tentative normative environment . . . 223
6.3.1 Inconclusive and incomplete norm circles . . . 223
6.3.2 Undeterred support . . . 226
6.3.3 Endorsement for the time being . . . 228
6.4 The commitment of WASCOs to *debt emitter* occupancy . . . 229

7 Conclusions **231**
7.1 The starting point: how has commercial financing changed Kenya's water sector? . . . 231
7.2 Concrete arguments . . . 235
7.2.1 The historical development of the possibility, capacity, and commitment of Kenya's water sector to emit debt . . . 235
7.2.2 The powers and liabilities of water service provision through debt emission . . . 240
7.3 Wider considerations . . . 243
7.3.1 Debt emission . . . 244
7.3.2 Assistive circles . . . 246
7.3.3 Linked positions and positionings . . . 248
7.4 Outlook . . . 250

A EWASCO: pioneer of commercial financing **253**

B List of interviews and fieldnotes **255**

References **260**

Glossary

ABS Asset-Backed Security.

AFD French development agency *Agence Française de Développement*.

AoD KfW's *Aid on Delivery* programme in Kenya, a results-based financing programme that subsidises commercial loans up to 50%. See also OBA.

CBO Community-based organisation.

CEC County Executive Committee. Often referring to a CEC member, i.e. County Government Minister.

CMA Capital Market Authority. Kenya's capital market regulator.

DAC The OECD's *Development Assistance Committee*, which brings together and helps to coordinate 30 donors, including the US, UK, European countries (and the EU itself), as well as South Korea, Japan, New Zealand, and Australia.

DCA USAID's *Development Credit Authority*, which guarantees loans with accredited banks (currently three commercial banks in Kenya).

ELDOWAS Eldoret Water and Sanitation Company.

EWASCO Embu Water and Sanitation Company.

GIZ German technical assistance organisation *Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH*.

IFC The World Bank Group's *International Finance Corporation*, the group's private sector lending arm.

IPC Interim Payment Certificates. Used by WSTF (and others) to certify completion of milestones as agreed before contractors would be paid.

JICA Japan International Cooperation Agency.

KEWASNET Kenya Water and Sanitation Civil Society Network. A national network of civil society organisations in Kenya's water sector.

KfW German development bank *Kreditanstalt für Wiederaufbau*.

KIFFWA Kenya Innovative Finacing Facility for Water. A Dutch-funded private organisation that facilitates investment into water related projects (including hydropower and ports) by de-risking, through financial and technical support, project preparation. KIFFWA is co-developer and an initial investor in KPWF.

KIWASCO Kisumu Water and Sanitaion Company.

KIWASH USAID's *Kenya Integrated Water Sanitation and Hygiene* programme.

KMT Kenya Markets Trust.

KPWF Kenya Pooled Water Fund. A Dutch-funded private organisation that pools loans to public water utilities into bonds issued at the Kenyan capital market. Set up and supported by the Water Finance Facility (WFF).

KWCL Kiambu Water & Sewerage Company.

MAVWASCO Mavoko Water and Sanitation Company.

MD Managing Director. The board appointed managing directors or CEOs of WASCOs are often referred to as MDs.

MFD The World Bank's *Maximizing Finance for Development* programme.

NARUWASCO Nakuru Rural Water and Sanitation Company.

NCWSC Nairobi City Water and Sewerage Company.

NGO Non-governmental organisation.

NWB Nederlandse Waterschapsbank. A Dutch national promotional bank focusing on financing water and sustainability projects in the Netherlands.

NWCPC Kenya's *National Water Conservation and Pipeline Corporation*, established in 1988, that operated several water supply systems until the 2002 sector reform created WSPs/WASCOs.

NWP Netherlands Water Partnership. A network of Dutch water organisations.

NYEWASCO Nyeri Water & Sanitation Company.

OBA World Bank's *Output Based Aid* programme in Kenya, a results-based financing programme that subsidises commercial loans up to 60%. See also AoD.

ODA Official Development Assistance. Specified by the OECD (DAC) as targeted government aid including grants and concessional resource flows.

PPIAF The *Public-Private Infrastructure Advisory Facility*, a technical assistance facility supported by various donors, including the World Bank, to facilitate commercially financed infrastructure development.

PPP Public-Private Partnership.

RUJWASCO Ruiru Juja Water & Sewerage Company.

Sida Swedish International Development Cooperation Agency.

SNV Netherlands Development Organisation.

SPV Special Purpose Vehicle.

SUWASA USAID's *Sustainable Water and Sanitation in Africa* programme, running from 2009-2015.

THIWASCO Thika Water & Sewerage Company.

UNSGAB The *United Nations Secretary-Generals' Advisory Board on Water & Sanitation*, which convened and advised the UN Secretary General from 2004 to 2015.

USAID U.S. Agency for International Development.

VEI An initiative of seven Dutch water operators working worldwide on SDG 6.

WASCO Water and Sanitation Company. Public water utilities are typically referred to as water and sanitation companies of their placename, for instance Embu Water and Sanitation Company (EWASCO). The term is used to refer to public utilities, although in everyday usage they are also often referred to as Water Service Providers (WSPs). See also WSP.

WASH-FIN USAID's *Water, Sanitation, and Hygiene Finance* programme.

WASPA Water Service Providers Association. Created by WASCOs as knowledge-sharing forum.

WASREB Water Services Regulatory Board. Kenya's national para-statal water sector regulator.

WFF Water Finance Facility. A Dutch-funded organisation that set up the KPWF and plans to replicate the model in other countries such as the Phillipines.

WSB Water Services Boards. National organisations introduced in 2002 and responsible for large-scale (e.g. first mile) infrastructure development. In 2016, these became WWDAs.

WSP Water Services Provider. Typically WASCOs serve as WSPs but other organisations such as private companies or community-based organisations (CBOs) may also act as WSPs. See also WASCO. In this study, *WSP* is understood as a position that may be occupied by, for instance, WASCOs, and WSPs as so positioned entities.

WSTF Water Sector Trust Fund. Kenya's national para-statal water sector funding organisation. The WSTF channels grants and concessional monies to water services providers; also, the OBA and AoD programmes operated through the WSTF.

WSUP International NGO *Water & Sanitation for the Urban Poor*.

WWDA Water Works Development Agency. These national organisations, the former WSBs, are responsible for large-scale (e.g. first mile) infrastructure development.

List of Figures

3.1 Map of Kenya. Interviewed WASCOs are shown in bold, visited ones are underlined. Based on Wikimedia Commons maps of Kenya. 85

4.1 Simplified diagram of Kenya's water sector setup introduced by the 2002 reform. Water services in the centre, water resources (not a focus of this research) on the right. Based on WSP (2015b:12) and Dellapenna and Gupta (2009:115). 107

4.2 Simplified diagram of Kenya's water sector setup introduced after the 2016 reform. 110

4.3 Debt emission and absorption. 149

5.1 From facilitating transactions through technical and financial assistance (top) to developing capacities of WASCOs (bottom). 156

5.2 The different sets of practices and their contribution to WASCOs, WASCOs *qua* WSPs, and WASCOs *qua* debt emitters. 158

5.3 The "spiral" or positive feedback between practices that contribute to WASCOs, WASCOs *qua* WSPs, and WASCOs *qua* debt emitters. 172

6.1 Schematic localisation and development of normative circles endorsing or enforcing debt emission norms. 222

7.1 Norms, normative circles, and assistive circles. 247

List of Tables

3.1 Entities included in the study. 86
3.2 WASCOs included in the study. Performance ranking (out of total 88) and creditworthiness rating (AAA-B) according to WASREB (2021). Underlined WASCOs were visited, others met elsewhere. 87
3.3 Data generation timeline. 88
3.4 Interviews conducted by category. 89

4.1 Key events in the transition towards commercially financing Kenya's water sector. 122
4.2 The cascade of trialling commercial financing initiatives. 125

Chapter 1

Sustainable development and public basic services in financialising times

Debt and finance, connected by many at the core of global financial capitalism with the financial crisis of 2007-8 or the Eurozone crisis, and by many at the (semi-)periphery with forceful debt recovery and structural adjustments (cf. Glennie 2010), have, it seems, recovered from such associations. Finance is now promoted for instance as an essential instrument to avoid environmental collapse or to house and provide services to rapidly growing (urban) populations. This has included a negative moment, e.g. the divestment from fossil fuels or the refusal to insure certain trade, as well as a positive moment, e.g. the investment into "green" projects or infrastructure. Despite millions losing their homes after the financial crisis of 2007,[1] governments ignoring democratic decisions to protect creditors (Varoufakis 2015, 2017), and African countries still suffering the loss of billions to, for instance, offshore banking and tax havens (cf. Shaxson 2011),[2] finance has been vindicated, it seems, by foregrounding the social utility and benefit of "sustainable investing". Some creditors and their fund managers have integrated environmental, social, and governance (ESG) criteria into their investment decision-making to direct investments to companies and projects that, in short, promise less risks related to the environment, workers, or stakeholders.[3] Others, so-called impact investors, have explicitly aimed to achieve environmental or social outcomes through their investments. While remaining marginal, these "responsible" investors have promoted finance and debt as indispensable mechanisms of sustainable development.

[1]See for instance Reuters Staff (2008), Adler (2009), and Blomquist (2010).

[2]Africa is not the only continent afflicted by capital leaving for tax havens. Yet given the national and international efforts to increase inflows, these (illicit) outflows remind of capital's primary goal: to accumulate (cf. UNCTAD 2020).

[3]This point is important: such valuation of investments that includes "non-accounting" data of companies or projects is not a 'values-based exercise' but rather one that '[arms] portfolio managers with tools and information to identify risks and opportunities within portfolios' (BlackRock 2022b).

Donors and international organisations supporting sustainable development, too, have discovered finance as crucial means to achieve their ends. Global infrastructure backlogs are staggering – the amount of infrastructure that needs to be built within the next 30 years globally was estimated to equal the amount that has been built since the industrial revolution 300 years ago (WBGU 2016). Understanding this, and recognising that traditional funding approaches have limits, the 2030 Agenda setting endorsed private finance to fund sustainable development:

> An important use of international public finance, including ODA, is to catalyse additional resource mobilization from other sources, public and private. It can support improved tax collection and help to strengthen domestic enabling environments and build essential public services. It can also be used to unlock additional finance through blended or pooled financing and risk mitigation, notably for infrastructure and other investments that support private sector development (UN 2015:§54).

In the same year, the Development Committee (World Bank and IMF) published their post-2015 plan to transform development finance and move from 'billions to trillions' (B2T) (Development Committee 2015).[4] The idea was to utilise the already available billions of public finance to make available trillions of private finance to sustainable development by 'Engaging and Incentivizing Private Finance' (Development Committee 2015). The World Bank has since concretised this through their 'Maximizing Finance for Development' (MFD) programme or 'Cascading' approach (World Bank 2018c, 2017b) that systematically prioritise commercial financing, which, if not directly possible, is enabled or supported through reforms or public de-risking and credit enhancements.[5] Commercial finance has become a central norm and key tool of sustainable development: the OECD and virtually all Development Assistance Committee (DAC) members as well as multilateral development banks, in one way or another, endorse the approach, and a range of technical and financial donor programmes have started to operationalise them.[6] In Kenya, for instance, several pilot programmes have aimed to integrate commercial financing into the country's water and sanitation sector.

[4]The 'discussion note' was jointly prepared by the 'African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank, the International Monetary Fund, and the World Bank Group' (Development Committee 2015:1).

[5]At the same time, the G20 have started to develop a new asset class that is intended to facilitate large scale investments in infrastructure (G20 2018b).

[6]This has a strong urban dimension: these financial times of sustainable development fall into the "urban age". This not only refers to the historic change of more humans living in cities for the first time (cf. UN DESA 2014) but also to a renewed attention to cities, both by international agenda setting (United Nations 2015, 2016; cf. Misselwitz et al. 2016) and national governments. Rapid urbanisation has become a major challenge for sustainable development, especially as it mostly unfolds in contexts where (urban) governments and large parts of the population have scarce resources (Pieterse and Hyman 2014; Pieterse 2011). Sub-Saharan Africa's infrastructure backlog, for instance, is not only extensive (AfDB, OECD, UNDP 2016; Foster and Briceño-Garmendia 2010) but also growing (Hyman and Pieterse 2017), forcing many (new) urban dwellers into underserviced parts of the growing cities (World Bank 2017a); even serviced areas experience issues as infrastructure systems were not designed for the demand.

1.1 Commercially financing basic services for sustainable development?

Commercial financing promises advantages over traditional approaches such as government transfers or development aid (whether grants or concessional loans). Proponents point to the massive potential in mobilising resources, jumping orders of magnitude from billions to trillions, and the associated prospect to rapidly develop infrastructure. The World Bank, for instance, highlights this potential and mentions successful financing and implementation of various large-scale energy projects (see Box 2 in World Bank 2017b:7). In addition to scaling funds, private finance can offer financing in local currency[7] – which promises a break from foreign exchange (forex) risks, associated external debt crises, and forceful debt recovery by international creditors through structural adjustment programmes. This is an important point. Part of the 'Washington Consensus' (Williamson 1993), these "reform" prescriptions to guarantee debt repayment had not only been opposed by debtor countries (and their populations) but increasingly questioned by critical scholarship (Saad-Filho 2010), (former) World Bank staff (Easterly 2001; Serra et al. 2008), or the World Bank itself (World Bank 2005; for an account of the internal struggles see Wade 2001).[8] More recently, Furlong (2020b) criticised unsustainable World Bank lending and perpetual debt retiring and management to avoid default for incurring significant costs to the Colombian state and ultimately water users in Medellín as debt 'trickled down'. Local currency financing evades these issues of repayment and (social) costs; commercial financing, in short, promises to not only mobilise resources but also to avoid the (financial and political) risks of international lending when transactions are denominated in local currencies.

It also resuscitates private sector participation in infrastructure and basic services. International organisations such as the World Bank or IMF as well as donors have long promoted this, focusing on enabling and supporting private operation (and sometimes ownership in full privatisations) of basic services. Commercial financing efforts, i.e. the shift towards de-risking and subsidising private finance, have broadened the approach to include commercial resource mobilisation also in other forms than privatisations or PPPs. This adds and foregrounds private finance's role in filling the so-called "finance gap" (as illustrated by a World

[7]Donors have realised that much commercial financing of development becomes feasible only when transactions were denominated in local currencies (or additional mechanisms to manage foreign exchange risks were in place). Approaches such as blended finance, as well as the initiatives examined in this research, therefore target local commercial banks or capital markets. However, international capital may still be part of transactions by financing these local commercial banks or by buying debt from these local capital markets (see chapter 4). This limits the postulated "trillions", since foreign exchange risk falls to creditors. Initiatives to develop the banking sector and capital markets, as well as institutional investors such as pension funds, therefore often go hand in hand with efforts to scale commercial financing; Kenya features both, which added to its attractiveness for piloting commercial financing approaches (see also chapter 3.2 about case selection).

[8]The connected demise and relative loss of significance of its backing Washington based organisations – IMF and World Bank, the latter having been called the 'seat of orthodoxy in the universe of development policy' (Rodrik 2006:975) – was noted by scholars and former World Bank economists decades ago (Gore 2000; Fine et al. 2001; Stiglitz 2008; Birdsall and Fukuyama 2011; Graeber 2007).

Bank video, World Bank 2018b) next to assertions of the private sector's crucial role in solving operational and funding issues.[9] Importantly, augmenting private sector participation in such ways has presented a solution especially in those situations where privatisations or PPPs have failed or otherwise ended, or where they have been unwanted or resisted. This includes basic services provision such as water supply and sanitation services provision, which has been difficult to attract or retain private sector participation for, or has been kept in public hands.[10] Finance and "gap filling",[11] in other words, have become a crucial instrument of private sector participation in resource mobilisation for, and sustainable development of, basic services – especially when those have remained or re-taken under public ownership.

Commercial financing of (public) basic services, however, has been only slowly adopted and has come at increased costs. This is a problem. First, resource mobilisation needs to outpace, or at least keep pace with, the progressing decay and growing demand. Second, if the UN's endorsement of leaving no one behind and reaching those furthest behind first (United Nations 2015; UN DESA 2017) is to be taken seriously, it needs to provide funds primarily for those communities that have struggled most with accessing basic services. The idea behind the B2T or MFD agendas has been to publicly shoulder some of these costs and redirect the available public "billions" to make the more expensive and risk-averse private "trillions" more accessible and affordable.[12] So-called "blended finance" or other "credit enhancements" de-risk commercial financing transactions and bring commercial finance into sectors and areas that have traditionally been excluded by private investors, and subsidise them to offset the additional costs. This use of public funds to guarantee sustainable and equitable development even when financed commercially and the potential to mobilise multiples of existing resources have widely justified this approach, and the acceptance of the premium that private finance charges over concessional finance, grants, or government funding. Nevertheless, these costs to recruit commercial finance have been substantial in sectors such as water and sanitation – and they have seldom bought the hoped for success.[13] As this

[9]The mobilisation of private resources has been almost universally accepted as key part of sustainable development in the Development industry, although an OECD conference on 'Blended Finance for Water Investment' made clear 'that substantial inefficiencies in the WASH sector in some countries undermine effective use of available funding' and that 'blended finance cannot fix a business model that does not work' (OECD 2018a:2).

[10]The World Bank's examples given for their Cascade approach are telling: private financing of projects tends to occur in sectors that investors have typically been interested in, such as energy (World Bank 2017b:7).

[11]"Gap filling" in this context refers to filling the finance gap, which in extension, so the theory, fills the infrastructure and services gap (i.e. enables development of infrastructure and reduction of backlogs). This is how this research understood and used the term "gap filling", aware that the finance gap is different from the infrastructure gap, and that filling the former not necessarily fills the latter. Goodfellow (2020:4), for instance, pointed out that different "gaps" are evoked when speaking about African economies and cities, and that the prominent "infrastructure gap" quantifies an absence of 'infrastructure considered strategically important for financial markets' but not necessarily a lack of funding or provision of basic services, which may occur differently from the forms seen or expected by (international) capital (cf. Simone 2010; Silver 2014).

[12]It also includes the costs of setting up, for instance, special purpose vehicles such as the Kenyan Pooled Water Fund (see later chapters) that act as intermediaries between service providers and investors.

[13]An OECD conference about blended finance concluded that whereas blended finance could contribute to 'mobilising additional sources of finance for water', 'ambitious efforts by governments, bilateral development agencies and development banks to mobilise additional finance have so far remained uncoordinated and have not delivered the substantial mobilization necessary for delivering the needed investments' (OECD 2018a:1).

study notes for Kenya's water and sanitation sector (see chapter 4), blended finance has mobilised far less than hoped for, despite decade-long preparatory work and substantial public input: instead of mobilising the evoked 1000-fold, donors and the Kenyan government have struggled to merely double their inputs so far.[14]

There is furthermore ground to believe that finance, and relying on it for developing essential infrastructure and basic services, also comes at non-monetary costs. One participant in the OECD conference on blended finance, for instance, raised concerns about whether commercial or blended finance reached everyone and particularly the ones in most need, whether it effectively avoided harm such as unintended consequences, and whether the diversion of public funds to de-risk and subsidise private finance added value (Meeks 2018; see also eurodad 2018; Griffiths and Romero 2018; cf. OECD 2018b; Convergence 2018). Such concerns are echoed in the broader literature about financialisation,[15] which highlights the questionable effect of finance on, for instance, social welfare (Lavinas 2018; Lake 2015; Andreu 2018; Finlayson 2009; Swyngedouw 2004b; see also Tonkiss 2006), urban and social justice (for example in combination with neoliberal ideology, Fainstein 2016; see also Whiteside 2019; O'Brien et al. 2019; O'Neill 2019; Pryke and Allen 2017), or poverty reduction and development (Gabor and Brooks 2017; Mader 2018; Bateman et al. 2019; Hildyard 2016). Financialisation scholarship also critiqued how approaches such as MFD are efforts to counter developmental state measures that aim to address structural issues such as debt and dependency, unfair trade, decline and misallocation of FDI, and (il)licit capital outflows (Gabor 2018; cf. Wade 2018; cf. Bond 2017).[16] Set against the introduction of capital controls by developing countries to better protect themselves against crises such as the 2007-8 financial crisis, this links the promoted development of local bond markets (G8 2007; G20 2011) and an asset class for infrastructure investment (G20 2018b; endorsed by G20 2018a; cf. UN 2015) as well as the IMF and World Bank agendas of B2T, MFD, and sustainable development (cf. Alexander 2014, 2017) to financial globalisation.[17]

Ultimately, such financialised development builds on, and reproduces, relations between creditors and debtors. Even when avoiding foreign exchange risks and related debt crises

[14]This is not to say nothing happened: this study essentially argues that Kenya's water and sanitation sector has been profoundly transformed by all these efforts even if resource mobilisation remained limited (see also section 3.2 about why Kenya is an important case to study these changes).

[15]For the concept, see Epstein (2005b), Krippner (2005), Rutland (2010), and Krippner (2011). For a still useful overview see Zwan (2014). Christophers (2015) offered a critique of the concept and scholarly specialisation (for a response see Aalbers 2015).

[16]Simone (2010) links these issues to infrastructure and argues that African countries need to develop their financial sectors to keep capital in the continent and invested into infrastructure or industrialisation.

[17]Financial globalisation itself is embedded in global capitalism. Finance and debt have played essential roles since the 1970s in the US economy (Krippner 2005, 2011), and in maintaining global capitalism's stability and US (dollar) hegemony – at the expense of other industrial and industrialising regions (Hudson 2003; Varoufakis 2011). Carmody (2018) spoke of the alignment and collaboration of G7/8/20, NATO, and international financial institutions (IMF, World Bank, and other (regional) multilateral development banks) as 'matrix governance' in an attempt to scale up US imperialism to a form of 'ultra-imperialism' that entrenches extractive relations between global North and South.

and international debt recovery, these relations expand the logic and norms of debt into areas and sectors that previously operated under different ones, or have decided to undo privatisations. Importantly, this removes intermediaries. Whereas international borrowing typically involved governments and their treasuries, and PPPs involved private operators, the new regime promotes sub-sovereign or public utility debt to finance the further development of basic services. This pushes financing to levels and entities that have little experience in borrowing, let alone from commercial lenders. Commercial financing, in other words, is not merely a way to scale resources (or extract resources) but also a potentially profound change in *how basic services operate*: next to being *service providers*, utilities become *debt emitters*. This additional role holds and introduces risks to basic services provision, and the recent (and not so recent) history has shown that creditors tend to enjoy better protection in case of economic crises or repayment difficulties.[18] There is then, to reiterate, ground to believe that commercial financing, as an instrument of development, comes not only at a premium monetary cost but also at potential non-monetary costs that originate in the different logic and norms of commercial debt-based development. This study investigates the related transformation and is motivated by two questions: why has adopting commercial finance been slow, and how has it nevertheless changed basic services provision.

1.2 The research

More precisely, the research sets out to explain how public basic services provision has been reorganised for, and through, the integration of commercial finance. This is grounded in the premise that commercial financing transforms basic services provision beyond mobilising resources, associated with potentially both monetary and non-monetary costs (both in the short and long term). To this end, as chapter 3 discusses in detail, the Kenyan water supply and sanitation services sector is studied to explore and analyse the conditions and mechanisms that have tended to make it possible or probable that some sector entities will borrow from commercial banks or entities such as the Kenyan Pooled Water Fund (KPWF). The research therefore has three aims. It aims to understand better the historical emergence of the sector's possibility, capacity, and commitment to finance (some) basic services development commercially. Building on this understanding, it further aims to understand better the causal powers (and liabilities) regarding water service provision produced by the reorganisation of the country's water sector. Ultimately, by developing this detailed understanding of Kenya's transformation of public utility financing, it aims to abstract from this case and theorise more widely about (introducing) commercial financing into public basic services provision.

Two main reasons warrant this study. First, critical scholarship has focused on public sup-

[18]Although Graeber (2011), building on Michael Hudson's early work, showed that the opposite practice of debt cancellation had historically been common and more stabilising for societies and economies.

port of private entities, or the impact of financialised services on the poor. Gabor and Brooks (2017) and Mader (2018), for instance, look into the financialisation of development, financial inclusion as promoted means to fight poverty, and the implication of fintech and private investors in this. Gabor (2021) scrutinises public support of private sector participation in infrastructure and basic services provision through PPPs and conceptualises this new '"development as de-risking" paradigm' as the 'Wall Street Consensus' (WSC), whose key tenet is to reorient the state to cushion and ease private financing of infrastructure by de-risking investments and opening up local financial systems (see also Gabor 2018). Publicly supported commercial local currency financing of *publicly* owned (yet corporatised) basic services, however, has not been addressed in similar ways. This omission is significant since commercial financing of public utilities is not only a crucial expansion of supporting private sector participation (in this case supporting commercial lenders) but also actively and widely promoted and worked on.

Second, where recent research did probe into commercially financing public utilities, this uses a financialisation lens similar to work on financing (through) private entities. Williams (2021), for instance, looks at the two Dutch initiatives to commercially finance water related infrastructure in Kenya (like this research) and argues that these make markets and financial products for 'private capital [that] seeks returns either by investing in the operations of public or private utilities or in individual pieces of infrastructure in return for securitised portions of future revenue' (Williams 2021:8) and therefore '[open] up spaces of development in the global South for value extraction' (Williams 2021:17). While this framing offers an important perspective on the 'arduous and contingent' process of transforming Kenya's water and sanitation services sector – later chapters conclude similarly – it misses other significant aspects of this transformation, why (and how) crucial sector organisations go along with or support it (how precisely such financialisation becomes possible or even probable), and what the arduousness actually entails (both organisationally and institutionally). The analysis in chapters 4, 5, and 6 develops a fuller understanding that includes the perspective of water sector entities and gives a detailed account of the transformation of key organisations and their practices: the water and sanitation companies (WASCOs) as well as other crucial entities such as the sector regulator.

Studying the commercialisation of financing basic services is furthermore warranted given that with the post-2015 agenda setting, finance has received enormous attention by international organisations (e.g. IFIs) and donors, and given that basic services are still a pressing issue (or, with demographic growth, re-emerged as one) in many parts of the world. Globally, hundreds of millions still lack access to 'improved water sources' and over two billion still lack access to 'improved sanitation facilities' (World Bank 2017a:32-3). Most people who lack such access live in sub-Saharan Africa; recent numbers for Kenya, the most advanced economy in East Africa, state that in 'regulated areas', i.e. those served by licenced (public)

utilities, water coverage stood at merely 57% (WASREB 2021:27-9).[19] Providing safe and adequate water and sanitation services to these millions will inevitably require resources. This need for increased funding is widely recognised to be huge, especially in rapidly urbanising contexts (WWAP 2019): to 'meet targets 6.1 and 6.2 [of the SDGs], capital financing would need to triple to US$ 114 billion per annum, and operating and maintenance costs need to be considered in addition' (GLAAS 2017:iv). Finance may play a role here (cf. GLAAS 2017; cf. Castree and Christophers 2015). Any approach to mobilise additional resources for water and sanitation investment, however, needs to make sure that, as the UN puts it, no one is left behind and that those furthest behind are reached first (United Nations 2015; UN DESA 2017). Understanding the changes that mobilising commercial resources bring about in basic services provision can offer a useful critique of the approach and help to follow through on these central norms of sustainable development and safeguard social justice.[20]

The thesis approaches the research puzzle through two themes and key propositions. In the first instance, the research examines the material efforts and practical changes associated with mobilisation of commercial resources. This included donors' activities to prepare public utilities and support their commercial financing attempts, and the gradual introduction of new and changed practices of funding for the extension or improvement of services. The main idea explored through this first theme therefore is that mobilising commercial finance for sustainable development required changing a range of practices, which required substantial efforts by donors and governments. These might spill over into other areas than merely funding: the proposition is that such changes of practices are not limited to *funding* services but would extend into their *operation*. The second theme of the research addresses the normative aspect of mobilising commercial resources in terms of adoption of, integration of, and conformity with finance's norms. The central proposition here is that commercial finance and debt cannot merely be seen as financial resources but that their capacity to promote or enforce associated norms needs to be appreciated as well. In other words, commercial finance changes the normative context that shapes sustainable development, or, more concretely, changes the norms that underpin public utilities' provision of basic services. Ultimately, this also touches on the power-over relation that debt embodies (i.e. the power of creditors over debtors to shape the norms related to development) and the part donors take in establishing and maintaining such relations.

Kenya's water sector is an effective and accessible context to explore these themes given the country's enablement and promotion of commercial financing (see chapter 4). Moreover,

[19] This number has decreased two percentage points since the last report as population growth outpaced infrastructure development and services expansion. Sewerage coverage was reported at 15%.

[20] Such intellectual critique is also much needed since real world needs and practicalities suggest that desperate communities willingly accept commercial financing approaches, notwithstanding the associated tariff increases, because it is cheaper and safer than unregulated alternatives. There is easily a case made in favour of commercial finance because it is a comparative improvement – which may too quickly accept higher monetary costs and disregard altogether non-monetary costs.

the country's banking sector and capital market are sufficiently developed (even aiming for regional leadership) to make borrowing from commercial lenders a real possibility. Finally, Kenya has gone through a range of policy changes and reforms (Ministry of Water Resources 1999; Republic of Kenya 2002, 2013, 2016; cf. Ombogo 2009; World Bank 2018a) to improve on the persistently insufficient coverage of regulated water and sanitation services and achieve greater efficiency and effectiveness in the water sector. These efforts have had two effects. On the one hand, they have created a regulatory and normative environment that has helped donors and the government to implement and trial new financing approaches (see chapter 4). On the other, they have created organisations, including a sector regulator and corporatised water and sanitation companies, that have been able and open to explore these new "alternative financing" approaches. Combined with the comparably well-developed banking sector and capital market, and especially with its recent re-classification as middle-income country,[21] this has made Kenya one of the few countries that has seen donor interest in and support of commercially financing water and sanitation infrastructure. The country was chosen, for instance, as pilot country for an early USAID programme on commercially financing WASH, and for developing a capital market-based financing approach: the Dutch-funded Kenya Pooled Water Fund (KPWF), a pilot project of the Water Finance Facility (WFF) that plans to also take this approach to Indonesia and other countries worldwide.[22]

More generally, basic services make an important area to study given the high stakes of providing essential services such as water and sanitation and difficulties to commercially finance them. Globally, private sector participation in water and sanitation services has had mixed results at best due to popular and political opposition, limited profitability for private operators, and non-achievement of hoped for results (Bakker 2010). Whereas some donors have reconsidered private sector participation in water and sanitation sectors following this non-success and have (again) regarded basic services provision a public duty, blended or commercial financing seems to have been promoted by virtually all donors irrespectively of who owns or operates services. Yet these "issues" have not disappeared, and it remains unclear to what extent lenders are willing to accept publicly owned utilities when they already retreated from financing private ones, or how far public utilities and their owners are willing to go to subsidise transactions to establish lenders' willingness. Water and sanitation, in short, is one of the more difficult sectors to attract commercial finance for (given its contested nature and associated regulation), and one where failures can have devastating effects: water and sanitation are essential basic services, not least for (human) life and, as recent years have urgently demonstrated, public health. This is recognised, for instance, at UN level by the first two targets of Sustainable Development Goal 6 (United Nations 2015) as well as by UN-Water and the WHO, who affirmed that 'investing in WASH provides benefits

[21]This, as some research participants regretted, has made donors, practically over night, switch from providing grants and concessional financing to mobilising more commercial sources.

[22]These efforts have become even more relevant (and increasingly widely supported within the country) since Kenya was declared a middle-income country and donors started to re-think their engagement with the country.

that expand beyond the water and sanitation sector' (GLAAS 2017:iv). Moreover, as the unfolding climate catastrophe makes water supply uncertain and water crises more likely, the urgency of serious actions has grown. Privatisations and corporatisations, however, have not proved as effective as alleged in improving the situation, especially for those in most need (Du et al. 2019; Mitlin et al. 2019), casting doubts on the effectiveness of commercial financing approaches. Basic services such as water and sanitation, then, are critical cases to investigate to learn about the utility of commercial finance to achieve sustainable development, and about the lengths various organisations will go to facilitate this.

1.3 Thesis structure

The research explores the mechanisms behind the historical process of integrating commercial lenders as "alternative financing" sources into Kenya's water sector by investigating related material efforts, new practices, and the change of norms associated with the donor-supported mobilisation of commercial resources. This enables analysis and development of an explanation of both process and product: of both the historical reorganisation of Kenya's water and sanitation sector as well as the emergent power of reorganised services provision to, *inter alia*, attract private commercial capital. Most of the exploratory and explanatory work focuses on the former (the process of the sector's transformation), which underpins the analysis of the latter. This is reflected in the presentation of the research. Whereas chapter and thesis conclusions look at the consequences of commercially financing water and sanitation provision, the bulk of the empirical work, found in chapters 4, 5, and 6, addresses the historical process. These three chapters follow, loosely aligned with the research's themes, the logical steps[23] undertaken by Kenya's government, donors, and international organisations, to integrate commercial finance into the sector's funding. In short: chapter 4 looks at the production of the *possibility* of select sector entities to borrow, chapter 5 then probes the development of the *capacity* of these organisations to borrow, and chapter 6 finally examines the forming of their *willingness* to actually go along with the new sector norms and borrow.

Chapter 4 looks at the three crucial preconditions to borrowing: the existence of an entity within the sector that can borrow, the existence of some sort of assets or collateral this entity can provide as security for any such borrowing, and the permission of this entity to borrow. It does so by tracing the sector's reforms over the last two decades that created incorporated entities (often called water and sanitation companies, WASCOs), which, importantly, have subsequently owned the sector's revenues. Moreover, the chapter looks at the legal environment produced by these reforms and its "enabling" qualities – or, more generally, the absence of any norms that would prohibit commercial financing. A key part of the analysis

[23]These logical steps have, to some extent, been temporal stages; these stages, however, were not clear breaks but rather shifts in focus. The analysis and presentation therefore focused on the logics, acknowledging both the sequential and parallel unfolding of the three steps at different times for different aspects.

is the exploration of the roles of the Kenyan government, related (sector) organisations, and donors in creating this "enabling environment"; of donors in trialling it; and of the resultant reorganisation of the sector. The chapter also briefly looks at lenders, including Kenya's commercial banks and capital market, and their readiness to lend to the sector.

Chapter 5 builds on this and explores the capacity of WASCOs to make use of this environment to borrow commercially. This has been a central part of government and donor initiatives recently, who had recognised that much capacity development was still needed if WASCOs were to rely less on public subsidies, de-risking, and technical support of commercial financing transactions. The chapter therefore looks in detail at a range of efforts from various organisations to work with WASCOs and develop their capacities to mobilise commercial resources more independently. The focus here lies on the introduction and change of (corporate) practices as well as on the assistance WASCOs have received to develop their skills to effectively perform these new or changed practices. In this way the chapter explores a key moment in transforming the sector, crucially by turning public utilities into self-reliant and skilled agents capable of, and therefore increasingly responsible for, resource mobilisation. In short, the chapter follows the integration of de-risking responsibilities and tasks into utilities to make commercial financing of the sector possible and durable without external inputs (from government or donors).

Finally, chapter 6 explores the last step: the commitment of capacitated WASCOs to borrowing commercially. Or, to be more precise, the various efforts of the government and donors that have made utilities go along with their additional designated roles as debt emitters and actually borrow, on their own, from commercial lenders. To this end, the chapter looks at the norms being installed that promote (or prescribe) commercial borrowing by WASCOs as well as the international and local organisations, in the sector and beyond, that disseminate, encourage, or enforce these norms. At the same time, the chapter examines the reasons these norms have been accepted and integrated into the sector by WASCOs as well as organisations that have endorsed them. Lastly, the chapter draws the empirical work to a close by looking at the effectiveness of the normative environment and resulting stability (or instability) of commercial financing approaches in Kenya's water and sanitation sector.

These three empirical chapters are prepared by the two chapters following this introduction. Chapter 2 develops a theoretical and conceptual framing that forms the basis of, and guides, the analytical work. This starts with a discussion at the meta-level of the research's critical realist starting point and continues, building mostly on Tony Lawson's and Dave Elder-Vass' works, with theories of social positioning and organisations as well as norms and normative circles. The chapter then goes into more concrete concepts and theories about debt and finance as well as infrastructure and basic services, finally bringing them all together by building an understanding of basic services financing based on social positions and social positioning as well as underpinning norms and the circles that endorse or enforce them.

Chapter 3 takes the meta-theoretical frame of chapter 2 and explains the research design: an intensive qualitative research of the transformation of the Kenyan water sector in the wake of attempts to commercialise development funding. This includes a detailed discussion of the case, data generation and analysis approaches and methods, their application (including practicalities and limitations), and reflections on the research process and researcher.

Lastly, chapter 7 concludes the thesis in three main sections. A first short section recaps the study: the motivation, puzzle, conceptual and theoretical frame, and its design. The second section then presents the core arguments advanced throughout chapters 4, 5, and 6, focusing on the concrete Kenyan case and what the integration of commercial resource mobilisation has meant for Kenya's water and sanitation sector. This includes, based on these arguments, a concise answer to the research questions. Finally, the third section abstracts from the case and these concrete arguments to propose a set of wider considerations. These are relevant to scholarship in the fields of political economy and development studies and furthermore contribute to the two main theoretical bodies of literature that underpin the research: the theories of social positioning and normative circles. A short outlook on intellectual and practical work to still be done based on these arguments ends the chapter and the thesis.

Chapter 2

The twofold social positioning in basic services provision: conceptual and theoretical framing of the research

This research is about commercially financing the development of basic services in contexts where basic services provision is still insufficient and inadequate, and where the development of basic services had traditionally been funded by governments (whether national, subnational, or donors). The donor-promoted theory of changing the financing architecture is simple: using the public "billions" will make the private "trillions" available, ultimately "fill the (finance) gap", and therefore reach the Sustainable Development Goals. This repurposing of government funds to "unlock" commercial finance and 'supplement, amplify, augment, complement' development aid (World Bank 2018b) is more than a quantitative leap in resource mobilisation, however. It is, this research suggests, rather – and primarily even – a qualitative change of basic services provision. This chapter develops an analytical lens, a conceptual and theoretical framing, that enables seeing beyond resource mobilisation to develop an understanding of the organisational and institutional changes associated with the attempted scale of funds. Importantly, it assembles a framework that enables an analysis of the transformation of basic services provision by bringing into focus the practices and norms that underpin it. The concepts and theories presented here, in other words, help to see and explore how some entities have (been) changed, how service provision as a whole has been reorganised, and how mobilising commercial resources has since shaped service provision.

The starting point for this is critical realist meta-theory (section 2.1). Building on this, sections 2.2 and 2.3 develop a conceptual and theoretical foundation to see and explain the social constitution and organisation of social systems such as public utilities or basic services sec-

tors. Central to this understanding are social positions, the relations between them, and the norms (and their endorsement and enforcement) that shape these positions and position occupancies. Section 2.4 adds a theory of complexes of practices as specific forms of social systems, which furthermore underlines the importance of practices. These three sections underpin a three-dimensional understanding of debt as a financing relation between entities *qua debtors* and *qua creditors*,[1] as an extractive and disciplinary power-over relation, and as a set of powerful norms (section 2.5). Similarly, section 2.6 develops a three-dimensional understanding of infrastructure and basic services as material objects and practices of what has been called the "foundational economy", as commodity and product in the market economy, and as an asset for what might be called the fictitious economy.

2.1 Causal explanations of laminated systems

This thesis is grounded in a critical realist understanding of the world, which bears relevance in two ways. On the one hand, it structures the research process, i.e. enables a range of ways of conducting the study; this is dealt with in chapter 3, which details the research design and choices of research techniques. On the other hand, critical realism provides an explicit meta-theory about what social reality consists of (the nature of reality, i.e. the objects of knowledge) and what can be known about it (conditions for knowledge of reality). In starting with such meta-theoretical frame, this chapter makes clear and explicit the ontological and epistemological presuppositions of the scientific practice underpinning this research project (Bhaskar and Danermark 2006) and sets the ground for answering the study's research question through a critical realist understanding of causality as well as structure and agency. This includes understanding explanation as identification and description of 'transfactually active operation of mechanisms, rather than reporting regular concomitances of events' (Bhaskar and Danermark 2006:296).[2]

This section builds such meta-frame and argues that critical realism facilitates developing an explanation of and answer to the research's general puzzle: the persistence of insufficient basic services funding and coverage despite decade-long interventions to mobilise resources from commercial sources (that promised to "fill the gap"), and the transformation of basic services despite non-success of these efforts. Subsection 2.1.1 outlines the critical realist starting point: understanding the world as an open system comprised of different strata of generative mechanisms. Following this, subsections 2.1.2, 2.1.3, and 2.1.4 discuss critical

[1]Throughout the thesis, position descriptors are italicised. This helps to distinguish between the position and its occupants, which often use the same words. *"Debtor"* thus refers to the *debtor position*, whereas "debtor" refers to anyone occupying such position.

[2]This is an important distinction: critical realism contends that causality needs to be understood as a *tendency* of mechanisms to cause events in open as well as closed systems, i.e. that they are 'transfactually active'. This tendency, when observed in closed systems (laboratory), may appear as a law or regularity. See section 2.1.2 and Hartwig (2007:85-6).

realist causal explanation, the concept of (necessarily) laminated systems to develop richer and more 'practically adequate' (Sayer 2010:47-8) explanations,[3] and the critical realist understanding of social activity. Lastly, subsection 2.1.5 concludes by highlighting the relevance for the study presented in this thesis.

2.1.1 The critical realist starting point

Critical realism's three fundamental claims (its 'holy trinity') are ontological realism, epistemological relativism, and judgemental rationality. Bhaskar's philosophy assumes a reality that is independent of, and shared by, its observers, and knowledge of such reality as 'always historically, socially, and culturally situated' (Archer et al. 2016:6). Still, such socially produced, transient, and fallible accounts of the world can be judged as better or worse descriptions and explanations of reality. The latter explicitly allows for refinements and revisions of (social) science's knowledge about and understanding of the world and for making 'claims about reality which are relatively justified, while still being historical, contingent, and changing' (Archer et al. 2016:7). As such, critical realism distinguishes itself clearly from positivist or interpretivist paradigms, which are rejected, respectively, for their ontic fallacy (ontological realism without epistemic relativism, i.e. 'overlooking the fact that knowledge is an irreducibly social and changing product and that our access to reality is always mediated by the research process', Bhaskar 2016:11),[4] or epistemic fallacy (epistemological relativism without ontological realism, i.e. reducing the world to knowledge of it).

Critical realism, instead of either reducing knowledge to the world or the world to our knowledge, separates our knowledge of the world (the 'transitive') from the world (the 'intransitive') in the sense of assuming a (social) reality that is knowable and (ever better) explainable through science yet 'existentially intransitive', i.e. 'out there' independent of our (fallible and incomplete) knowledge (or beliefs) of it. In Bhaskar's words, 'science is a social product, but the mechanisms it identifies operate prior to, and independently of their discovery' (Bhaskar 2016:47). These mechanisms are the objects of (social) scientific inquiry: critical realism postulates a world consisting of 'things, not events' (Bhaskar 2008:41), and critical realist scientific inquiry is concerned with the 'enduring natures and ways of acting of independently existing and transfactually active things', i.e. 'what kinds of things they are' and 'what they tend to do' (Bhaskar 2008:41). Instead of a perceptual criterion of realness (real is what is directly perceivable), critical realism employs a causal criterion (real is what is caus-

[3]Sayer (2010:47) suggests replacing 'the concept of truth with that of "practical adequacy"'; such 'practical adequacy' is established when knowledge '[generates] expectations about the world and about the results of our actions which are actually realized'. Sayer's example is walking on water: the knowledge that one cannot walk on water, while in principle still fallible, is more practically adequate because the nature of water tends to realise this expectation.

[4]Bhaskar continues: '… the ontic fallacy reduces the resulting knowledge to the world: it ontologises, hence naturalises or eternalises our knowledge and makes the social status quo seem permanent and ineluctable' (Bhaskar 2016:11).

ally explicable and causally efficacious).[5] Moreover, critical realism distinguishes between experiences, events, and mechanisms – Bhaskar's three domains of reality: the domain of empirical, actual, and real. This distinction is significant for critical realist causal explanation since mechanisms may exist and act towards effecting events, even when these are not actually actualised or observed.[6]

2.1.2 Causal explanation

Critical realism develops a theory of causation not based on 'regularities' or 'constant conjunctions of events' but one rooted in generative mechanisms (and powers or liabilities of things), which exist independently of any actual or observable manifestation, and effect any such manifestation transfactually (Bhaskar 2016). The latter refers to the understanding of mechanisms as tendencies (dispositions) that are 'not invariably manifest at the level of events' and operate '"across" both closed and open situations' (Hartwig 2007:85-6). Critical realism, in Bhaskar's words, 'insists upon a three-tiered analysis of dispositions, in which they are seen to be analysed in terms of tendencies possessed but unexercised, tendencies exercised but unactualized and tendencies exercised and actualized in a particular outcome' (Bhaskar 1997:140). What might appear as laws in isolated systems such as the laboratory, critical realism argues, are better understood as rules: generative mechanisms *tend* to cause events. Powers need to be possessed, exercised, and actualised, in particular contexts of other facilitating or impeding generative mechanisms, to generate actualisations (cf. Bhaskar 2016:28). Causal explanations, then, involve inquiries into, and explanations of, powers of things, their exercise, and the conditions (context and interaction with other mechanisms) for actualisation. As Sayer (2010:71-3) put it,

> [...] a causal claim is not about a regularity between separate things or events but about what an object is like and what it can do and only derivatively what it will do in any particular situation. [...] Processes of change usually involve several causal mechanisms which may be only contingently related to one another. Not surprisingly then, depending on conditions, the operation of the same mechanism can produce quite different results and, alternatively, different mechanisms may produce the same empirical result.

To give an example, and preview an argument made later, effective and efficient operation of water services, expressed in an operating cost coverage ratio of over 150%, *tends* to enable commercial financing – but only *if*, for instance, financing transactions are further de-risked

[5]This leads Bhaskar to state that 'everything is real' since 'to deny the reality of a part of everything (of anything) [...] extrudes or detotalizes it or them from the world, that is the rest of the world of which they are in principle causally explicable and causally efficacious parts' – which would produce an 'implicit dualistic or *split* ontology' (Bhaskar 1997:139; cf. Hartwig 2007:400-1).

[6]The three domains of reality have been questioned recently. Fryer and Navarrete (2022) suggested to 'stop talking' about these domains since they were redundant and confusing. Elder-Vass (2022) responded with the suggestion to keep two domains: the actual (which includes Bhaskar's empirical) and what he calls the (non-overlapping) 'potential', i.e. the 'real-but-not-actual'. See also Nellhaus (2022) and Groff (2022).

given the sector's poor reputation among creditors (see chapters 4 and 5). Whether commercial financing occurs, in other words, depends on the combination of utilities' powers to recover 150% of their costs with the possession and exercise of additional powers (by other organisations). This includes the power of decision-making (e.g. to actually commercially finance) and any reasons (e.g. beliefs or convictions, but also "necessities")[7] to decide either way (see chapter 6 and section 2.3 on norms and norm circles below).

Explanations employ a multiplicity of mechanisms that 'jointly [produce] the course of events' (Collier 1994:46), by amplifying or cancelling out each other to variable degrees under different conditions. Since nature and society are open systems (where the former may be closed, at least to some extent, for purposes of scientific inquiry of isolated mechanisms, e.g. in lab experiments), mechanisms that are relevant for explaining an event may (and most likely will) act on different 'layers' of the natural and social world, and fall into several different specialisations of scientific inquiry. Critical realism uses the concept of 'strata', i.e. assumes a world that is stratified:[8] '[…] mechanisms are, so to speak, *layers* of nature, and are *ordered*, not just jumbled up together' (Collier 1994:46). These layers of nature are emergent in the sense that mechanisms of 'upper' layers (e.g. biology) are irreducible to mechanisms of 'lower' layers (e.g. chemistry): the world is not completely explicable through physical mechanisms alone. At the same time, 'higher' layers do not obsolete 'lower' ones. Animals, to use Collier's example, are governed by both the 'laws of […] zoology' and 'physico-chemical and biological' laws, since they 'are after all composed of atoms, and those atoms obey the same laws whether or not they are parts of living organisms' (Collier 1994:47).

2.1.3 Laminated systems

Bhaskar and Danermark (2006) and Bhaskar (re-using a concept of Andrew Collier, 2017:41-8) have spoken of such complex systems of stratified mechanisms and contexts as '(necessarily) laminated systems':

> … typically in the genesis of a social event such as disability, or the formation or functioning of a social thing, or kind of thing or level of determination, physical, biological, physiological or medical/clinical, psychological, psycho-social, socio-material, socio-cultural and normative elements may all be involved. If this is the case, then we may talk of understanding disability as a *"laminated system"*, and to the extent that it is necessarily the case, of a *necessarily laminated system* (Bhaskar and Danermark 2006:288).

[7]As Sayer (2010:75) observed, such reasons need not 'involve "true" or coherent beliefs to be causes'.

[8]The world is stratified at the domain of the real (mechanisms), not the actual (events): '[…] the predicates "natural", "social", "human", "physical", "chemical", "aerodynamical", "biological", "economic", etc. ought not to be regarded as differentiating distinct kinds of events, but as differentiating distinct kinds of mechanisms. For in the generation of an open-systemic event several of these predicates may be simultaneously applicable' (Bhaskar 2008:109).

Next to referring to the stratification of mechanisms, lamination also refers to 'multiplicity and complexity deriving from multiple *contexts* of sociality and that deriving from *scale* of social being' (Bhaskar and Danermark 2006:289). The former uses Bhaskar's concept of the 'four-planar social being' to explain social events, i.e. understand them 'in terms of four dimensions, namely: (i) material transactions with nature; (ii) social interactions between agents; (iii) social structure proper; and (iv) the stratification of embodied personalities of agents' (Bhaskar and Danermark 2006:289). The latter uses a scalar layering of 'agency and collectivity', from the sub-individual to the planetary.[9]

The 'laminated nature' of social systems has implications for scientific inquiry, which has been compartmentalised into different fields or disciplines, since 'ontologically, we are never faced with a mono-disciplinary situation' (Hartwig 2007:259-60). Critical realism, as meta-theory, addresses this by being 'maximally inclusive as to potentially causally relevant levels of reality, or, to put it the other way round, it is ontologically least restrictive, allowing the exact nature of the determinations and their interactions to be empirically determined case by case' (Bhaskar and Danermark 2006:280). Moreover, critical realism 'is maximally inclusive insofar as it can accommodate the insights of the other meta-theoretical positions while avoiding their drawbacks' (Bhaskar and Danermark 2006:280). As such, a critical realist frame allows not only multi- or interdisciplinary work within itself, but also enables the integration of knowledge generated under different philosophical presuppositions, i.e. different kinds of knowledge. Connelly and Anderson (2007:213), working on water, note that 'the more intractable divides lie not between disciplines, but between scientific philosophical paradigms'. With its 'double greater inclusiveness' (Bhaskar and Danermark 2006:280) or 'maximal inclusiveness' (Bhaskar 2016:209), critical realist meta-theory, Connelly and Anderson (2007) contend, offers a workable way to integrate different kinds of knowledge to explain laminated systems such as water issues or urban change.

2.1.4 Social activity

A final critical realist argument about reality is important here: the (temporal) interplay between, and non-identity of, social structure and human agency, which are 'radically different kinds of [things]' (Bhaskar 2016:52). Both Bhaskar's transformational model of social activity (TMSA, Bhaskar 2005:27-87, 2016:51-60) and Archer's morphogenetic/morphostatic model (M/M, Archer et al. 1998:356-81) stress these points. Time is critical in these understandings of structure and agency: 'structure always pre-exists the actions that transform it and always post-dates the actions by which it is transformed' (Bhaskar 2016:52). Social activity, in Bhaskar's TMSA, is a production process of society

[9]See Bhaskar and Danermark (2006:289) and figure five in Bhaskar (2017:45). The seven levels are the sub-individual (psychology of individual), individual or biographical, micro (human face-to-face interaction), the meso (structure and culture, the 'relations between functional roles'), the macro (whole society), the mega ('geo-historical trajectories', 'civilizations and traditions'), and the planetary/global level (global trends).

(which may be re-production or transformation), with 'material' and 'efficient' causes (where the former are the 'pre-given' structures and the latter human agency). In other words: 'Society is both the ever-present *condition* (material cause) and the continually reproduced *outcome* of human agency'; likewise, 'praxis is both work, that is, conscious *production*, and (normally unconscious) *reproduction* of the conditions of production, that is society' (Bhaskar 2005:pp. 37-8).

Social structures, then, are social products themselves, potentially subject to transformation. Accordingly, social activity needs to be understood as the performance of a 'double function': people 'not only make social products, but make the conditions of their making, that is reproduce (or to a greater or lesser extent transform) the structures governing their substantive activities of production' (Bhaskar 2005:41). Consequently, the existence of social structures depends on these 'activities of production' as well as the agents of production (i.e. their conceptions of 'what they are doing in their activity'); moreover, given their dependence on 'active "functionaries"' (i.e. human agents) and their choice of reproduction or transformation, social structures 'may be only relatively enduring'. For human beings to act as (reproductive or transformative) agents, however, they must 'slip', as active subjects, into '"slots", as it were, in the social structure', the '"point of contact" between human agency and social structures', which Bhaskar called 'positions' (Bhaskar 2005:41-4):

> Such a point, linking action to structure, must *both* endure and be immediately occupied by individuals. It is clear that the mediating system we need is that of the *positions* (places, functions, rules, tasks, duties, rights, etc.) occupied (filled, assumed, enacted, etc.) by individuals, and of the *practices* (activities, etc.) in which, in virtue of their occupancy of these positions (and vice versa), they engage. I shall call this mediating system the position-practice system. Now such positions and practices, if they are to be individuated at all, can only be done so *relationally*.[10]

This understanding of social structure and human agency, where human beings occupy positions and, as human agents, produce (re-produce or transform) social structure, which conditions this very production process, is further theorised (and discussed below in sections 2.2 and 2.3) by critical realist scholars.

2.1.5 Underlabouring an empirical inquiry

To conclude: critical realism distinguishes between mechanisms and the events they may generate (and our experience thereof), and avoids the ontic-epistemic fallacy, i.e. taking the world for our knowledge of it, or taking our knowledge of the world for the world. Em-

[10] Bhaskar continues, stressing that 'in social life, only relations endure', yet those relations are to be understood as being between positioned-practices: '[…] the relations one is concerned with here must be conceptualized as holding between the positions and practices (or better, positioned-practices), not between the individuals who occupy/engage in them' (Bhaskar 2005:45).

ploying a causal criterion of realness, critical realism provides a framework for enquiring, describing, and explaining the world based on existentially intransitive and transfactually efficacious generative mechanisms. Causality, in other words, depends on mechanisms that, first, exist independently of events or experiences, and, second, operate as tendencies in closed and open systems alike. These tendencies may (or may not) result in events, depending on other mechanisms and the context. Mechanisms co-determine reality, and may spread across different strata of nature (which are studied in separate scientific fields such as physics, chemistry, biology, psychology, sociology, etc.). Explaining social systems involves unpacking laminated systems of mechanisms, i.e. the complex lamination of mechanisms and conditions at various strata or levels of reality. The object of social scientific inquiry, then, is social structure, which is understood as a social product that depends on production (re-production or transformation) by human agents. For human beings to become productive (re-productive or transformative) human agents, however, they need to occupy positions (or, positioned-practices): here, structure and agency meet.

This is a useful meta-theoretical framework in four ways. First, it makes clear and explicit the research project's presuppositions of reality. Second, it provides a 'maximally inclusive' foundation and structure to integrate different kinds of knowledge across different levels of reality, contexts of sociality, and scales of social being. Third, as social structure itself,[11] it enables social scientific inquiry into the production of a social system by looking at the positioned-practices of human beings. Last, it similarly enables (fallible yet defensible) theorisation and theoretical generalisation based on a theory of causality rooted in mechanisms that may, or may not, actualise as events. This final point builds on critical realism's endorsement of judgemental rationalism, which

> allows us to assert that, although our knowledge is fallible and without sure foundations and is always knowledge under particular socially and linguistically mediated descriptions, nevertheless there can be rational grounds for preferring one to another competing description (belief or theory) (Bhaskar 2016:25).

This underpins the selection of strata and laminae and related theories in the following sections to explain the changes in Kenya's water and sanitation sector as commercial financing is introduced. Debt, for instance, a central "thing" of the research, is understood as finance, a power-over relation, and a set of norms. Each of these natures of debt offer different explanations of what debt is and can do, and what debt and associated agents tend to do. Similarly, infrastructure and basic services are understood as material objects and practices of what has been called the foundational economy, products in a market economy, and increasingly assets for what might be called a fictitious economy. Again, each explains differently what infrastructure and basic services are and can do, and what they and associated agents tend to

[11] 'Moreover, social structures must be conceived as in principle *enabling*, not just coercive' (Bhaskar 2005:43).

do. These explanations focus on the political-economic, socio-cultural and normative, and to some degree socio-technological mechanisms (ranging from the meso to the global level in Bhaskar's seven-scalar social being, Bhaskar 2016:82-4).[12]

Two tasks remain for this chapter. First, the next sections (2.2 and 2.3) turn to social positioning and norm circles, two well-developed concepts and theories of positioned-practices and the constitution of social totalities. This helps to explain the constitution of the social system or totality that is the commercially financed Kenyan water sector, i.e. the production process that involves conditioned human agency as positioned-practices of human beings (or, more generally, persons). Moreover, section 2.4 briefly discusses complexes of practices as useful device to think about different systems of funding and providing water services. Second, sections 2.5 and 2.6 discuss debt and finance as well as infrastructure and basic services as the two most relevant "things" of the study. As noted above, related theories primarily focus on the social, excluding other laminae such as the materiality of water (geology and geography), psychology of central actors, or their micro-sociology. Empirical work in chapters 4, 5, and 6 merely provides pointers to these since the political-economic and socio-cultural/normative were judged most relevant to answering the research questions.

2.2 Social constitution

This section discusses relational structure and the constitution of social reality through social positions and the relations between them. To this end, section 2.2.1 discusses the key tenets of social positioning theory and section 2.2.2 details social positions. Section 2.2.3 looks into multiple positioning, that is the simultaneous occupancy of multiple positions, and previews an argument made later about *linked positioning*. Finally, section 2.2.4 concludes with an explanation of how seeing the relational structure contributes to this study. This is then, in section 2.3, supplemented by an understanding of institutional structure.

Social positioning theory (SPT) is most explicitly laid out by one of the leading scholars in its development, Tony Lawson, in his 2019 book *The Nature of Social Reality* (Lawson 2019), his recent article 'Social Positioning Theory' (Lawson 2021b), and in an interview with him by Jamie Morgan published in the *Journal of Critical Realism* (Lawson and Morgan 2021). Morgan recently also wrote about the theory separately (Morgan 2020).[13] The recency and narrow authorship of this selection of literature, however, is not to say that the theory itself is

[12]This excludes other strata or laminae, even when data suggests their relevance: geological and geographical, including administrative-territorial, mechanisms (some parts of Kenya are dryer, others have a rainy season; some need to expensively pump water, which could be avoided with different borders of mandated areas), and psychological and micro-sociological ones (some utility managers have been more committed to a career than others; some acquaintances and friendships may have influenced the introduction of commercial financing).

[13]My understanding of the theory is mainly grounded in this recent literature; additionally, I heard Lawson speak and briefly explain the theory during the 2021 ICAR conference (Lawson 2021a). Earlier elaborations of the theory (such as Lawson 2012) were considered.

either novel or single-handedly authored. As Lawson explained, the theory has been in development over the last 20 years and discussed weekly at the Cambridge social ontology group meetings (Lawson 2021a). There and elsewhere, the theory has been variously applied (for instance to explain alternative usages of technology, Cardinale and Runde 2021), and further developed and clarified, including conceptualising power as part of SPT to explain effects of institutionalisation (Martins 2021), elaborating nature and importance of trust (Pratten 2017), clarifying organisation as central concept of SPT (Slade-Caffarel 2020), and distinguishing SPT's concept of rights and obligations from other conceptions (Slade-Caffarel 2022). Importantly, SPT stands on the shoulders of critical realism (cf. Bhaskar 2005:44-5) and 'extends' it (Lawson 2021a); also, other critical realist scholars have advanced similar concepts and theories (cf. Sayer 2010:63-5; cf. Elder-Vass 2010b; cf. Elder-Vass 2012) and contributed to the concept and theory of social positioning (see also Elder-Vass 2021).[14] Like critical realism, SPT strikes a 'common sensical' tone (cf. Bhaskar 2016) – Lawson mentioned he, in fact, hoped one thought of SPT as 'banal' (Lawson 2021a).

2.2.1 Social positions and their occupancy and performance

Social positioning theory is an (ontological) theory about social constitution, i.e. a way of explaining the nature (the internal organisation of its parts, and related properties), and synchronic emergence,[15] of social entities. The key to such explanation is a positioning process, in which human beings become social beings by occupying a social position (cf. Lawson 2019:65). These human beings *qua* positioned agents form (purposive) components of a social totality and perform (more or less dedicatedly, more or less successfully) a function of the emergent totality. Positions, then, are the 'contact points' (cf. Lawson 2021b:12; cf. Bhaskar 2005:44) of human agency and social structure within a social totality, and defined as unique 'package[s] of rights and obligations' (Lawson 2021b:10), which position occupants may exercise or fulfil. These rights and obligations, as defined by a position, are matched, inversely, by rights and obligations as defined by another position. These matching

[14]Most notable is Dave Elder-Vass' work on organisations (Elder-Vass 2010b; cf. Elder-Vass 2012). Organisations, similar to Lawson's social totalities or communities, include 'states [...] businesses of all types and sizes, voluntary sector organisations, religious organisations, public enterprises, schools, universities, sports clubs and international organisations such as the United Nations and the World Bank' (Elder-Vass 2010b:144). This work uses a slightly different terminology (for example, 'roles' instead of 'positions', 'role incumbents' instead of 'position occupants') but is otherwise similar to social positioning theory by explaining emergent causal powers through relations between people in specialised roles. Later, Elder-Vass (2016:113) suggested to also add 'non-human material objects' to this work, similar to social positioning theory that includes both persons and non-persons as position occupants.

[15]Synchronic emergence refers to the emergence of a social entity at any given time, as compared to diachronic emergence, which refers to the historical development of a social entity, e.g. the (material-) historical process that formed the entity. While there is always a development process leading to the emergence of an entity, which needs elaboration and explanation, the nature of an entity is not explicable by such explanation alone. In other words, the nature of entities is diachronically reducible to the historical process, but synchronically irreducible to its parts (and their causal powers and activities). In Lawson's words: emergent entities are 'synchronically both causally and ontologically (and not merely taxonomically and epistemologically) *ir*reducible to them' (Lawson 2019:34).

right/obligation pairs form (power-over) social relations. Social structure, then, is the sum of a social totality's positions,[16] i.e. the (internal) organisation of a totality. Importantly, however, a totality is synchronically emergent: it is an 'organised system that has integrity and coherence at its own level of being' (Lawson 2021b:3). The organised elements forming a component of a social totality may be persons (human individuals and others) or non-persons (objects). Lawson refers to social totalities that include 'at least two individuals' as '(human) communities' (Lawson 2021b).[17] The following points unpack this.

1. Social totalities, their components, and their positions

Social[18] totalities are (synchronically) emergent organised systems with properties (such as causal powers or organisation, i.e. 'specific configurations of relations of some type') that are irreducible to the (causal powers) of the elements constituting them (Lawson 2019). This emergence of social totalities is rooted in relational structure, or, as Lawson (2019:3) put it, 'organisation always makes a difference'. The consequences for the totality and its components are that components (of totalities) 'have *relational* features that are *not* possessed by the items or phenomena used in producing them', and that 'these relational features [are] ultimately properties of the embedding totality' (Lawson 2021b:3). Three points about components are important: first, components can be formed from persons or non-persons.[19] Second, components, as such parts of totalities, are irreducible to the underlying elements. Third, components are parts of totalities 'that are both enabled, and when person component powers are exercised, oriented, to performing in ways that contribute to the working of the wider

[16]Social structure 'is merely a general category that collects together the collective practices, acceptances, positions, rules, rights, obligations and suchlike that are emergent features of human actions and interactions and which relationally organise the individuals as communities' (Lawson 2019:61).

[17]Lawson summarises SPT, in Lawson (2019:65), as the 'conception [of social reality] in which the causal powers of human beings *qua* social beings include the positional powers that are the properties of emergent social systems or set of organisations-in-process, organisations in which the human individuals are socially situated and through which they are themselves continually formed and transformed.'

[18]Lawson (2019:2) defines the social domain as the kind of phenomena where the existence of '*all* instances' of that kind 'depend necessarily on us' ('necessitates human beings and their interactions'). That excludes 'instances of those kinds … where the coming into existence of only a subset of instances [necessitates] human interaction'. The *core social* refers to a subset of the social domain where not only phenomena's 'coming into being depends on human beings and their actions and interactions, but their *continuing existence* also does so'. This allows, for instance, for human artefacts that continue without us to be part of the social, yet not the core social, domain.

[19]Persons include human individuals as well as 'legal persons' such as corporations, itself social totalities. Non-persons include objects and human artefacts, for instance trees (that may function as shade in a street) or cloth (hanging between houses functioning similarly). While the focus here lies on communities, SPT may be similarly useful to explain the nature of totalities formed solely from non-person elements: a house, for instance, is (synchronically) irreducible to the natural and human artefacts it is built from (bricks, beams, windows, etc.); the organisation of these elements matters (as builders and dwellers, and possibly even more so architects, would assert). Lawson refers to social totalities as communities when they 'include human individuals, more specifically at least two individuals, among the elements relationally organised to form components' (Lawson 2021b:6). Examples are 'families, neighbourhoods, schools, sports teams, corporations, rock banks, research groups, political parties, nations, international organisations, and so on'. Most social totalities or communities include both persons (individuals or legal persons) and non-persons. A water and sanitation sector is an example: various organisations (notably utilities), water users, as well as pumps and pipes (and various other persons and non-persons) are relationally organised into a whole that provides water and sanitation services.

system, i.e., to performing certain positional or component functions' (Lawson 2021b:19).[20] Or, inversely, totalities work through their components performing a component function.[21] Within totalities, positions are the (occupiable) relational locations associated with, and the definitions of the rights and obligations of, components: 'a position is essentially a locus of a set of specific rights and obligations, where the accepted position occupants are the agents or bearers of these rights and obligations and typically acquire a status or identity associated with them' (Lawson 2019:55).[22]

2. Positioning and position occupancy

Being socially positioned, or occupying a social position, means to be relationally organised in a social totality at a particular position. Position allocation can take various forms, including a (competitive) application and selection process or authoritative allocation. Moreover, allocation may neither be a choice for potential occupants, nor simple as persons may need to 'overcome various obstacles including meeting various formal requirements of entry' (Lawson 2021b:22) or convince gatekeepers.[23] Moreover, allocation may, or may not, depend on persons' capacities to perform associated component functions.[24] Ultimately, allocation is 'almost everywhere a contested as well as a fallible process, with results that are usually regarded as unsatisfactory to at least some parties' (Lawson 2021b:20). Likewise, de-positioning, i.e. leaving or exiting a position, 'does not follow simply from poor performance' nor is it 'simply the choice of the individuals involved' (i.e. position occupants). Community acceptance may be required.[25] The ontological and causal importance of the positioning process is that components possess properties and causal powers (and liabilities) not possessed by occupants of the position associated with it.[26] In other words, 'the compon-

[20]Persons occupying a position and forming a component are, more precisely, component instances; there may be many instances of a component, such as multiple string and multiple horn players in an orchestra.

[21]Position performance is irrelevant for social constitution *per se*, however, according to SPT: 'component instances are formed when positions become occupied irrespective of the capacities brought to the positions by their occupants'.

[22]'A position or rather position occupancy is an accepted status that confers a social identity; to be allocated to a specific position is to acquire the social identity of being so positioned' (Lawson 2019:55), e.g. being allocated to the university lecturer position confers the 'social/positional identity of [...] university lecturer'. Moreover, within communities, there may person and non-person positions, where the rights and obligations of the former 'stipulate allowed and required ways of acting' and of the latter 'stipulate allowed and required uses' (Lawson 2021b)

[23]For human individuals, in particular, accessing positions is often difficult or impossible, and may require 'overcoming numerous barriers to entry and/or forms of resistance and (or including) discrimination'. Often, 'allocation of any person position [...] is usually in the power of members of some authority positioned in effect as gate keepers' (Lawson 2021b:19)

[24]The process, from the perspective of an 'authority to allocate positions', may not always aim to match occupants to positions, who can best perform the component function. Corruption is an example: occupants may be matched as a reward or to guarantee a certain degree of non-performance.

[25]Examples include divorces, leaving the military, or 'giving up on being a member of the Parliament' (Lawson 2019:footnote 41 on page 19).

[26]Or, in terms of Elder-Vass (2010b): specialised roles (positions) confer powers to people in these roles, who act on behalf of the organisation. The organisation works through its members, and 'those properties that the individual acquires by occupying their role are essentially properties of the organisation localised in the individual' (Elder-Vass 2010b:158). Only by relating members, by organising them through specialised roles, do they have 'the effects that they do when acting in these roles' (Elder-Vass 2010b:158).

ent instance formed from an occupant of a position is irreducible to that occupant' (Lawson 2019:21).[27]

3. Position occupants and position performance

Position occupants typically pre-exist their positioning, but may undergo some development (of their capacities/ commitments) to better perform the associated component function.[28]

> Occupants of community positions are mostly *selected* from pre-existing individually distinguishable/identifiable items where these have been either a) produced and/or fashioned or trained to constitute viable candidates for occupancy of the relevant positions, or b) found to be simply "available" in relevant contexts, with some occupants having never been produced or fashioned for social positioning of any kind at all. (Lawson 2021b:14)

Such production, fashioning, or training is often critical for component function performance, which relies on what Lawson (2021b:18) called 'basic capacities', 'specific capacities', and 'basic commitments'. The former two refer to potential position occupants' capacities. These include, first, to 'be subjected to packages of rights and obligations, detect and grasp the contents of rights and obligations, act in accordance with the specified content of rights and obligations' and, second, to perform the position-specific associated component function. The latter, 'basic commitments', refers to an occupant's 'reliable' performance of the component function. This is rooted in the willingness to exercise and fulfil the position's rights and obligations (and be 'trustworthy'), and to trust others to similarly reliably fulfil obligations matching one's rights.[29]

2.2.2 Collective practices, rights and obligations, power-over relations

Integration as component into a community depends on recognition of, and adherence to, its collective practices: the '(collectively) accepted way[s] of proceeding within a community' (Lawson 2019:47).[30] These accepted collective practices are often normative and indeed

[27] 'Whatever the basis on which position occupants are formed and/or individuated, community social positioning always makes a difference. In all scenarios, the positioned items or component instances possess relational properties that the items positioned (whatever the manner in which they have been formed) do not' (Lawson 2021b:15).

[28] Performance is the central purpose of a positioning (except in cases where it is not, e.g. corruption): 'any component instance that performs in ways that fail to contribute to sustaining the characteristic way of working of the totality of which it is a part can, *from the perspective of the [totality]*, be described as performing poorly, or as malfunctioning or even as being dysfunctional' (Lawson 2021b:4). As a consequence, elements forming such poorly or non-performing component instance may be replaced – or, while remaining positioned, may change or be changed. That is, capacity development may occur prior to position occupancy, or during (or through) position occupancy.

[29] Given the agency of position occupants in exercising and fulfilling rights and obligations, such 'basic commitments', and developing them, are critical from a totality's perspective, especially in situations where replacing occupants (with more committed ones) is difficult.

[30] Lawson (2019:47) highlights that 'acceptance' means not necessarily 'preference, agreement, support or approval etc'; instead, 'the term indicates a way of proceeding that is in fact widely adhered to or observed or recognised by members of a specific community, whatever its intrinsic appeal'. Furthermore, collective practices may arise in different ways and may be more or less 'formal', they may 'encompass several components or

'often referred to as norms' (Lawson 2019:49). Such normativity associated with collective practices is expressed in the rights and obligations of positions, where the former mean permission 'to enter into at least some of the community's collective practices' and the latter mean an 'obligation to adhere to its norms or collective practices' (Lawson 2019:50). Three points are important regarding collective practices and their expression as rights and obligations. First, collective practices need to be re-produced by participating individuals: 'any stability provided by a given collective practice is always relative and contingent'. Second, collective acceptance depends on individual acceptance, which includes 'acceptance to participate' in,[31] and 'acceptance of the merit or legitimacy' of,[32] the collective practices (Lawson 2019:51, emphasis removed). Third, collective practices are properties of, and limited to, specific communities, and 'limited further and differentially allocated' within such specific community: 'In short, there is a division of collective practice. It is accepted that certain practices can be followed by some, but not by others. To follow particular practices, it is necessary to belong to specific subgroups within a community' (Lawson 2019:54).

Importantly, these subdivisions of collective practices relate to each other in the way that 'particular practices accessible to some community members are always oriented to, and indeed are constituted in relation to (i.e., are internally related to) different practices accessible to others' (Lawson 2019:54).[33] Together, the availability of particular subsets of practices to specific community members as well as the internal relations of such differentially allocated practices, is theorised as positions, i.e. packages of rights and obligations accessible to occupants of such positions, and as social relations formed between matching rights/obligations of different positions. In other words: collective practices are expressed in rights and obligations, which are "packaged" as, or defined in, social positions (Lawson 2021b). Rights, then, are allowed community-accepted ways of proceeding, obligations are required community-accepted ways of proceeding, and positions the complete accepted set of ways of proceeding (Lawson 2019).[34] Rights and obligations, as a specific set constituting particular positions, may 'emerge spontaneously', where rights are typically 'implicit in

subpractices', and they may be adhered to through 'a range of behaviours consistent with' (Lawson 2019:48-9). Borrowing from a bank, for instance, involves preparing documentation for the transaction, entering into a contractual agreement, and repaying (according to accepted terms). Different behaviours may be consistent with each of these sub-practices: repayment, for instance, may be done through transfers, from escrow accounts, or even through cash deposits.

[31]This requires 'that the individual 1) understands the practice; 2) recognises that it is regarded as "accepted" within the community and so is operative – that is, that it is a collective practice; and 3) is willing (for whatever reason, including purely instrumental ones) to go along with the (range of behaviours consistent with the) collective practice' (Lawson 2019:51).

[32]'[...] individual acceptance of the legitimacy of a collective practice additionally turns on evaluations made of the practice's intrinsic merit, how it was instigated (fairly, openly or otherwise), the nature of its consequences (e.g., whether it involves a community subgroup being oppressed as a result) etc.' (Lawson 2019:52).

[33]These matched practices form what Lawson called 'collective processes', where 'distinguishable episodes or subprocesses' were referred to as 'collective events' (Lawson 2019:55).

[34]Lawson, borrowing from Searle (2010:8-9), refers to rights and obligations, respectively, as 'positive and negative (deontic) powers' (2021b:11), where, in Searle's terms, 'deontic powers' refer to 'rights, duties, obligations, requirements, permissions, authorizations, entitlements, and so on' (2010:9).

certain widely followed individual actions' and obligations expressed in 'norms of human activity'. They may also be authoritatively declared, typically 'expressed in the form of codifications' (Lawson 2021b:11). Social interaction, then, 'can be understood as the contingent actualisations of [...] social relations', which are matched pairings of rights and obligations of (typically different) positions.

Social relations formed between matching rights and obligations pairs are 'power-over relations': 'the exercising of a right to act in some way [...] is *matched* to an obligation to respond in an appropriate fashion' (Lawson 2021b:11). Accordingly, position occupants, by gaining access to rights, are placed in positions of power over others, and, inversely, by becoming subjected to obligations, are placed under the power of others.[35] Social positioning, then, 'works in part as a mechanism of and for rationing and distributing sets of opportunities and powers' (Lawson 2021b:19), which were not available to the persons positioned before their integration into communities as positioned persons:

> In other words, certain powers of coordinated interactions are available to individuals qua community members, constituting affordances, involving rights and obligations, that would not have emerged if human individuals were instead mere-biological beings that just happened to be situated in close time-space proximity of others but without much, if any, sense of group collective practices (Lawson 2019:52).

This link between power (over others) and social positions (defining positional rights and obligations) shapes the pursuit of power, which takes forms of occupying powerful positions, transforming rights/obligations of occupied positions, or creating and occupying 'novel positions with emergent associated rights' (Lawson 2019:58). The latter can be achieved, for instance, by 'establishing and maintaining devices such as companies and other formal bodies' (Lawson 2019:59).

2.2.3 Multiple positioning

Persons[36] may be multiply positioned, either horizontally or vertically. Whereas in both cases a person occupies multiple positions, and hence has or gains access to additional or different rights and obligations, the two differ in regard to respective communities. The former, multiple horizontal positioning, refers to being 'positioned *simultaneously* in somewhat separate communities', where positions are 'merely different', i.e. (more or less) independent of

[35] 'It follows that because rights and obligations are forms of power, there is a sense in which all social relations are power relations' (Lawson 2019:57).

[36] Persons, here and generally in this chapter, refers to 'legal persons', understood, like Lawson (2019:104), as a category that includes natural persons (most human beings) as well as juridical persons, where the latter are part of a 'legal fiction' that purposefully misrepresents social totalities, such as firms, as legal persons to '[provide] the firm in question with the right to access more specific (sets of) rights and obligations that in their design were intended only for (certain groups) of human beings' (Lawson 2019:103). Also, non-persons may be multiply positioned (this is less relevant for this study).

each other (Lawson 2019:100).[37] The latter, multiple vertical positioning, refers to occupying a position that is nested within another position, where these positions belong to 'ever more nested subcommunities of one already occupied' (Lawson 2019:100).[38] It is through this latter multiple vertical positioning that Lawson, for instance, explains gender, race, or class. These are, according to Lawson, positions occupied by persons through a multiple vertical positioning process, where, following Lawson's example (see last footnote), a person may first be positioned as a gendered woman, then, nested within, as a UK citizen, then, more deeply nested within, a member of Parliament, and so forth.

This implies a parallel nesting of communities, where 'gendered women' form a community, of which 'UK citizens' are a sub-community, of which 'members of Parliament' are a sub-community. Lawson does not further elaborate. Yet whereas the second nested positioning seems plausible (to become a member of Parliament, in the UK, one has to be a UK citizen), the former seems less so. Assuming that 'UK citizen' is a nested position within, or sub-community of, 'gendered woman', this would imply that other (in fact multiple) 'UK citizen' communities existed, which were nested within other gender communities – creating a multitude of 'UK citizen' sub-communities. This gets more complicated once other positions such as 'race' or 'class' are integrated, further multiplying the 'UK citizen' (sub-)community. The distinction between internal/necessary and external/contingent relations (Sayer 2010:60-2) is useful here. Whereas 'members of Parliament' and 'UK citizens' are (asymmetrically) internally related roles (at least the former cannot exist without the latter), 'gendered women' and 'UK citizens' are externally related (both can exist without the other). Similarly, to use an example central to this study, a person may occupy a *debtor* position and become a component of the financial sector community. This, too, forms an external relation with the person's positioning as *homeowner* or *employee* or whichever other position underwrites the borrowing. It seems implausible that the debtor position is nested within any of these. (Although, arguably, one of these underwriting positions is needed in practice – if underwriting is not "shoddy", see section 2.5 below).

The matter is complicated, however, since a positioning as *debtor* nevertheless impacts on the externally related underwriting positioning: once a person is a debtor, their homeownership or employment is impacted in ways different from before they acquired a mortgage or loan. Sayer (2010:62) uses the example of the relation between capitalism and patriarchy to observe that 'instances of the [capital/wage-labour] relation may be affected by gender' through 'practices determined by and reproductive of gender which "interlock" patriarchal and capitalist structures'. Such "interlocking" is a mechanism of structures external to the relation – in Sayer's example of the 'less basic structures of particular capitalist societies,

[37]The example given by Lawson (2019:100) is a person being multiply (horizontally) positioned as 'a father, a doctor, organiser of a local dance club, member of a reading group etc.'

[38]Here, the example given by Lawson (2019:100) is 'a particular individual [who] may be a gendered woman, a citizen of the UK, a Member of Parliament in the UK, a member of the UK shadow cabinet (e.g., as the UK Shadow Foreign Secretary) etc.'

such as the British welfare state' (Sayer 2010:62). Later in the thesis, the concept of *linked positions* and *linked positioning* is proposed to account for this. Such linked positioning is understood as a hybrid of multiple horizontal and multiple vertical positioning. Similar to the former, linked positioning occurs across communities (instead of along nested sub-communities). And similar to the latter, linked positioning alters the rights and obligations an occupant of a linked position has access to, by means of the linked positions redefining the rights and obligation packages of each other (by reformulating or removing existing ones, or injecting new ones). Empirical chapters 4-6 and the thesis conclusion (chapter 7) elaborate this regarding the *debtor* position, which, the argument goes, is best understood as a position linked to another position that enables underwriting of any debt emitted (for instance through providing collateral or processes such as assetisation and securitisation).

2.2.4 Seeing relational structure

Social positioning theory, as put forward by Lawson and others, elaborates the 'contact points' (Bhaskar 2005:44) of social structure and human agency: what Bhaskar called positioned-practices. Key to the theory is an understanding of social reality as a multiplicity of organised totalities (such as communities, if human individuals are involved), which, by means of their organisation, are ontologically and causally irreducible to the elements they are formed of. Such organisation occurs through positioning processes, through which persons and (non-persons) are allocated to specific positions within the totality to form components thereof. The resulting totality is emergent and irreducible to its elements since totalities, through organisation, possess causal powers (and liabilities) that are not possessed by their constituting elements. Similarly, constituting elements, by means of being organised in a totality and hence becoming a component thereof, gain access, and become subjected, to a range of associated rights and obligations not available to them otherwise. Positioned persons, in other words, are irreducible to persons being positioned. Furthermore, by being positioned, position occupants (forming component instances), are oriented towards (or, in some instances, coerced into) performing a component function, and may, as a result, (have to) develop new capacities and commitments to perform that function. This includes recognition of and adherence to the accepted ways of proceeding: the community's collective practices.

The theory is useful to understand the changes in the coordinated interactions or relational structure (cf. Elder-Vass 2010b:156) within Kenya's water and sanitation sector as commercial financing is introduced. Later chapters (4, 5, and 6) argue that this introduction is a positioning process, where some public utilities (WASCOs) have come to not only occupy a water service provider (WSP) position but also a *debt emitter* position.[39] Chapter 4 looks

[39]Generally, *water service provider* WSP is a position occupiable and indeed occupied by a variety of persons in Kenya. This study focuses on WASCOs since they are most relevant to the study. Others include private

at how already existing entities (the newly incorporated WASCOs) are positioned as debt emitters. Social positioning helps to see this as a 'contested as well as a fallible process' (Lawson 2021b:20), and furthermore a process that is constantly adjusted – a trialling of sorts. In chapter 5, the concept and theory aids seeing the various capacity development and training efforts to fashion these WASCOs into better performing WSPs and debt emitters, given that these two are linked positions of, respectively, underwriting (debt emission) and funding (water services provision). Finally, chapter 6 makes use of the theory to see how position occupants have been encouraged to commit to position occupancy, to exercising and fulfilling position rights and obligations, and to recognising and adhering to collective practices, given that simply replacing WASCOs with other more committed entities has been rejected and/or difficult. In sum, social positioning enables and facilitates an analysis of the synchronic irreducibility of WASCOs *qua* WSPs and *qua* debt emitters to WASCOs, the ontological difference of WSPs and debt emitters, and the diachronic reducibility of WSPs and debt emitters to WASCOs in terms of the historical process of how WASCOs 'ended up' as both WSPs and debt emitters.

2.3 Normative circles

To further understand the production of what Lawson (2021b:18) calls 'basic commitments', i.e. the reliable performance of the component function or, in Elder-Vass' words, 'role-implementing behaviour' (Elder-Vass 2010b:155), the concept and theory of norm circles are useful. Whereas the previous section discussed social positioning to understand coordinated interaction (or relational structure), this section uses norm circles to understand the normative mechanisms (or institutional structure) that tend to produce 'role observance by incumbents' (Elder-Vass 2010b:155). Together, normative and coordinated interaction mechanisms generate the 'commitment to cooperate' and 'a specific coordinated process of interaction' (Elder-Vass 2010b:155) that generate the causal powers of organisations:

> The way the members of the organisation interact is a product of their normative beliefs, and thus of the norm circles that produced them, but the coordinated interactions within the organisation itself produce a *further* and non-normative causal mechanism that gives the organisation its causal powers (Elder-Vass 2010b:156).

Role descriptions, or the rights and obligations associated with positions, are effectively norms about relations and adequate behaviour of role incumbents or position occupants. Lawson (2019:49-50) observes that 'collective practices are often referred to as norms', and that '[c]ollective practices, in order to facilitate coordination etc., need to persist, and this usually *requires* that relevant individuals conform to (various interacting sets of) them'. As

companies and water vendors, "informal" vendors, CBOs, or individuals themselves.

Elder-Vass (2010b:153-8) puts it:

> Role descriptions implicitly or explicitly specify norms that define how an incumbent of the position concerned must relate to other members of the organisation and also how they must relate to outsiders when acting on behalf of the organisation.
>
> [...]
>
> When a role incumbent does act in the role, she adopts behaviours that have been specified by the organisation, as a result of acquiring a normative belief or disposition: the belief that role incumbents ought to act as specified by the norms that make up their role.

Two important features of 'organisations' (Elder-Vass 2010b:152-68) are the ability 'to adapt and to develop increasingly effective types of coordinated interactions',[40] and their relational structure that include authority relations. This relies on two different categories of role specialisations: 'task-focused' roles and authority roles (Elder-Vass 2010b:161-4). Authority roles (for example management positions in corporations) 'confer authority on their holders' and 'make it possible to coordinate the activities of other role incumbents at quite a detailed level and hence make it possible for the organisation as a whole to achieve much more than would otherwise be possible' (Elder-Vass 2010b:162-3). The interaction between other organisation members, in other words, is coordinated and regulated through authority roles and the formation of internal normative circles that endorse and enforce internal norms.[41] Authority role holders specify task-focused roles and associated expected behaviours, and continuously '[elaborate them] in response to the goals, performance and circumstances of the organisation' (Elder-Vass 2010b:163). These roles (and internal norm circles) are furthermore needed since adequate role performance remains, to some extent, a choice of role occupants: 'acting "in the role"', i.e. the adjustment of individuals' behaviours according to their roles, is not 'entirely determined by the organisation or the role specification'; instead, 'the causal powers of the individual and of other factors also continue to co-determine such behaviour' (Elder-Vass 2010b:159). Next to norm circles, authority roles are therefore important mechanisms to generate reliable performance of the component function.

This short section discusses norms and norm circles as critical normative mechanisms and therefore institutional structure in section 2.3.1. This supplements the understanding of relational structure developed in the previous section above to enable '[recognising] the inter-

[40]Compared to the simpler social forms of 'interaction groups' (Elder-Vass 2010b:146-9) or 'associations' (Elder-Vass 2010b:149-52)

[41]Authority role holders are members of these local normative circles, who, given their authority, exercise 'particularly powerful' support for norms and 'proximate endorsement and enforcement' (Elder-Vass 2010b:165) of them. However, such role-specific authority is neither the only form of authority nor a single determinant one: 'This is not to say that authority in organisations is entirely a product of role specifications; other factors may co-determine the possession of authority' (Elder-Vass 2010b:162). This includes, for example, 'the possession of capital of various kinds', such as business ownership, shareholding, knowledge and skills, or an 'elevated social position outside the organisation'; conversely, 'the acceptance of authority relations by those who are subject to them may sometimes be due to a lack of capital or of alternative opportunities' (Elder-Vass 2010b:162).

action between normative mechanisms and coordinated-interaction mechanisms' and using these 'two separate classes of causal powers' to explain the causal powers of an organisation (Elder-Vass 2010b:156). Section 2.3.2 explains how seeing the institutional structure contributes to this study.

2.3.1 Norms and their endorsement and enforcement

Relational structure depends on roles (or positions), which define an organisation's (or community's) internal relations among members (or components). These roles, Elder-Vass (2010b:164-7) contends, are 'normative constructions' and the 'norms involved are therefore emergent properties of norm circles', which 'are effective because of the beliefs they produce in individual members of the organisation about the normative environment that they face within it'. Elder-Vass (2010b) identifies two categories of role norms. First, local role norms of particular organisations that are backed by internal norm circles, and that define (aspects of) roles specific to the organisation. Second, general role norms that are backed by 'much wider' (Elder-Vass 2010b:165) norm circles, and that define (aspects of) roles relevant to several organisations. For instance, local role norms may define manufacturing roles and processes specific to a particular company, and general role norms may define the eight-hour working day that applies to this company as well as others. An important difference between local and general role norms is the degree of control organisations have over their construction. Whereas organisations control the construction of local role norms, they have much less control over the construction of general role norms. Nevertheless, both co-determine the causal powers of organisations, and they may influence each other positively or negatively.[42]

Given the significance of role norms for the relational structure of organisations, their role performance, and therefore the effectiveness of their coordinated interaction (i.e. performance of the organisation), organisations seek to construct (and continuously re-construct) role norms according to their needs. Whereas local role norms 'are developed entirely within the organisation and by staff acting on behalf of the organisation' (Elder-Vass 2010b:165) and organisations can therefore independently create and change them, this is much more difficult for general role norms. Still, organisations may attempt to influence, as much as this is possible, relevant general role norms, for instance to avoid a mismatch of local and general role norms (Elder-Vass 2010b:166).[43] The important point is that 'organisations have the power to influence their own normative environment' (Elder-Vass 2010b:168). This includes defining local role norms, including by making use of specialised (authority) roles to shape

[42] In the case of a business, Elder-Vass (2010b) lists positively influencing general role norms such as 'honesty, working hard, punctuality and politeness' and negatively influencing ones such as 'nepotism or corruption, or in the case of capitalist business organisations, cultures that are hostile to putting profit before the welfare of employees' (Elder-Vass 2010b:166).

[43] And, additionally, they may c) '… not only shape or modify norms, but even bring normative institutions into existence or destroy them' (Elder-Vass 2010b:166). A typical example is a state.

norm circles, i.e. the groups that endorse and enforce norms:

> By specifying roles, [… organisations] set norms for members of the organisation; by including the enforcement of norms on other members of the organisation in the roles of supervisory staff, they influence the composition of norm circles (Elder-Vass 2010b:168).[44]

It also includes, however, attempts to shape the external normative environment, and organisations may 'not only shape or modify norms, but even bring normative institutions into existence or destroy them' (Elder-Vass 2010b:166).

Essential to understanding and explaining the causal power of (role) norms to influence the normative belief of members of organisations and to produce their particular interactions are 'normative circles' (Elder-Vass 2010b:115-57, 2012:15-34; Elder-Vass and Morgan 2022:15-9).[45] These are specific groups of people – social circles – that acquire 'emergent causal powers to influence their members, by virtue of the ways in which those members interact in them' (Elder-Vass 2010b:122). Importantly, this influence is oriented towards increasing conformity to a norm and enacting a practice (cf. Elder-Vass 2012:26). Normative circles, in other words, possess a causal power 'to increase the dispositions of individuals to conform to the norm endorsed and enforced' (Elder-Vass 2012:26) by them, and therefore 'tend to produce the corresponding practice through the influence it exerts on its members' (Elder-Vass 2010b:123). The mechanism behind this emergent causal power of normative circles is the commitment of members of these circles to endorse and/or enforce respective norms. Members internalise this commitment as an obligation and also expect it from other members, and generally endorse/enforce/enact the respective social norms and practices more strongly and frequently than 'if they were not part of a circle that shares a commitment to endorse and observe the norm' (Elder-Vass 2010b:124). That is, 'members of a norm circle share a *collective intention* to support the norm, and as a result they each tend to support it more actively than they would if they did not share that collective intention' (Elder-Vass 2010b:123).[46]

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[44] Organisations 'can influence the membership of the norm circles supporting role norms by making the endorsement and/or enforcement of those norms part of the roles of certain other positions' (Elder-Vass 2010b:165).

[45] 'Normative circle' is the more general term (Elder-Vass 2010a:132) that includes both 'norm circles' (which endorse/enforce single norms) and 'norm-set circles' (which endorse/enforce multiple norms, or 'clusters of norms'). These normative circles are different from Elder-Vass' organisations but can be understood as a social totality (or community) in SPT terms: 'For example, the social groups I call norm circles, which I take to be examples of what Lawson calls communities, may be oriented to only a single shared concern or commitment' (Elder-Vass 2021:1).

[46] More precisely, '[t]hey may support the norm by advocating the practice, by praising or rewarding those who enact it, by criticising or punishing those who fail to enact it, or even just by ostentatiously enacting it themselves. The consequence of such endorsement and enforcement is that the members of the circle know that they face a systematic incentive to enact the practice' (Elder-Vass 2010b:124). Similar to organisations working through their members, normative circles, too, work through their members: 'The property is the institution and the causal power is the capability that the group has to affect the behaviour of individuals. That causal power is implemented through the members of the group, although it is a power of the group, and when its members act in support of the norm, it is the group (as well as the member concerned) that acts' (Elder-Vass 2010b:124).

Norm support by members of normative circles may take several forms, both positive and negative. The former may include advocacy of the norm and associated practice(s), praise or rewards for enactment, or 'even just [...] ostentatiously enacting' the norm by some members; the latter may include criticism or punishment of 'those who fail to enact it' (Elder-Vass 2010b:124). This 'systematic incentive to enact the practice' (Elder-Vass 2010b:124) is known to circle members and shapes their behaviour: once they are organised as members of normative circles, 'individuals act differently than they would do otherwise' (Elder-Vass 2010b:124). The relational structure of these normative circles, which is grounded in the 'commitment to endorse and enforce the norm' (Elder-Vass 2010b:124), provides a mechanism that generates the circles' causal power to 'increase conformity by its members to the norm' (Elder-Vass 2010b:124).[47] Conformity remains voluntary and is furthermore co-determined by other causal powers of other laminae. Whereas normative circles systematically shape the normative beliefs of members and therefore their norm-compliant behaviour, such normative beliefs may be additionally created or reinforced (or subverted) elsewhere.[48] Elder-Vass (2010b:127-30) refers to the immediate circle, i.e. group of 'actual individuals', that influence the normative belief as the '*proximal* norm circle'. These may be different for each normative belief and 'each individual holding any given norm', and are backed by the *imagined* and *actual* normative circles that make up 'the network of interlinked individuals who actually do endorse and enforce the norm concerned, irrespective of whether the individual has had any contact with them, as long as the individuals in his or her proximal norm circle are part of that wider network' (Elder-Vass 2010b:128).[49]

Four further points are important: First, as indicated above, individuals may still act (and have causal powers) because of their (individual) normative beliefs. Causal efficacy is a laminated whole, and powers at various laminae may interact. Normative institutions, in other words, do not '*necessarily* produce norm compliance' but instead a tendency that may actualise as conformance or not (Elder-Vass 2010b:124-6).[50] Second, normative institutions do not 'necessarily rest on evaluative *consensus*' (Elder-Vass 2010b:125). Members may conform due to 'prudential behaviour in the face of unequal power relations', and disagreeing members may, despite conformance, work 'towards changing those standards'. Not all members, in other words, may be 'morally committed to the norm as representing a just standard

[47]Elder-Vass (2010b:124) notes that this 'causal power is implemented *through* the members of the group, although it is a power *of* the group, and when its members act in support of the norm, it is the group (as well as the member concerned) that acts.'

[48]Normative circles do not physically force compliance but instead systematically incentivise voluntary compliance. Normative beliefs assume a crucial role here: they bridge the 'temporal gap between experience of the normative environment and the execution of a norm-compliant act' (Elder-Vass 2010b:125). In other words, past experiences of positive or negative support of a norm (simply put, reward for enactment or punishment for non-enactment) are internalised as normative beliefs that then shape (future) actions.

[49]The imagined circle is a subset of the actual normative circle based on 'the individual's beliefs (conscious or otherwise) about the extent of the [actual] norm circle' (Elder-Vass 2010b:128).

[50]Compliance may not be actualised given 'other conflicting normative motivations, the belief that a norm could be transgressed without being detected, or strong emotional drives'; also, norm circle members may not endorse or enforce a norm 'on every relevant occasion' (Elder-Vass 2010b:126).

of behaviour'. Yet each member knows of the positive and/or negative consequences of conformity or non-conformity, respectively (Elder-Vass 2010b:123). Third, individuals may be members of various 'cross-cutting' normative circles. The result of this is that 'individuals become sites of normative intersectionality and society becomes a patchwork of overlapping or intersecting normative circles' (Elder-Vass 2010b:133). Finally, norms can be divided into 'indexing' (constituting) and 'normatively indexed' (regulating) norms.[51] The former constitute an entity as another entity, say a football player as goalkeeper; the latter regulates what such positioned entity, i.e. a goalkeeper, should or should not do (Elder-Vass 2012:69-73). Accordingly, then, there are normative circles that sustain indexing as well as normatively indexed norms.[52]

Making use of Bhaskar's transformational model of social activity (TMSA) and Archer's morphogenetic cycle (see above section 2.1.4), Elder-Vass (2010b:133-8) explains the change in social institutions through circle members' ability to either reproduce or transform the social institution during the 'agential moment' of the TMSA. Whereas in the 'structural moment' the normative circle influences normative beliefs (and therefore increases norm compliance), this 'agential moment' allows for change. Factors other than the structural moment of the normative circle may 'intervene causally in the agential moment' and influence the reproduction of a social institution. Individuals may 'change their beliefs and/or behaviours for reasons that are external to the institution' and subvert the reproduction. This may contribute to the transformation of a norm and 'once significant numbers of members of a normative circle change their behaviours with respect to a previously well-established norm, the normative environment is changed.' (Elder-Vass 2010b:135). This process may take some time since circle members need to first repeatedly encounter the changed normative environment before they, too, adjust their normative beliefs to this change. A 'particularly clear negative endorsement by an authoritative source' (Elder-Vass 2010b:136), however, may accelerate this process. At the same time, the change may be resisted by some individuals, and the 'net outcome will depend on the changing balance' (Elder-Vass 2010b:136).

2.3.2 Seeing institutional structure

Normative circles (cf. Elder-Vass 2010b, 2012, 2021) are social groups or, in SPT's terms, social totalities or communities, that tend to produce normative beliefs among their members to increase conformity with the norm they back and norm-compliant behaviour. This causal power, understood in critical realist terms to produce the tendency of members to conform, is grounded in these circles' relational structure and members' commitment to endorse or

[51]There are furthermore 'indiscriminately indexed' norms, which, while indexical, i.e. referring to an entity, do not depend on an indexing norm; instead, they apply to everyone, or, in other words, 'there is no limit on which specific actors or objects its indexical terms refer to' (Elder-Vass 2012:71).

[52]Normatively indexed and indexing norms cannot function without each other: the normative aspect of property, for instance, is meaningless unless one knows *both* what counts as property and what one may or may not do with/to property (Elder-Vass 2012:72).

enforce respective norms. At the same time, members may subvert the reproduction of norm endorsement or enforcement and, given significant numbers of members do so, change the norm endorsed or enforced by the circle. Normative circles may include members with different levels of authority over other members and norm endorsement or enforcement, and those with more authority may more powerfully support the respective norm, or advance (or resist) its change. Furthermore, normative circles back both indexing norms, i.e. norms that define who or what constitutes as someone or something else, and normatively indexed norms, i.e. norms that define what someone or something *as someone or something else* can do. Social totalities or communities, such as corporations or a country's water and sanitation services sector, critically depend on norms and their backing normative circles for their internal organisation: norms define the different positions or roles, their occupancy eligibility (i.e. who can occupy a particular role), and the respective accepted ways of performing them. Norms and normative circles, in other words, are the institutional structure that underpins the relational structure. Norms, endorsed and enforced by normative circles, make coordinated interaction possible by producing the normative beliefs that sustain position occupants' or role incumbents' performance of norm-compliant practices.

The concept of normative circles is a helpful device to understand how the relational restructuring, which has taken place in Kenya's water and sanitation services sector as commercial financing has been introduced, has been initiated and sustained. The former is subject of chapter 4, which examines the creation of the *debt emitter* position and the selection, or indexing, of WASCOs as *debt emitter* position occupants. Later, chapter 6 looks at the construction of utilities' commitment to reliably perform the debt emission function by performing accepted practices. In both instances, the concept and theory of normative circles helps to see the various actors (and their networks), relations, and efforts that sustain the newly created relational structure of the sector that includes debt emitters (and other entities needed for effective commercial financing). This includes actors with higher role-specific authority (for instance the sector regulator) or otherwise higher authority (for instance donors given their various capital such as funds, perceived knowledge, or reputation). Chapter 5 adds to the theory of normative circles by developing the concept of specialised normative (sub-)circles, in this case "assistive circles" that use assistance to endorse particular norms.

2.4 Complexes of practices of basic services provision

Central to understanding the performance of component functions by positioned entities (such as persons or organisations) are practices, understood as what these entities actually do. Practices are crucially shaped by normative beliefs produced by normative circles over time. For instance, Bakker (2010) pointed out and discussed in detail how water and sanitation services provision has taken different forms depending on respective norms. The 'municipal hydraulic paradigm' has sought to establish a (sub-national) state-provided, centralised,

citizen-oriented, public interest service. The ‘market environmentalist’ paradigm, by comparison, has striven to engage the private sector to provide a for-profit, centralised, customer-oriented service that (fully) recovered service costs from user fees. Finally, the ‘community artisanal’ paradigm has focused on community organisations to provide water to community members in decentralised ways to realise security of supply (Bakker 2010:32, Table 1.2). Each of these paradigms has provided a normative environment that encouraged or required particular practices. These three normative environments are typically assumed to be mutually exclusive (especially the public-private dichotomy), and therefore superseding each other historically. Bakker (2010), however, describes a case where several practices typically understood belonging to different paradigms are adopted simultaneously, observing that Porto Alegre, which is ‘exceptional for its approach to water supply management’,[53] ‘suggests that the complex reality of urban water-supply access refutes conventional notions of “public” vs “private”’ (Bakker 2010:213-4). The city’s water department (DMAE) ‘appears to be efficient, equitable, and effectively managed’, uses ‘socially and environmentally progressive’ tariffs that keep water affordable *inter alia* by cross-subsidising, employs democratic practices such as a ‘deliberative council’, a ‘social audit’ process, and ‘participatory budgeting’, and ‘outsources (contracts out) 40 percent of its activities to the local private sector’ (Bakker 2010:213).

Porto Alegre’s DMAE, or any other case of heterogeneous provision of basic services that do not fit neatly into either side of the public vs. private debate (including corporatised yet publicly owned utilities), illustrates two important points. First, analysing what water utilities actually do, i.e. their practices, is useful to understand these entities. Practices, in other words, provide for a finer and more useful unit of analysis than the distinction between public, private, and communal service provision (or between government and donor-funded, and commercially financed entities). Second, these practices may be combined in ways that defy such monolithic theorisations of basic services. Still, these combinations of practices are not erratic and can be analysed as distinct forms of, for instance, services provision. The three paradigms described by Bakker – the municipal hydraulic, the market environmentalist, and the community artisanal – are examples of such forms of water services provision. As Porto Alegre shows, however, other forms are imaginable and, the case suggests, similarly or even more successful at providing water and sanitation services.

A useful way of conceptualising and theorising this is the concept of complexes of appropriative practices, developed by Elder-Vass (2016:96-114) to make sense of the digital economy. These complexes, Elder-Vass argues, make up the different economic forms present in our economies: instead of cruder analyses that only see the market economy or different modes of production throughout different times (or in different sites or social settings like

[53]Bakker (2010:213) noted that ‘over 99 percent of the city’s population (of approximately 1.5 million) are connected to the water supply network, and nearly everyone pays their bills—both phenomena a rarity in Latin American cities.’

in the company or at home), Elder-Vass (2016:96, emphasis in original) contends that 'we can understand different economic forms more productively as *complexes* of appropriative practices'. This enables analyses of the multiple and diverse economic forms found today, including capitalistic or gift economy forms:

> The framework accommodates diversity by recognising not only that there is a broad range of appropriative practices, but also that appropriative practices may be combined with each other in a variety of different complexes, and that the same practice may contribute to different economic forms when it forms a part of different complexes. It is these *complexes* of practices, I argue, that are distinctive economic forms, with different systemic consequences (Elder-Vass 2016:96, emphasis in original).[54]

Elder-Vass defines practices as

> [...] a tendency to act in a certain way, usually a tendency that is both reinforced for the individual and standardised across individuals by normative social expectations, although other factors can also contribute to the standardisation of practices, notably standardised material objects.

This uses his earlier work on normative circles (see section 2.3 above): underpinning practices are norms, which themselves depend on normative circles that endorse or enforce them.

> Practices are primarily the product of social norms: standardised expectations about how we should behave. Norms in turn are primarily the product of endorsing and enforcing behaviour by members of social groups that I call norm circles (Elder-Vass 2016:99-100).

These normative circles 'may be diversely intersectional' and produce normativity in a 'variegated fashion depending on the size, range and strength of the many different norm circles that operate within' society (Elder-Vass 2016:100; cf. Elder-Vass 2010b:131-3). Practices, then, are produced by 'a complex of norms' that are supported by intersecting actors with various degrees of power in shaping norms as well as endorsing and enforcing them.[55]

Complexes of appropriative practices, Elder-Vass (2010b:106-13) contends, offer several ways 'to theorise social relations more flexibly' than singling out one particular (economic) form or focusing on 'monolithic [conceptions]' (Elder-Vass 2010b:107). First, it allows seeing the coexistence of different (economic) forms. Section 2.6.1 below traces an understanding of infrastructure and basic services provision in related literature in these terms: as coexistent complexes of practices. Second, it allows researchers to 'examine such co-

[54]Elder-Vass (2016:96-7) continues: 'Strictly speaking, though, it is not practices or complexes that act causally; these practices have to be combined with people and things to form social structures like households, firms, states and other forms of collective to give us the entities that interact to produce economic phenomena'.

[55]This includes codified norms like the law: 'Property is only property because we collectively accept that it is so, and in particular because we collectively endorse and enforce the norms and practices that make it so. Such practices are bolstered by law, but law itself depends on, and can be seen as a form of, normative endorsement' (Elder-Vass 2016:101).

existence' (Elder-Vass 2010b:107), including the struggles 'over which complex of appropriative practices is to prevail in which circumstances' (Elder-Vass 2010b:108). This is a useful lens later in chapter 6 to understand the efforts to encourage the self-positioning of WASCOs as debt emitters. Third, it allows or 'makes it easier to theorise varieties of a form' (Elder-Vass 2010b:108) as well as, fourth, their 'systemic effects' (Elder-Vass 2010b:111) and, fifth, the systemic effects that 'might arise from the interaction of *different* economic forms' (Elder-Vass 2010b:111, emphasis in original). Commercial financing of water utilities, for instance, may take different forms with different 'systemic tendencies' (Elder-Vass 2010b:108). Later chapters discuss two key ones: financing commercially through commercial banks and through investors. Moreover, this enables the development of pointers to alternatives by taking underwriting as the defining practice of different forms of commercial financing.

Elder-Vass (2016:105-6) is concerned with economic forms and focuses on '*appropriative* practices because the distribution of the benefits of the economic system is precisely what political economy is about, and appropriative practices are precisely those that affect these issues'. But the concept is also useful without the qualifier – or a different one – as complexes of practices. The public/ private/ communal distinction not only relates to operation and ownership but also to the funding and financing of utilities, and an analysis focusing on what utilities actually do in this regard is useful to understand resource mobilisation. Through this lens, the funding and financing of water utilities are several practices produced through norms and combined into specific complexes. Some of these complexes form the government funded water department or public utility, others the commercially financed private water company, and yet others the commercially financed public water company. Moreover, the same utility, for instance a public water company, may employ several complexes of practices to mobilise resources from different sources simultaneously: from the government, from donors, from commercial banks and investors, from communities, and from water users. Chapter 4 looks at the history and different forms of resource mobilisation in Kenya's water sector and chapter 5 at the related adjustment and reconfiguration of practices. This analysis foregrounds the diversity of practices and their combinations in interacting complexes, and the overlaps in these complexes, i.e. the contribution of specific practices to different complexes of practices, potentially to different ends (cf. Elder-Vass 2016:96 quoted above).

2.5 Disentangling debt

Understanding the increased reliance on commercial financing of infrastructure, the often associated commercialisation of services provision, and the potential changes in infrastructure development and services operation requires disentangling the underlying concept of debt. As understood in this study, debt is causally efficacious both as finance and a more general power-over relation, which are both underpinned by norms (including moral ones).

Whereas it is debt's efficacy as finance that promises 'gap filling' and thereby reducing infrastructure development and maintenance backlogs, it is the power-over relation that crucially impacts the foundational economy (see section 2.6.1 below) and social life more generally. Both, however, are constituted and regulated by a set of norms, which define the rights accessible to, and obligations impressed upon, persons or entities positioned as *debtors*, and instil specific social practices in them.

This section about debt looks into these matters sequentially. First, debt's efficacy as finance is examined in section 2.5.1. This includes a discussion of the structural environment and underpinning norms that promote *debtor* positionings, and the growing importance of finance (in contemporary capitalist societies), for funding ever more aspects of (personal and) social life. Second, in section 2.5.2, the debt relation is seen as a critical power-over-relation that influences the governance of social totalities or organisations such as states, corporations, or also families. Third, section 2.5.3 looks at debt as a social institution, the various related norms and normative beliefs (most notably that "one has to pay one's debts"), and the normative circles that back them. Finally, section 2.5.4 concludes the section with a short summary and by problematising the tension between the social utility of debt and the imbalance of the creditor-debtor relation at the expense of debtors. Together, the section develops an analytical lens on "gap filling" that sees related efforts both as a workable solution to pressing issues of development (and Development),[56] and as a powerful part of financial capitalism. This will draw on the rapidly growing financialisation literature; on scholarship about the history, philosophy, and social relevance of debt; and on critiques of what has been described as financial globalisation or new forms of financial or monetary imperialism.

2.5.1 Finance: the debtor position

Debt is a relation between *debtors* and *creditors* and respective rights and obligations. These matching rights/obligations pairs include primarily the *creditor's* making available of funds to the *debtor* (for a given duration) and the *debtor's* repayment of funds (plus a premium, according to agreed terms). Ideally, this is a mutually beneficial relation between debtors (who have an immediate use for extra funds) and creditors (who do not), i.e. a relation that matches negative liquidity problems of some economic actors (lack of capital to, for instance, expand or restructure production) with positive liquidity problems of others (surplus of capital that earns no profit).[57] Depending on, *inter alia*, the severity of liquidity problems and

[56] Following the distinction between development as 'immanent process' and 'intentional practice' (Cowen and Shenton 2005), and between development as the change of societies (with winners and losers) and Development as a deliberate effort by development agencies (Hart 2001; cf. Lewis 2019; cf. Hart 2009).

[57] Liquidity problems are fundamentally different from insolvency, as former Greek Minister of Finance, Yanis Varoufakis, repeatedly pointed out when negotiating a possible 'hair cut', i.e. debt relief, for Greek government debt: insolvency is a durable inability to repay debt, unlikely to get resolved by borrowing more (if creditors would indeed still consider lending), whereas liquidity problems are underpinned by a certain confidence that the debtor will be able to repay the creditor as agreed.

the normative environment, however, the debt relation may be asymmetrically beneficial to either creditors or, more seldom, debtors.[58] Furthermore, debt is an important relation for the bigger totality, i.e. the capitalist economy and society: next to taxation, the debt relation effectively recycles surplus capital into some sort of investment or consumption to avoid or solve crises of over-accumulation[59] and prepare and facilitate further accumulation (cf. Tonkiss 2006; Harvey 1978).[60] Historically, imperialism and colonialism (cf. Landes 1958; Abu-Lughod 1971) provided a 'spatio-temporal fix' (cf. Jessop 2006) that recycled First World surpluses in the Third World. More recently, the US dollar hegemony has created a 'Wall Street' based system that recycles surpluses (petrodollars or trade surpluses) as USD denominated (US government) debt (Hudson 2003; Varoufakis 2011; cf. Desai 2013:226-61).

Debt as finance, then, has two important functions: to solve liquidity problems of economic actors, and to recycle surpluses to stabilise capitalist economies and societies. On the level of individuals or organisations, borrowing may as well be a choice (as far as, in some instances, borrowing for survival can be a choice). From the perspective of systemic stability, however, surplus recycling and related borrowing[61] is critical: someone needs to borrow. Entering and occupying a *debtor* position, i.e. becoming positioned as debtor, then, needs to be explained on two distinct levels: through debt's function for entities positioned as debtors *and* for the involved greater totalities. This requires case-specific identifications and explanations of 1) the entities entering and occupying debtor positions and their dispositions to do so, 2) involved totalities and their structural dependence on some entities occupying debtor positions, and 3) the mechanisms of these involved totalities that work on potential entities to enter and occupy debtor positions.

The second point, involved totalities' dependency on some members occupying debtor positions, is important. As outlined above, capitalist economies have long depended on surplus recycling, including through debt relations. This may occur on various scales (in various nested totalities), including the sub-national, national, regional, and supra-national capitalist economies. At the same time, however, totalities such as more specific communities like a country's water sector may depend on some members borrowing for other reasons. Whereas

[58]Typically, creditors are in a position to define terms, especially when debtors are in urgent need and the normative environment to protect them is absent: 'loan sharks', for instance, as well as international lenders have often been able to extract value from (financially distressed or even insolvent) debtors, who repaid multiples of the initial principal due to their weaker position, soaring interest rates, and/or currency devaluations (cf. Graeber 2011). The recent liquidity flood in the wake of, and as response to, the financial crises of 2007/8 and later in Europe, however, left creditors searching for still profitable debt relations.

[59]These crises of over-accumulation 'appear both as excess capacity in the economy (surpluses of capital, commodities, plant or labour power that can find no profitable or productive use) and as under-consumption (a lack of effective demand in labour, consumer and other markets)' (Tonkiss 2006:17).

[60]Harvey (cf. 1978, 2003, 2005, 2016 [2008]) works out a range of temporal and spatial 'fixes', where the former refer to investment into the built environment (e.g. infrastructure) and social spending (e.g. education or more generally the reproduction of labour force) that prepares the ground for future accumulation cycles, and where the latter refers to processes of globalisation, or, in Tonkiss' words, 'the spatial expansion of economic networks and the colonisation of new markets' (Tonkiss 2006:18).

[61]Or taxation.

surplus recycling may be done by any borrower (as long as there are enough), some more specific totalities, in other words, may require specific members to borrow. Water sectors, for instance, may depend on commercial finance to bridge their liquidity problems ('fill the gap') when 'traditional' funding options become insufficient or unavailable. They may, therefore, actively work towards identifying and fashioning some members to borrow on their behalf.

Communities that depend on some members occupying debtor positions, in other words, may enable and, if necessary, obligate them to do so. Through position specifications and allocation of entities to these positions, entities, *qua* components, may, or must, borrow not only to their own benefit but essentially on behalf of, and to the benefit of, the community they are a component of. The two benefits may match – the function of borrowing of a component of a water sector typically aligns well with the reason of the water sector to enable or obligate it – or not: a capitalist economy merely requires someone to borrow and absorb surpluses, regardless of the component's merit of doing so.[62] This indifference has an important consequence: whereas communities like the water sector may define positions (rights and obligations to borrow) very specifically, communities like a capitalist economy typically remain under-specific in regard to borrowing rights and obligations. In other words: while some communities distribute borrowing rights and obligations in very targeted ways, other communities struggle to have rights and obligations to borrow clearly anchored in specific positions. Instead, communities such as capitalist economies give the right to borrow to (virtually) everyone and largely do without obligating anyone, hoping that enough will borrow (or have to borrow for other reasons) anyway.[63]

The addition of a right or obligation to borrow (or lend), i.e. the addition of the endpoints of debt relations to the structural template of communities, is underpinned by a set of norms and their supporting normative circles. A first set are the indexing norms that define who may (apply to) occupy debtor positions in the first place. In capitalist economies, this includes nearly every individual or organisation.[64] Some nested communities of such capitalist economy may override these norms and have community-specific ones in place that restrict the inherited right to become a debtor for (some or all of its) members. National states, for in-

[62]The 2007/8 sub-prime crisis makes a good example: highly risky mortgages not only allowed many to buy a home but also absorbed capital, kept the construction sector busy and finance sector profitable, and the overall economy growing. Other solutions to the underlying crisis of over-accumulation, ones that did not rely on subprime debt and fraud, were thinkable and possible; the important point, however, is that, from a (short-term) systemic perspective, this solutions was as good as any other, despite the massive long-term cost and devastation of lives.

[63]As part of his theory of 'switching of capital circuits' (Harvey 1978), Harvey also foregrounded the state as a sort of debtor of last resort: recycling surpluses through investment into the built environment, for instance, requires powerful orchestrators that are able to absorb enough excess capital and coordinate accumulation-oriented investment into, for instance, infrastructure. Historically, states provided that function. However, any big enough (and creditworthy enough) organisation, *qua debtor*, can take this role. With the 'financialisation' of the economy, private/commercial debt has become an important mechanism of surplus recycling.

[64]Occupying related *creditor* positions is possible for virtually everyone through the mere act of lending something, including money, to someone else. However, larger and more formalised transactions typically require (for instance banking) licences or permissions, i.e. depend on a set of indexing norms. This research, however, is mostly interested in the *debtor* position and thus focuses on debtors.

stance, may restrict sub-sovereign borrowing or prohibit any state-owned organisation from borrowing (unless certain criteria are met). Importantly, these indexing norms, often codified in laws and regulations, are typically enabling norms: they underpin the modification of the structural template of communities to include borrowing rights (if not obligations). A second set are norms that promote and justify borrowing. These norms and their associated normative circles may compensate for the lack of clear definitions of the right and especially the obligation to borrow in some communities. By establishing (certain ways of) borrowing as an accepted (or desired) way of proceeding when faced with liquidity problems, these norms, together with the structural configuration of communities, increase the disposition of consumers,[65] organisations, and states to borrow. These norms may also work negatively (and underpin associated restructuring of communities) by discouraging other solutions to liquidity problems. Finally, an important third set of norms shapes what is seen as a liquidity problem and as such crucially underpins the role of debt in funding individuals' and organisations' activities.[66]

In short: debt is an ideally mutually beneficial (though possibly extractive) financing relation between creditors and debtors that, in addition to the merit for creditors and debtors, performs a function for the communities of which these creditors and debtors are members. Entering and occupying debtor positions is co-determined by both the structure of communities – through rights and obligations definitions of positions, through liquidity (or insolvency) problems created by the structure of said communities – as well as a range of norms. These norms include norms that define who may or should occupy debtor positions, norms that promote and justify borrowing by those who may or should, and norms that define when and where borrowing should be the solution to insufficient funds in the first place. Debt, understood as finance and solution to liquidity problems, has allowed individuals to build homes, organisations to expand, and economies to grow. Recently, finance has even grown to an important economic activity and big economic sector itself (see the literature on financialisation, for instance Krippner 2005, 2011; Zwan 2014; Epstein 2005a; Mader et al. 2020b). At the same time, debt has long been accused of being an instrument of value extraction, often from the very persons in most need of funds. 'Usury' or 'abusury' (Douglas 2015), the practice of charging (unjustified high) interest, have thus been subject to strong (moral) norms in certain communities. The increasingly important Islamic Finance, for instance, follows such moral norms.

[65] Continuing with the subprime crisis example: a set of norms, supported by associated normative circles, for instance, encouraged homeownership in the first place, buying homes with mortgages, and lastly offering (and seeking) mortgages and homeownership even to (by) the riskiest debtors. Similarly, the widespread use of credit cards is underpinned by norms that normalise or encourage their use.

[66] Student loans may serve as an example: some norms suggest that the cost of education should be borne by students (instead of, say, the society) and that the widespread lack of sufficient funds of students to do so should be regarded a liquidity problem solvable through loans: after all, educated students would later earn salaries that guarantee repayment. Another example is infrastructure: some norms suggest that, given the lifespan of infrastructure and the fact that to a great degree it will be future generations that use it, its development should be paid by those future generations and thus seen as a liquidity problem and financed through debt.

2.5.2 Power-over relation: extraction and discipline

But the debt relation is also a power-over relation, which has become ever more nuanced and critical for social life through its political economy of extraction and the disciplining power of creditors over debtors. As Graeber (2011) observes, extraction and discipline can be traced throughout the history of debt. Yet since the 1970s, finance's (and debt's) role has become ever more central to contemporary capitalism and global and national economies. The US economy (and since also the UK and others) 'financialised': finance and financial (engineering) practices by even non-financial firms have emerged as an increasingly important sector (and complex of practices) of capitalist accumulation (Krippner 2005, 2011; Zwan 2014; Epstein 2005a; cf. Mader et al. 2020a).[67] Contrary, and parallel, to industrial accumulation regimes based on production and commerce, finance based accumulation has made use of the debt relation to extract value from debtors. This includes both the financial sector itself, with its ever more sophisticated financial products, and 'traditional' industrial firms that have started to use financial practices to increase their revenues and profits outside their core businesses. The reach of finance, however, is far wider: ushered in by and closely connected to neoliberal politics, financialisation has established a 'hegemony of finance' (Duménil and Lévy 2005) in social life more generally. Debt, as extractive relation, has become ubiquitous and deeply entrenched in the lives of 'financial subjects' through various forms of debt. Additionally, by replacing the social contract with asset-based welfare in financialised economies (Lake 2015; Andreu 2018; Finlayson 2009), households have begun to 'invest' in pension funds, becoming the 'feedstock of the institutional investor sector', which allows the latter to 'download' their losses to the former (Montgomerie 2020:384). Against the often promoted notion that financialisation 'democratised' financial gains, Montgomerie (2020:384) notes that, especially due to 'quantitative easing' (QE) in the wake of the 2007-8 crisis, 'most households are made worse-off by financialization'.

Finance has not only permeated every aspect of social life but also expanded across borders and targeted classes previously "excluded" from finance. This has occurred in two ways. First, formerly not or less financialised economies such as emerging capitalist economies (ECE) started to 'subordinately' financialise according to their historical development and subordinated integration into the world economy (Kaltenbrunner and Karacimen 2016; Karwowski and Stockhammer 2017; Kaltenbrunner and Painceira 2018; Bortz and Kaltenbrunner 2018). Second, creditors, through the support of states and international organisations, have attempted to open up and enter new markets. Gabor (2018), for instance, documents attempts to make the Chinese financial markets accessible to international investors. At the

[67]The concept has been differently defined by various scholars over time. Pike and Pollard (2010:30), for instance, defined it as 'growing influence of capital markets, their intermediaries, and processes in contemporary economic and political life'. Similarly, Epstein (2005a:3) defined it as growing importance of 'financial motives, financial markets, financial actors and financial institutions'. This study follows these definitions by highlighting the causal efficacy of finance and debt, which has been amplified through financialisation, on social life more generally.

same time, under the idea of 'financial inclusion' and despite widespread criticism of microfinance (Mader 2018; cf. Bateman et al. 2019), efforts to extend financial services to the poorest have increased. Using digital profiling and predictive credit scoring, fintech corporations aim to increase the legibility of the poor (cf. Scott 1998), constructing them at the same time as illiterate and cognitively limited (Gabor and Brooks 2017; cf. Hönke 2018; despite contrary evidence, cf. Mitlin et al. 2018). This, Gabor and Brooks (2017) argue, reduces poverty to a behavioural issue, which sidetracks or neglects addressing structural issues, for instance by regulating markets (for an account of 'digital financialisation' and the state's role in it see also Jain and Gabor 2020). Development ("big D" / DAC) and associated international and donor organisations as well as so-called philanthropies have been crucial to these projects of financial globalisation (for instance the World Bank, see Jomo and Chowdhury 2019), disguising, and normalising, them as development – opposed to, and against, developmental state approaches to development (Gabor and Brooks 2017; Gabor 2018).[68]

The "Washington Consensus" (Williamson 1993) model of development contained 10 canonical tenets, including 'fiscal discipline',[69] 'financial liberalization', 'privatization', and 'deregulation'. These "structural adjustment" prescriptions were subject to criticism and critiques from scholars and the World Bank itself (Saad-Filho 2010; Easterly 2001; Serra et al. 2008; World Bank 2005; cf. Wade 2001) and even produced proclamations of the consensus' demise and relative loss of significance of World Bank and IMF (Gore 2000; Fine et al. 2001; Stiglitz 2008; Birdsall and Fukuyama 2011). Debt has played a central role in these prescriptions and critiques. Especially sovereign debt, connected to a relentlessly affirmed repayment duty independent of democratic consent or repayment ability (cf. Graeber 2011; Douglas 2015), has been central to critiques that analysed the Third World debt crisis, the policy prescriptions by creditors that followed, and related social suffering. Next to critiques of the World Bank (for instance Furlong 2020b), this included the IMF. As the organisation that has carefully watched over debtor countries and enforced creditor conditionalities and the restructuring of debtor economies and societies, the IMF has been at the centre of scholarly attention and related activism (Graeber 2007).

Despite these critiques, allegations of the consensus' fall, and the 'initial victory' (Graeber 2007) of global protests over the IMF and its devastating policies[70], and notwithstanding the

[68]Wade (2018) referred to this as 'industrial policy for the West'. Others, too, criticised the 'more aid' agenda and declared, for instance, the proclaimed 'Africa rising' a myth (Glennie 2010; Bond 2017). The developmental state idea includes, *inter alia*, measures of capital controls and debt management (Wade 2018) as well as financial sector development that orientates financial markets to the facilitation of domestic reinvestment in infrastructure and industrialisation instead of commodity exports (Simone 2010).

[69]As Graeber (2011) and others (Hudson 2003; Varoufakis 2011) pointed out, this is the very opposite of what the USA has been doing since the 1970s: when US president Nixon declared the gold standard obsolete and effectively floated the US dollar as a response to US deficits, the Bretton Woods economic order ended. In its stead, the US started to absorb surplus capital through Wall Street and government debt, which, backed by US dollar hegemony ('world reserve currency'), will never be repaid but 'rolled over indefinitely' in what amounts to a 'free financial ride' or a 'tax imposed at the entire globe's expense' (Hudson 2003; cf. Graeber 2011:who speaks of 'tribute').

[70]For instance organised by the Global Justice Movement that aimed, *inter alia*, to 'destroy the "Washington

World Bank's own acknowledgement of the shrinking 'relative importance of [its] lending' (Fritz 2012), the Washington Consensus has remained alive (Ray et al. 2020) or its reputation is being repaired (K. B. Grier and R. M. Grier 2021; Easterly 2019; Irwin 2020; cf. Alves et al. 2021:for a critical evaluation). More importantly, parallel to efforts to distance or separate Williamson's original agenda ('ten commandments') from a 'damaged brand' (Naím 2002; Williamson 2002) and to reimagine it as the post-Washington Consensus (Rodrik 2006; Headey 2009), the Development Committee, IMF, World Bank, and G20 have begun to re-imagine and update the (Post-)Washington Consensus (Development Committee 2015; World Bank 2018c; G20 2018b; G8 2007; G20 2018a; Inderst 2010a; cf. Alexander 2014, 2017). Gabor (2021:1) conceptualises this new '"development as de-risking" paradigm' as the "Wall Street Consensus" (WSC), whose key tenet is to reorient the state to cushion and ease private financing of privatised infrastructure by de-risking investments and opening up local financial systems (cf. Gabor 2018). Bigger and Webber (2021) speak of 'Green Structural Adjustment' (GSA), a continuation of the Washington Consensus' structural adjustments programmes that focuses on local governments, i.e. the sub-national scale, on access to finance (not debt burden), and on climate projects. By positioning private finance as the (key/sole) solution to developmental, social, and environmental issues, the authors contend that GSA aims at transforming cities into 'investment sites' that, as opportunities for rent extraction, act as a solution ('spatial fix') to Northern surplus capital.

The role of debt (and associated repayment enforcement) in these historical and contemporary forms of structural adjustment highlights that debt as a power-over relation runs deeper than debt as a financing relation (that integrates ever more of nature and society). Bigger and Webber (2021) make an important point when they see the GSA, as part of a New Washington Consensus or Wall Street Consensus, less in terms of 'financialisation of nature or infrastructure' but rather as 'spatial fix through governance reforms and blended finance'.[71] Debt, in addition to reimagining everything as asset and extracting value, disciplines debtors and shapes their policies: the IMF's loan conditions, the (old and new) structural adjustments, austerity politics, and technocratic governments (that reject outcomes of democratic referendums) all discipline indebted states (and 'financial subjects') through what has been titled 'governing by debt' (Lazzarato 2011, 2015; Antoniades 2018). The 'victory of politics over economic prescriptions' and 'democracy over the dictatorship of finance' (Economic

Consensus" around neoliberalism [... and] deligitimize and ultimately shut down institutions like the WTO, IMF, and World Bank' (Graeber 2007).

[71] Some argued that debt as extractive as well as power-over relation is best understood in terms of (continued) imperialism (Hudson 2003; Carmody 2018; cf. Graeber 2011). This re-introduces earlier conceptualisations of post-WWII core-periphery relations as continuations of colonial and imperial projects (e.g. Frank 1966) that had been mostly replaced in the 1970/80s by the concept of 'globalisation', which explicitly masks power relations (Swyngedouw 2004a). Carmody (2018:297), for instance, highlights that the US-dominated global alliance comprising some leading international finance institutions (IMF, World Bank Group, multi- and bi-lateral development banks), NATO, as well as the G7/8/20 is motivated by 'the desire to open up new markets, sources of raw materials, access cheap labour power and other ancillary motives around ensuring geopolitical power and security'.

& Political Weekly 2015:8), i.e. the Greeks' vote to resist further Troika prescribed austerity, was short-lived: the Greek government surrendered – going against the result of the referendum (cf. Varoufakis 2017).

Debt becomes a technology of governance, in several ways. First, grounded in the repayment obligation (see next subsection), creditors exercise power over debtors whenever debts are not serviced and need to be recovered. On the firm level, this may include influence on, or take over of, management. On the state level, this may include bailout programmes by the IMF, which require a range of measures to recover debts.[72] Second, creditors exercise power over debtors even before debt relations are formed. As Feher (2018:17) showed: '[…] what truly manifests the ascendancy of credit suppliers is their ability to select the projects that deserve to be financed. Ultimately, their power consists more in deciding what the real economy will comprise than in draining it of resources.' Third, given debt's and creditors' systemic relevance, especially when reaching a certain size, creditors have been able to not only shape the regulatory framework but also receive large bailouts when their debtors default ('too big to fail').[73] Finally, financial capitalism and financialised societies are more complex than simple creditor-debtor relations, and debtors have little control over who, ultimately, their creditors are. Many creditors are, in fact, debtors themselves, and debt may be multiply re-packaged and re-sold (even between different units of the same investment bank, for instance). Entities may be positioned as debtors and creditors at the same time, in other words, and even enter creditor/debtor relations with themselves. Conversely, creditors may have a limited understanding of who their actual debtors are.[74]

Debt as a power-over relation and a technology of governance in financial capitalism (and its financialised societies) fundamentally changes the agency of anyone occupying, or hoping

[72]The IMF's role in debt recovering (acting as 'the world's debt enforcers—"You might say, the high-finance equivalent of the guys who come to break your legs"', Graeber 2011:2), associated reforms, and their effects on debtor countries' economies and, importantly, populations (especially the poor), had long been known. As Graeber (2011:369) notes, by the early 2000s 'East Asian countries had begun a systematic boycott of the IMF […and] Argentina committed the ultimate sin: they defaulted – and got away with it'. Not for long, however: Argentina soon started to restructure its debt and repay the IMF, agreed to a 'record' IMF bailout in 2018, defaulted again recently, and, in 2022, negotiated another IMF bailout, as the Financial Times reported ('IMF and Argentina finalise new $44bn programme' 2022; Stott and Mander 2019).

[73]As Graeber (2011) and Varoufakis (2015) pointed out, irresponsible debtors presuppose irresponsible creditors (and vice versa). Still, it was the creditors during the financial crisis of 2007-8, who managed to convince governments that their irresponsibility was more worthy of bailout, against widespread opposite opinion: 'It seemed that most Americans were open to radical solutions. Surveys showed that an overwhelming majority of Americans felt that the banks should not be rescued, *whatever the economic consequences*, but that ordinary citizens stuck with bad mortgages should be bailed out' (Graeber 2011:16). As Feher (2018:133) put it: 'That public authorities chose to save mortgagees rather than borrowers can be traced to their comparative assessment of the immediate risks to which they were exposed by delinquent creditors and defrauded debtors. They reasoned that the banks were too big to fail because of the systemic consequences of their bankruptcy, whereas the borrowers were too stunned to rebel against the injustices of bailouts financed at their expense.' The paradox of 2007-8 was that the creditors where systemically relevant because they were, at the same time, debtors; and, as Feher (2018:136-7) then argues, that 'all debtors are not treated equally' and that 'in critical times, the power relations between lenders and borrowers can be temporarily reversed': 'the debtors deemed "too big to fail" received all the public support they requested'.

[74]Such complex web of repackaging and reselling of debt (mortgages), masking of risk, and hiding of actual debtors from actual creditors was at the core of the 2007-8 crisis.

to occupy, a debtor position in a debt as finance relation. Feher (2018:202) titled this 'rated agency' and 'investee politics', identifying and analysing 'three types of investees: corporations determined to provide what their shareholders value, governments obsessed by the attractiveness of their policy to bond markets, and individuals seeking to exhibit behaviour likely to be sponsored.' He continues by observing that 'in all three cases, the pursuit of credit is the prevailing preoccupation'. This tendency of debt to influence corporations, states, or individuals has two important aspects. First, it pre-dates any *debtor* position occupancy. Especially in societies of widespread (positive and negative) liquidity problems and powerfully endorsed norms of solving these liquidity problems through borrowing (occupying a *debtor* position), debt is causally efficacious not only during debtor position occupancy but also before. Later chapters therefore distinguish between the *debtor* and *debt emitter* position: whereas the former is part of actual creditor-debtor relations, the latter refers to a position within social totalities that is occupied by entities committed to repeatedly occupy a *debtor* position. Second, debt's tendency to influence debt emitters is grounded in the requirement of creditworthiness. Influence may therefore not only be targeted towards repayment, but also towards how debt service is guaranteed and actually achieved, i.e. towards practices of debtors that are accepted by creditors.

Credit, as Douglas (2015:21-8) explained, 'means "belief", and genuine belief involves the possession of sufficient *reasons* for belief'. The pursuit of credit, then, is the pursuit of being believed of being able and willing to repay (being deemed credit-worthy) by giving good enough reasons for such belief. Such reasons are compliance with practices accepted by creditors (and/or non-compliance with any practices not accepted by creditors)[75] and, importantly, a record of credit, i.e. proof of repeated convincing of creditors that their belief in ability and willingness to repay is warranted.[76] The debt relation is, in other words, a way to discipline and punish debtors through the ultimate threat of limiting future occupancy of a (any) debtor position. Still, despite this disciplinary effect and potential extraction, debt serves a useful function for creditors, debtors, and the capitalist economies they are part of. This usefulness of debt and related belief that debt is a social institution worth keeping (cf. Douglas 2015:104-6), both for the parties involved and societies and (capitalist) economies as social totalities, Douglas (2015) notes, is the real mechanism behind debt's power-over:

> The reason we honour our debts, even without weighing up the danger in each case of not being trusted in the future, is that the *institution* of debt is of so-

[75]Examples are the IMF's reform conditionalities that list what practices debtor governments should or should not perform, and institutional investors' engagement with debtors on behalf of their clients (i.e. creditors); BlackRock, for instance, 'views engagement as an important activity; [...] as long-term investors on behalf of clients, we seek to have regular and continuing dialogue with executives and board directors to advance sound governance and sustainable business practices' (BlackRock 2022a:3).

[76]Douglas (2015:25), referring to Hume, explains: 'the highlighted clause in the quotation explains why, according to Hume, it is reasonable to expect the other to comply. He'll do so insofar as he cares, as we would say today, about his credit rating. He'll do so to assure future creditors both of his willingness and of his ability to repay debts.'

cial benefit to all of us. It allows us the convenience of entering into mutually profitable arrangements with relative strangers. […] The claim that one ought to repay debts no longer arises out of mere confusion between the concepts of debt and of duty, of owing and owning, or the like. It now rests on a set of claims about the role that paying one's debts plays in supporting an institution and the role of that institution in helping us to "attain the goods of common life" (Douglas 2015:26-8).

2.5.3 Set of norms: duty

The relational structure and associated causal powers of debt to provide funds and discipline debtors is supported by the normative aspect of debt. This includes the norms and normative beliefs that debts must be repaid, no matter the cost, and that, at least for individuals, inability to honour debts (and in some instances even indebtedness itself) is the result of inadequate behaviour. This 'confusion between the concepts of debt and of duty' and the 'all too often internalized suspicion of moral failure that is attached to being indebted' (Feher 2018:134) powerfully sustain creditors' power-over debtors. In addition to the debt supporting norm that Douglas (2015) defends – that one should repay debts because it reproduces a useful social institution – debt involves a range of other (moral) norms that underpin debt as finance and power-over relation. Debt repayment, for instance, may not be necessary, or even defensible, in all instances. Indeed, the relation can be, even legally, exited in more ways than simply by repaying what is owed. Debtors may (permanently) default on (parts of) their debts, or debts may be cancelled;[77] furthermore, debts may be transferred or sold, replacing one party of the relation, debtor or creditor, by another. Debt, then, is different from any moral obligation or duty of repayment: '"Debt", in its ordinary use, is taken to refer to something that can be legally signed away; "duty" is not' (Douglas 2015:12).

Still, the 'moral confusion' that 'surely one has to pay one's debts' (Graeber 2011:1-19) powerfully underpins a fusion of debt and duty, of owing until fully repaid regardless of the circumstances of entering and/or occupying a debtor position. Repayment of debts, in other words, is not justified through its effect of reproducing a useful social institution, but instead morally. This enables irresponsible lending: contrary to the argument of Douglas (2015:21-4) that to speak of debt requires credit, i.e. justified belief in debtors' ability and willingness to repay,[78] this (moral) norm that 'debts ought to be paid' seemingly supports even irrespons-

[77]Bankruptcy laws make defaults legally possible in many countries, arguably to the benefit of respective capitalist economies by reducing the personal risk of entrepreneurs and thus encouraging more risk taking of debtors. Conversely, these laws help to enforce some responsibility by lenders: 'A lender is supposed to accept a certain degree of risk. If all loans, no matter how idiotic, were still retrievable—if there were no bankruptcy laws, for instance—the results would be disastrous. What reason would lenders have not to make a stupid loan?' (Graeber 2011:3)

[78]'… it is far from obvious that people who make loans without considering how they can be repaid are in any way entitled to the legal rights of a creditor, including the right to demand collateral. They are by definition *not* creditors, and they never were. Underwriting, to use the technical term, is a crucial component in credit. To make a loan with no underwriting at all is simply not to be a creditor. … with no underwriting at all, or with deliberately shoddy underwriting, there is no credit. It is, of course, beyond me to stipulate with any precision

ible lending (and associated debt enforcement and recovery even at great cost to human and social life). Graeber (2011:1-4) started his book with this point: explaining the global justice movement's demand for debt cancellation to an 'activist kind' of attorney, he realised that debt repayment was justified not on economic but moral grounds and, more importantly, that this moral obligation to service debts was valued higher than saving lives.

> One might think it would be hard to make a case that the loss of ten thousand human lives is really justified in order to ensure that Citibank wouldn't have to cut its losses on one irresponsible loan that wasn't particularly important to its balance sheet anyway. But here was a perfectly decent woman—one who worked for a charitable organization, no less—who took it as self-evident that it was. After all, they owed the money, and surely one has to pay one's debts (Graeber 2011:4).

Ultimately, the duty to repay, the (moral) norms supporting debt service, are grounded in an understanding of indebtedness as debtors' *Schuld*. Citing Graeber (2011), Ross (2014), and Lazzarato (2015), Feher (2018:134) notes that

> The authors of *Debt: The First 5000 years*, *Creditocracy*, and *Government by Debt* [sic] believe that what ultimately enables financial capitalism to rule, even in the wake of an event as damning as the subprime market crash, is debtors' guilt—a psychic formation that the German language emphasizes by using the same word, *Schuld*, for fault, guilt, and debt. The concept thus carries deeply moralized connotations—except when investors use it as a lever. As long as borrowing is associated with a character flaw, meeting lenders' expectations will continue to be perceived as an ethical imperative and a redemptive course.

As with the financial inclusion agenda that neglects, or refuses, to address structural issues and instead suggests (micro-)finance as solution (Gabor and Brooks 2017), this represents any structural causes for irresponsible borrowing and, indeed, irresponsible lending as an alleged faulty character of solely debtors, giving lenders the (moral) right to recover debts no matter the circumstances and no matter the (ignorant or deliberate) "shoddiness" of their underwriting (Douglas 2015).[79] Equating debt and duty is a normative stance, in other words, that does not rely on proper indexing: any act of borrowing constitutes a positioning as debtor with an obligation to repay, regardless the underwriting, i.e. the credit involved.

These norms – 'one has to pay one's debts', the fusion of fault, guilt, and debt, the individualisation of responsibility for structural inequalities, the treatment of every funding problem

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the point at which underwriting ceases being deliberately shoddy.' (Douglas 2015:23-4)

[79] Graeber (2011) illustrated this with accounts of Northern banks lending to dictators, indebting, and enforcing repayment at great human and social cost from, populations that never consented to such debts. Similarly, the Greek 'bailout' in 2015 rejected not only the outcome of a democratic referendum but also voices that Greece was facing an insolvency not liquidity problem (Varoufakis 2015, 2017) – which would suggest any further loans to be cases of shoddy underwriting. Argentina's debt restructuring, too, suggests the IMF may not have had good reasons to believe Argentina was able and willing to repay. As the Financial Times put it: 'With the record-breaking bailout veering off track, questions are being asked about why the IMF, which has overseen 21 bailouts to Argentina, including one that ended in a historic default, lent so much money to support a programme that is crumbling after little more than a year' (Stott and Mander 2019).

as liquidity issue – are supported by normative circles and, especially under financialisation, 'dense, complex, nuanced and conflicted cultural labour that underscores the reproduction of finance capital today' (Haiven 2014:6). This 'cultural labour', Haiven contends, aims at transforming 'the way we understand ourselves as citizens, as subjects, as creative actors, as economic participants and as social beings' (Haiven 2014:4).[80] Financialisation, in other words, makes debt and its norms the foundation of ever more spheres of social life, and enrols ever more 'financial subjects' into the normative circles that endorse and enforce debt as duty. More importantly, the normative circle that backs the 'one has to pay one's debts' norm has powerful members acting on behalf of creditors, such as the IMF or for instance the "Troika" group comprised of European Commission (EC), European Central Bank (ECB), and IMF. Greek's 2015 bailout, austerity measures, referendum, subsequent dismissal of its results, and further austerity measures show how effective norm enforcement "trickles down" to citizens: debts need to be repaid, no matter the feasibility and cost of doing so.

2.5.4 Blending social utility with creditor supremacy

Debt is, primarily, a financing relation where creditors lend capital to debtors. However, debt is also a power-over relation, where creditors may influence (or even dictate) certain practices of debtors that have been known (or said) to guarantee debt service and repayment. This power-over relation is especially visible in instances of late payments or defaults when creditors, entitled by legal and moral rights, recover debts. But creditors' power over debtors is always there and even pre-dates actual borrowing: not only debtors, i.e. persons in active creditor-debtor relations, but also prospective debtors, i.e. persons who plan to enter creditor-debtor relations, are subject to it. Moreover, the power of creditors over debtors may get exercised even in spite of 'shoddy underwriting' (Douglas 2015) or 'irresponsible lending' (Graeber 2011), that is even in situations where creditors had insufficient reasons to believe debtors could or would repay (and thus technically no debt was ever created, Douglas 2015). Both aspects of the debt relation, the financing relation and the power-over relation, rely on norms and backing normative circles. The central norm is that debts need to be repaid. Yet whereas the financing relation can survive some non-conformity of this norm – and, arguably, allows this to effectively support the economic benefits of borrowing and check irresponsible lending – the power-over relation employs an additional (moral) norm that makes repayment a duty: "debts ought to be paid" no matter the circumstances. A range of norms, then, influence how a debtor position is applied for, occupied, and exited (including which debtor positions are available in the first place and at all), reflecting capitalist power

[80] Haiven (2020:350) and Feher (cf. 'investee politics', 2018) uses the 'financialization of Anglo-American post-secondary education' as an example, noting that the 'escalation in tuition fees' and parallel 'state-backed expansion of access to credit' are 'both the cause and the consequence of a cultural transformation where education, once widely imagined as a public good and the responsibility of society at large, is recast as an individualized commodity.'

relations between those who possess and command capital and those who lack and need it.[81]

Three points are important to this study. First, debt can *bridge* liquidity gaps but cannot *fill* them. Instead, gap filling, including the fees and premium charged by creditors to temporarily bridge the gap, will need to come from elsewhere (this elsewhere is typically the future). Second, debt introduces a disciplinary effect even before any debtor position is occupied or creditor-debtor relation entered. There are, in other words, strict entry requirements that determine *debtor* positioning, with implications for other position occupancies of the prospective debtor (see linked positioning previewed in section 2.2.3 above and discussed in sections 4.4 and 7.3.3). Third, the assumed general availability of credit masks and silences two important questions: what are the conditions for this availability, and why should a financing gap be considered and treated as a liquidity issue to be solved with debt? The former refers to the widely accepted idea that all that individuals or organisations with liquidity problems need to do is work on their creditworthiness. The latter refers to the connected idea that most financing gaps should indeed be regarded as liquidity issues, which, if individuals or organisations were creditworthy, could readily be solved. This sidelines questions of actual insolvency – whether some gap is, indeed, not a liquidity issue but instead underpinned by a (structural) inability to pay – and what might be called "normative insolvency": whether some gap *should not* be treated as liquidity issue, even if it could be. In other words, (proper) underwriting of lending for "gap filling" would be made impossible by normatively declaring water users "insolvent".[82]

Debt, then, enables bridging a gap. How precisely this gap is *filled*, however, remains open. This foregrounds underwriting as a critical practice and linchpin of, for instance, commercially financing Kenya's water sector. Chapters 5 and 6 argue that in the Kenyan case such underwriting primarily relies on WASCOs and their ability to fill the gap by providing services commercially and charging water users fees that include the cost of finance. This may, or may not, be an effective way to extend basic services to more Kenyans, and debt may prove its usefulness to this end. At the same time, introducing debt to basic services provision may subject them to debt's (moral) norms and creditors' power.

2.6 Unpacking basic services

Infrastructure and basic services provision, especially with the recent attention on global infrastructure backlogs and "financing gaps" by international organisations, donors and IFIs,

[81] 'I understand finance as a disciplinary mechanism of capitalist power, one whose primary purpose is to mobilize debt (of individuals, of firms, of governments) as a means to better extort and exploit labour, generate and circulate surplus value, and shape the reproduction of social and economic life' (Haiven 2014:12)

[82] Such a norm would limit the contributions of water users towards "gap filling" by borrowing, even though they tend to agree to pay for debt-driven development of essential infrastructure and services such as water and sanitation – despite the costs and as long as this improves service provision. The following section on infrastructure and basic services looks into this question.

as well as investors (cf. Development Committee 2015; World Bank 2018c; G20 2018a; GIH 2017; Woetzel et al. 2016, 2017; Gravito et al. 2017; Blanc-Brude et al. 2017; ADB 2017), has prominently regained the function of absorbing excess capital across world regions. This function has been added next to the existing function as an 'operating system' of cities (Pieterse and Hyman 2014; Pieterse 2011) and (material) foundation for (urban) life and social goals such as public health (Osborne 1996; Ashraf et al. 2016; Lenger 2012:33-65; cf. Tonkiss 2013b). Infrastructure and basic services such as water supply and sanitation services, in other words, are seen not only as the foundation for human (individual and social) life, but also as investment opportunities for excess capital. The G20, for instance, has recently begun development of a dedicated asset class for infrastructure that targets international and domestic institutional investors by easing investment (G20 2018b; endorsed by G20 2018a; cf. UN 2015). As a result, infrastructure and basic services, critical parts of the foundational economy (Foundational Economy Collective 2018), additionally become financial assets in what may be called the fictitious economy. The glue that binds these two functions together is the role of infrastructure and basic services as commercial products and services: the commercial sale of water, for instance, enables turning the basic services into financial assets.

The section builds this chain of dependency over the following three subsections. First, subsection 2.6.1 looks at the "use value" of infrastructure and basic services: the material objects and practices that provide a foundation for and sustain human and social life. Second, subsection 2.6.2 explores how this foundation is integrated into the regular market economy by commodifying and commercialising basic services: the appropriation of water and sanitation related products and services based on commercial principles. Third, subsection 2.6.3 reviews how commodified and commercialised infrastructure and basic services are turned into assets (assetised) that can be capitalised through debt emission (e.g. infrastructure bond issuances). This includes foregrounding cities and urban utilities as the sites and entities of commercialisation and assetisation, and the relevance of infrastructure and basic services for (reducing) spatial inequality. Subsection 2.6.4 then concludes the section with a short summary, and by raising two questions: if debt has become a critical co-determinant of infrastructure and basic services provision (and in extension urban life), how exactly does debt shape it? And: if one accepted that infrastructure backlogs are liquidity issues solved through debt, what precisely fills the gap?[83]

[83]This question opens two additional, normative questions: should infrastructure backlogs be regarded liquidity issues (or, instead, a normative insolvency declared)? And: what should fill the gap? While not central questions of this research, they are taken up briefly in the thesis conclusions.

2.6.1 Material objects and practices of the foundational economy

Arguably, the primary purpose of water related services is to guarantee universal access to safe water and adequate sanitation. Or, to use the concept of the 'foundational economy', water and sanitation infrastructure and services are the material objects and practices that provide a critical part of the 'broader conditions of flourishing' through 'the [required] provision of foundational services' (Foundational Economy Collective 2018:123).[84] This includes, following the 'modern infrastructure ideal' (cf. McFarlane and Rutherford 2008), positioning (centralised) industrial water production and sewerage treatment facilities as well as water distribution and waste water collection networks as key artefacts, and utilities as key persons, in water sector communities. Such a form of foundational services provision is particularly important to cities. Whereas the countryside often still provides "lifelines" in form of artisanal water production (through boreholes, wells, rainwater harvesting, or, as last resort, surface water) and largely non-networked distribution (trucks, jerrycans, bottles), cities depend on industrial at-scale production of water and distribution through canals, pipes, and sewers. Pieterse (2011) and Pieterse and Hyman (2014) therefore speak of infrastructure as one of the 'operating systems' of cities. Similarly, Tonkiss (2013a:138-58) highlights the role of infrastructure, the 'underground city', in actualising the 'city above-ground'. Historically, infrastructure played an important role in Western urbanisation, where especially water and sanitation infrastructure (including norms and practices about their use, Ashraf et al. 2016) enabled cities to grow (Lenger 2012). This connection between "modern" infrastructure and cities goes both ways: the capital-intensive development of networked provision of water supply and sanitation services requires urban densities (plus, arguably, the normative and planning powers of the sub-national state and the economic base of cities).

Furthermore, a central argument advanced by Tonkiss (2013a) is that infrastructure is a form of 'design politics' that produces, or fails to produce, cities' homogeneity and coherence as well as urban inequalities, and therefore fragments or 'splinters' cities (Graham and Marvin 2001).[85]. Such urban inequalities show in 'unwanted adjacencies' to infrastructural system such as roads, rails, or 'dumps and sewage outlets', but more importantly 'in differential access to infrastructural systems and goods' (Tonkiss 2013a:148). Given the dependence of urban dwellers on industrial water production and distribution, such (spatially) uneven

[84]Four 'key shifts' mark 'foundational thinking', including 'Shift 1: Ask citizens what they want so that foundational policy can come out of a conversation, not a top-down agenda' (Foundational Economy Collective 2018:130). In a UK survey designed to 'establish a hierarchy of priorities about "utilities and public services"', 'food and water' was reported as the number 1 ask (Foundational Economy Collective 2018:131); even in the UK or EU, which largely solved water and sanitation related public health issues throughout the 19th and early 20th century, water remains the top foundational service.

[85]See also Jaglin (2008:1905), which argues that differentiated public services may be a way to limit 'the expansion of competing private provisions, both formal and informal, to preserve an institutional and financial public capacity of delivering subsidized services to the poor' through cross-subsidies from progressive tariffs and surtaxes on commercial water use. Still, 'one cannot stress enough that the differentiation of services embodies and, in a way, formalizes intra-urban inequalities with a risk of locking deprived communities in substandard supply systems dissociated from premium networked areas' (Jaglin 2008:1905).

availability of foundational services has life-endangering consequences, may lead to price manipulation and extortion (Jaglin and Bousquet 2012; Barraqué 2012), and risks (violent) conflicts that may escalate into 'water wars' (Graham et al. 2013; cf. Graham et al. 2015). Foundational services such as safe water supply and adequate sanitation services are not merely a matter of survival, disease-free and pleasant life, and economic development, but also, in urban areas, a (political) struggle for a more equitable city.

The speed of urbanisation in many parts of the world, including Africa, and the costs of developing such "modern" infrastructure, however, have prevented extending foundational services through networks from keeping pace with the demand. This has been the case even if this demand has come from the growing middle-classes (Jaglin 2015), and particularly in contexts where (urban) governments have scarce resources (Pieterse and Hyman 2014) and large parts of the population are unable to effectively and steadily contribute to the construction and operation of infrastructure (Pieterse 2011). Sub-Saharan Africa's infrastructure backlog is not only extensive (AfDB, OECD, UNDP 2016; Foster and Briceño-Garmendia 2010) but also growing (Hyman and Pieterse 2017). Foundational services provision, often assumed universally available in the global North,[86] is still absent, incomplete, insufficient, or unevenly available or accessible in many cities worldwide. In particular, (peri-)urban areas, including those in Kenya, still lack 'improved water sources' and 'improved sanitation facilities' (World Bank 2017a; for a critique of these definitions and statistics, Satterthwaite 2016). Even more lack access to quality and reliable on-premise networked services, which have largely remained the global goal. Governments (and donors) have more recently begun to re-emerge as important networked water and sanitation services providers worldwide after the failure and retreat of private operators to expand services provision globally,[87] and given the difficulties in getting communities involved at scale and speed (Bakker 2010; Foundational Economy Collective 2018; McDonald and Swyngedouw 2019; Cumbers and Paul 2022; Kishimoto et al. 2015; cf. Kishimoto and Petijean 2017).

This renewed focus on the "modern infrastructure ideal" by governments and donors contrasts with the complex and complicated reality of foundational services provision in many (rapidly growing) cities of the global South. There, services provision occurs rather in mixed socio-technological arrangements that include networked services but crucially rely on other forms. Lawhon et al. (2018) calls these 'heterogeneous infrastructure configurations', where

[86]While many cities make high-quality services universally accessible, this is not the case everywhere and foundational services provision has remained uneven, or 'splintered' (Graham and Marvin 2001). A well-researched and often mentioned case of the failure of foundational services such as water supply in the global North or West is Flint, Michigan (cf. Schindler 2014).

[87]The change from privatisation to corporatisation and commercialisation, i.e. the normative change from seeking to establish private operators to instead pursuing to create public corporatised utilities adopting commercial business practices, was, as Bakker (2010) argues, a matter of both poor outcomes (and related popular protest) as well as growing disinterest of the private sector in water services provision given lower than expected returns (especially without generous state support in form of price and consumption guarantees) – what Bakker (2010:94) calls a 'calculated retreat [of the private sector] from supplying lower-income consumers and regions' since the late 1990s.

social infrastructure complements physical infrastructure (Tonkiss 2013b; Jaglin 2014; Simone 2004) to form what Pieterse (2015) calls 'adaptive urbanism'. Similarly, Jaglin (2015) describes the 'pragmatic turn' of African cities to formalise informal/non-networked service delivery and integrate it with networks into a hybrid delivery system. Furlong (2014:139), too, foregrounds Southern 'coexistence among sociotechnical systems' instead of 'universalized and uniform networks', and Bakker (2010) uses the 'metaphor of the archipelago—spatially separated but linked "islands" of networked supply in the urban fabric' to capture the incomplete and non-homogeneous coverage of networks (see also Bakker 2003). Whether theorised as heterogeneous configurations, hybrid or coexistent systems, or archipelagos, foundational services provision may take several forms and may be understood, as mentioned above (section 2.4), as complexes of practices (Elder-Vass 2016) and associated material objects. In Kenya, for instance, these include licenced utilities with business-like management and operations practices (and their catchment systems, treatment plants, and distribution networks), which coexist next to water vendors with practices of (possibly informally) acquiring water from utilities (and their trucks and pumps). Other providers include stores and their merchant practices of selling water bottled elsewhere in factories (probably owned by multi-nationals), and local 'informal' providers with their practices of (illegally) connecting to the mains and distributing and selling water through "spaghetti networks", sales points, jerrycans, or bottles.[88]

Dissecting the 'heterogeneous infrastructure configurations' at the level of practices, instead of the level of actors, helps to avoid the state vs private sector vs communities reduction (cf. Bakker 2010), which, on the ground, seldom exists. It also helps to see the norms and associated normative circles that back these practices, and the complexes of practices formed by different configurations of infrastructure and services. For instance, many states have long started to not only invest in networks but also water kiosks or non-networked sanitation projects. Moreover, the state, as far as this includes (corrupt) employees, directly supplies "informal" water providers and thus engages in various parallel ways of services provision. Similarly, the private sector may use the existing network, develop and operate its own network, use trucks, or rely on existing merchants and their network of stores. Any of these distribution mechanisms may be managed as part of a local business (which possibly originated in, or still is, a CBO), or as part of shareholder-value-maximising multinational corporations. Foundational services provision, especially in Southern contexts, is a complex of practices of various kinds,[89] performed by various different entities that are (formally or informally) positioned as water service providers. Powerful norms and normative circles

[88]The existence of such variety of practices does not, however, necessarily mean their (complete) acceptance. In Kenya, like elsewhere, the "modern" networked infrastructure and service provision by the state (or licenced private sector) remains the goal and often marginalises these other forms, ignoring the particular conditions of the context (Hyman and Pieterse 2017; Parnell 2014).

[89]For instance technological practices, business practices, economic practices, increasingly financial practices (see section 2.6.3 below), political and statecraft practices, or survival practices.

not only shape these position occupancies and practices, but also the preference of certain position occupants over others and associated predominance of particular complexes. The "modern infrastructure ideal" of universal networked service provision by the state,[90] for instance, positions licences utilities and networks as water providers and respective material objects, while preventing others from occupying such positions and declaring illicit or "informal" other forms of provision.

The renewed role of publicly owned utilities in water service provision has been supported by a change in the normative environment. Whereas private sector participation and business practices as the basis for services provision, even in public entities (cf. Bakker 2010; McDonald and Swyngedouw 2019; Lobina 2017; see also Batley 1996; Batley and Larbi 2004), have long shaped water services provision, re-municipalisations have occurred recently (Kishimoto et al. 2015; Pigeon et al. 2012; also other sectors, cf. Kishimoto and Petijean 2017). This "de-privatisation" or de-positioning of private sector occupants of water services provision positions and simultaneous positioning of public sector ones – the 'process of taking previously privatised services and infrastructures at all scales back into public ownership' (Cumbers and Paul 2022:3) – has unfolded in several countries following the retreat of private operators, public opposition and protests, and the political difficulties (or unwillingness) to renew contracts (Bakker 2010; cf. Lobina and Hall 2007).[91] But re-municipalisations[92] may be 'difficult to sustain [...] without significant changes to strategy, engagement and resources' (McDonald and Swyngedouw 2019) because of the continued broad support from international financial institutions, fiscal austerity, and 'growing resistance from powerful multilateral actors'.[93] Financial actors and "gap filling", in other words, are keeping the door to water sectors open for private capital. As mentioned in chapter 1, this includes publicly owned utilities (whether recently re-municipalised or not). As McDonald and Swyngedouw (2019:4) observes, not all public ownership and operation of water services are created equal, and the de-positioning of private occupants and positioning of public ones may not touch position rights and obligations much but merely replace occupants:

> [...] many state bureaucracies have been transformed by the ideologies of "new public management", favouring the creation of service entities with legal and

[90]This might be the national or sub-national state, or publicly owned, or state regulated yet privately owned and run, services companies on behalf of the state.

[91]This has been described as a 'global trend' and pendulum swinging back 'despite the considerable resources that international financial institutions have produced since the 1990s to promote the diffusion of water privatisation, and despite renewed initiatives to promote water privatisation' (Lobina 2017:153).

[92]Which, according to Cumbers and Paul (2022:200), has been testimony of a 'particularly important element of neoliberal governance failure at sub-national scales in relation to basic service provision (water, energy, and waste services)' and which, as McDonald and Swyngedouw (2019) pointed out, has rested on the 'widespread dissatisfaction with privatisation on the part of elected officials, civil servants and citizens' (McDonald and Swyngedouw 2019:1).

[93]Re-municipalisation may, Cumbers and Paul (2022:6) contend while acknowledging 'these cautionary tales', still offer a potential for 'the building of progressive coalitions out of diverse pluralities and more radical democratic transformations', however.

> financial autonomy, operating on commercial principles – a trend called corporatisation" (McDonald and Swyngedouw 2019:4; cf. Bakker 2010).

2.6.2 Commodities in the market economy

What matters, then, is less ownership but the operational practices and underlying norms. The 'trend called corporatisation', for instance, has separated public water and sanitation services from national or sub-national governments, housed them in organisations governed by (national and international) norms about corporations, and promoted related (nationally and internationally) accepted practices. These norms include codified ones including the laws and regulations regarding the relational structure (positions) of corporations, and codified and other norms about position performance and practices, backed by internal normative circles (with authority roles such as the managing director (MD) or line managers) as well as wider normative circles.[94] The set of practices endorsed or enforced by these normative circles closely resembles those of privately operated (and owned) utilities – which leads McDonald and Swyngedouw (2019) to question the radicality of (some) re-municipalisations. This gradual convergence of practices of publicly owned/run and privately owned/run utilities suggests that ownership, indeed, is less and less important, which runs contrary to both sides of the '"comparative performance" debate' (Bakker 2010:100-4) around privatisations, where, for different reasons, proponents and opponents of privatisations maintain that 'the ownership of the operator (whether public or private) is significant for how a water utility actually performs' (Bakker 2010:102).[95] Indeed, ownership or who occupies a water service provision position, has never been relevant. Instead, what defined services provision has been the definition of the position (its package of rights and obligations).

The core of corporatisation and definition of the water service provider position has been commercialisation, the 'compromise' out of the 'privatization impasse' (Bakker 2010:102): the (normative) idea, following the Dutch model,

> […] that water must be commercialized in order to be sustainably managed. Some of the key elements of this approach include full-cost-recovery pricing, the treatment of water as an economic good that must be allocated to its highest-value uses, and the definition of users as 'customers,' with the attendant claims on the business that provides them with water services. (Bakker 2010:118)

[94]This includes norms about a company board and its composition and appointment, or a CEO or MD and their appointment and tasks. It also includes norms that enable (permit) companies to act as *legal persons* and, for instance, borrow (see chapter 4). Moreover, internal norm circles, especially through the leadership of basic services corporations, back a range of non-codified norms about corporate practices, for instance the active pursuit of commercially financing projects (see chapter 6).

[95]Proponents of privatisations have held that private ownership and operation of utilities increases performance 'through higher efficiency and cost recovery, enabling additional sources of finance or higher connection rates for poor households' (Bakker 2010:101). Opponents, on the other hand, have argued that any performance differences between publicly and privately owned/run utilities is not because of management but because 'goals vary under public and private management' (Bakker 2010:101).

As chapter 4 argues for the Kenyan case, corporatisation of services provision has created public utilities that could occupy the re-defined position of *commercial* water services provision. Such *commercial* services provision position, which can be occupied similarly by private or corporatised public utilities, breaks with former practices and goals of public provision such as security of supply, some sort of cross-subsidisation, or universal provision (through the same network with the same tariff). With questionable effects: Schwartz et al. (2017) as well as Rusca and Schwartz (2018) argue that the wins achieved through commercialisation and cost recovery – lowered prices for and extended coverage to under-serviced populations – have come at various costs such as service differentiation, which jeopardises both equal access to and price of water for communities served in such ways. This may even perpetuate inequality since utilities may be less incentivised to later connect these communities to the network: rather than receiving water and sanitation services similar to richer neighbourhoods and city cores, lower-income or peri-urban communities may be locked into more expensive, less reliable, and less safe systems such as water kiosks or attached small-scale networks.

Cost recovery, closely linked to commercialisation, has been justified, as Bakker (2010) noted, *inter alia* by attesting the need of water conservation, environmental protection, and economic efficiency – as well as the 'finance gap' (see section 2.6.3 below). This 'market environmentalism' understands water as a scarce economic good that needs to be preserved and demand for it managed, which has been achieved technically through new water-saving technologies, reclaiming and recycling water, and practically through metering and tariff structures that not only ensure that users ('consumers') fully paid for their consumption ('user-pays principle') but that also encourage efficient use (Bakker 2010:35-9)

> Market environmentalism implies that consumers paying per unit volume at cost-reflective prices will use water more efficiently than unmetered households or farmers accustomed to treating water as a free service (Bakker 2010:38).

Underlying commercialisation (or full-scale privatisation), then, is a question about what water (and sanitation) is: an economic good, whose demand needs to be managed including through its price, a public good as it was under the 'municipal hydraulic paradigm' (that prioritised universal access at no cost or subsidised rates, Bakker 2010:31-5), and/or a human right as re-affirmed by the UN (Human Rights Council 2010). Whereas these paradigms seem mutually exclusive, in practice they are less so. Explanations for cost recovery have distinguished between water resources and water related services. This allows to evade the (politicised) declaration of water as economic or public good by foregrounding the need to pay for *water services* not *water itself*. Cost recovery then becomes a 'revenue-raising instrument' (OECD 2010) to underwrite debt and bridge "the gap" (cf. Furlong 2020a).[96] At the

[96]At the same time, the OECD report understands water prices as an 'allocation mechanism' (OECD 2010), i.e. a means to conserve and promote efficient use of the resource.

same time, cost recovery may not necessarily mean full cost recovery, which, as the OECD recognised, has been difficult to achieve, but instead ‘sustainable cost-recovery’ through tariffs as part of the ‘3Ts’ (tariffs, taxes, transfers, OECD 2010, 2009).[97]

2.6.3 Assets for the fictitious economy

Commercialisation of foundational services such as water supply and sanitation and associated cost recovery (and increased tariffs), as Furlong (2020a) notes, have crucially enabled mobilising commercial finance. Commercial provision of services as a ‘revenue-raising instrument’ (OECD 2010), in other words, has rather paid for the cost of borrowing than made available additional resources for development.[98] Historically, such resource mobilisation backed by tariffs has taken different forms of private sector participation through equity investment. These forms include privatisations, where public assets and operations are transferred to a private entity,[99] either completely (‘divestiture’, cf. World Bank PPPLRC 2022b) or partially (‘joint ventures’ where the public retains ‘an equity stake’, cf. World Bank PPPLRC 2022c), public-private partnerships arrangements such as concessions, build-operate-transfer (BOT, or similar setups), leases and affermage contracts,[100] or management (O&M) contracts (cf. World Bank PPPLRC 2022d,a,e). Accordingly, the goals have varied, and private sector participation can be mapped on two spectra: first, on a spectrum of extent of involvement in operations (and maintenance) of infrastructure and basic services, and second, on a spectrum of degree of private finance contributed. Privatisations, in other words, have promised “private efficiency” as well as private finance.

However, as private sector participation in the water sector declines since more and more (sub-national) governments de-privatise or, in Kenya’s case, suspended privatisations before they happened (Jaglin and Bousquet 2012), private financing of *publicly* owned and operated utilities has become a widely promoted form of private sector participation through “finance gap filling”.[101] This nascent commercial financing of public utilities builds on “traditional” private sector participation, which has received continued support from international organ-

[97] Similarly, Rusca and Schwartz (2018) and Schwartz et al. (2017) call for (full) cost recovery being replaced by financial sustainability, which would allow utilities to fund and finance capex and opex not merely from tariffs (user fees) but also other sources.

[98] Furlong’s argument goes further: borrowing has driven infrastructure investment not primarily to develop infrastructure but to re-finance old loans. Infrastructure development, in this account, is a strategy not necessarily to develop foundational services but to avert defaults (Furlong 2020a).

[99] The public/government typically retains some control over the private entities through regulation or licencing requirements.

[100] Affermage contracts differ from leases in that the ‘operator [retains] the [full] operator fee out of the receipts […] and [pays] an additional surcharge that is charged to customers to the awarding authority to go towards investments that the awarding authority makes/has made’, whereas ‘in the case of a *lease* a portion of the receipts [go] to the awarding authority as owner of the assets as a lease fee’ (World Bank PPPLRC 2022d).

[101] See chapter 1. Corporatised yet publicly owned, commercially operated and commercially financed utilities are similarly integrated into the ‘billions-to-trillions’ and ‘maximizing finance for development’ (B2T/MFD, Development Committee 2015; World Bank 2018c). Next to privatisations or PPPs, these borrowing public utilities represent a second vehicle to ‘crowd-in private capital’ (G20 2018b:1) for infrastructure development from domestic or international financiers.

isations and IFIs (World Bank 2017b; McDonald and Swyngedouw 2019), has seen renewed interest from investors[102], and is still supported by claims about private effectiveness and efficiency and the possibility to balance economic and social goals (Hildyard 2016; Klein 2015; Leigland 2020; cf. Leyshon and Thrift 2007:105-6 on PFI in the UK). Yet as ownership and control of operations remain in public hands, private sector participation focuses on financing: in addition to divestiture or PPPs (attracting equity investors), infrastructure and basic services are being made investable through borrowing by commercialised public utilities (attracting debt investors). The old 'new breed of investor-operator' out to maximise financial returns (Lawrence and Stapledon 2008; Page et al. 2008) and existing relationship between 'financial markets and infrastructure [… that] now drives asset ownership and operation' (Ashton et al. 2012) is supplemented by lenders (regular business or investment banks, investment funds, or institutional investors) that invest in infrastructure and basic services without (nominally) taking any stake (or share) in operations (cf. Inderst 2010b).

Debt may even be preferred over equity by investors. Inderst (2010b:96) asserts 'an increased interest in infrastructure bonds both from the side of issuers and investors', noting that '[p]ension funds are reconsidering the spectrum of debt instruments as they may get "boring" infrastructure yields perhaps in a simpler and cheaper form' – as well as possibly a safer form.[103] More importantly, Inderst (2010b:96), citing Sawant (2010), suggests that debt, either bonds traded on capital markets or, more often, '(syndicated) loans' may be a 'superior governance mechanism instead of private equity'. Investors may choose debt over equity to invest in infrastructure then because it is simpler, cheaper, safer, and a better way to guarantee returns – and hold the borrowing utilities and their managers accountable to it. Sawant (2010:78), referring to the 'free cash flow theory',[104] notes that the theory

[102] See, for instance, G20 (2018b:1): 'Institutional investors are constantly searching for stable opportunities that can match their long-term liabilities. In that context, infrastructure assets can be particularly attractive due to their time horizons, synthetic inflation hedge, relatively high expected yields and returns that are uncorrelated with business cycles, thereby providing opportunities for portfolio diversification. According to a recent Global Infrastructure Hub-EDHEC analysis, 90 per cent of institutional investors intend to increase their asset allocation in the infrastructure sector.' (cf. Blanc-Brude et al. 2017). The mentioned study also highlights growing interest in emerging markets, where 'on average, there is a 6.3% premium' on returns: in 2017, 37.5% of investors invest in emerging markets (up from 20% in 2016) and 82% of those investors want to increase their investment (GIH 2017). Survey respondents, who worked with project preparation facilities before, lauded their risk-mitigation benefits but lamented the insufficient 'ability of MDB to influence central government' (GIH 2017:3).

[103] 'The credit agencies report comparatively low default rates for infrastructure projects. However, much more analysis is needed in this field' (Inderst 2010b:96).

[104] In short, the free cash flow theory of capital structure argues that agents (such as firm managers), performing delegated work of principals (such as investors), may not always have the interests of principals in mind, and their performance and alignment of interests may not easily be monitored or verified, which may lead to 'unwise investments' or 'profligacy and wasteful expenditure' when 'a firm throws off free cash flow' (Sawant 2010:76). Instead, the theory 'suggests that the solution to the agency conflict between shareholders and managers is the use of debt', which 'forces managers to meet contractually mandated payments as per a prearranged schedule' (Sawant 2010:77). The examples given of misaligned interests of managers and shareholders are 'above-market salaries, perquisites, job security, and sometimes appropriation of assets and cash flows which is detrimental to shareholders' interests'; also, 'investments that maximize [managers] particular knowledge and skill set', which makes it 'difficult for shareholders to replace them and consequently improve their bargaining power over investors' (Sawant 2010:76).

> […] provides a strong rationale for using debt as a mechanism of forcing managers to disgorge free cash flows [… and] for monitoring performance by creating high contractually obligated payments. Managers must operate the assets efficiently to meet interest and principal payments, and late or missed payments that are immediately brought to investors' attention reveal that managers are not performing optimally.

In short: lending to utilities may be superior to ownership or shareholding in securing the 'large amounts of free cash flow' found in infrastructure (Sawant 2010:79) and in 'monitoring managerial behaviour' (Sawant 2010:82).

Generally, lending to (private or public) commercialised utilities rests on turning their cash flows into assets. An asset is (typically) understood as 'a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity' (Burton and Jermakowicz 2015:39; cf. Birch and Muniesa 2020:3).[105] As Leyshon and Thrift (2007:98) argue, it is the 'constant searching out, or the construction of, new asset streams, usually through a process of aggregation' that is the 'bedrock of financial capitalism' (underpinning the 'spectacular system of speculation' that has often received more critical attention). These asset streams often undergo a process of "securitisation", which, as Leyshon and Thrift (2007:100) note, 'when all is said and done, is an exercise in the bundling-up of assets so that they will yield clear and defined income streams'. Public services, given their 'predictable and secure income streams over long time periods and because the supply of most infrastructure tends to depend upon a quasi-monopolistic relationship with its customers', have become a new class of assets similar to private utilities (Leyshon and Thrift 2007:101 and 105-6 for example of UK's Private Finance Initiative).

Turning control over a resource, whether that is private or public control, and whether that control originates in legal rights such as ownership or lease arrangement or 'without any legal rights' (Burton and Jermakowicz 2015:39),[106] into an asset requires someone, typically an organisation such as a company (or corporatised public service), to produce that asset. This includes a range of practices (such as tariff setting, or billing and collection) that need to be performed to transform the right to charge user fees into an asset. Assets, in other words, depend on the existent and unchallenged control of a resource and, importantly, the ability and willingness of an entity to realise economic benefits from this control. That is, the construction and valuation of assets depend on the performance of the entity to realise economic profits, which may include introducing new practices (and possibly technologies)

[105]This is the definition of the International Accounting Standards Board (IASB), which stresses control over asset by the entity, the present existence of the asset, and the expectation of future economic benefits. Other definitions exist. Burton and Jermakowicz (2015:39) also points out that the 'IASB is in the process of developing a new definition of an asset because of certain shortcomings identified with the current definition. For example, some users misinterpret the terms "expected" as well as "control," and do not place enough emphasis on whether the entity has access to the economic resource at the reporting date.'

[106]See Birch and Muniesa (2020:5): 'assets are legal constructs in that ownership and control rest on the state enforcement of property and control rights' – or, in other words, the endorsement and enforcement of (codified) norms by normative circles.

such as automated billing and collection.[107] Who creates the asset, a private (created through privatisations or PPPs) or commercialised public utility,[108] is less relevant than the effective performance of the practices that produce and reproduce it for capitalising the asset (through investment into equity or debt). This asset creation makes use of utilities' monopoly in the sector, which is typically only practically (but not normatively) challenged when in heterogeneous infrastructure configurations other entities stand in for (or sometimes displace) licenced utilities.

Assetisation, then, requires an organisation to perform associated practices: making cash flows from selling commodified water and commercialised water services into an asset, relies, for instance, on Kenya's water and sanitation companies. The crucial point here is that commercial financing is based on the valuation of that organisation's ability and commitment to perform the assetisation, not any value of water or sanitation services *per se*. Thus, 'the business is the instrument which creates the earnings, and the valuation of the business is the valuation of this instrument' (Birch 2017:475-6; quoting Muniesa 2012:30). Two utilities of the same sector, both equipped with similar control over water resources and monopoly of providing related services, may therefore be evaluated differently by creditors. This is one of the reasons why private entities often have easier access to commercial finance: their capacity and commitment to effectively and reliably perform accepted assetisation practices[109] is more trusted than those of public utilities (chapters 5 and 6 therefore explore how public utilities' capacity and commitment has been aligned with creditors' requirements).

The valuation of an asset may therefore be worse than both use and exchange value of the underlying commodity or service would suggest. Kenya's WASCOs and their assets, for instance, have largely not yet been valued in a way that would enable capital market-based financing transactions: WASCOs are simply not trusted with the production of performing assets by creditors. At the same time, the 2007-8 subprime crisis showed that mortgages for instance, through packaging and re-packaging them in various derivatives, were valued above the ability of subprime mortgagors to repay: the loan issuing investment banks that had 'only to gain and nothing to lose by issuing loans to potentially insolvent mortgage-takers' had simply 'underplayed the solvency of the loan-takers' (Carchedi 2011:164). This also demonstrated the danger of re-packaging and re-selling debt (which masked risks) and

[107] This is typically eased by the fact that 'assets often involve forms of "rentiership" in which monopoly control [...] enables the extraction of economic rents', and where, given the monopolies involved, 'rising asset prices do not lead to new producers or creators entering a market and thereby lowering prices' (Birch and Muniesa 2020:6).

[108] Though other arrangements are imaginable. Rusca and Schwartz (2018) and Schwartz et al. (2017), for instance, propose 'financial sustainability', which relies not only on user fees as the basis for running public utilities sustainably.

[109] Ashton et al. (2012) showed for infrastructure privatisations in the US that this instrument to create earnings is not necessarily restricted to managerial or commercial practices but also includes financial practices. These practices increased the value of privatisations beyond the 'market value', which the authors referred to as 'investment value', i.e. the (projected) returns for investors. Such financial practices include financial engineering techniques that considerably increase the rate of return, e.g. interest rate swaps,[^ch2interestrateswaps], discount rate adjustments,[^ch2discountrateadjustments], and refinancing and equity cash outs[^ch2refinancecashout].

the dependence of such activities on underlying economic stability. As Leyshon and Thrift (2007:110) observes, 'hidden layers of debt are being piled upon what are often mundane forms of income, and these hidden layers of debt rely upon the unproblematic unfolding of quotidian economic life'.[110] Moreover, trade of debt or derivatives in secondary markets, which might not even be envisaged, may work back on utilities in possibly unpredictable ways, for instance by shaping what infrastructure and basic services projects get financed and implemented,[111] or changing the company that runs the service (and its practices) in ways that are 'counter to the public interest' by subordinating 'long-range investments in public goods [...] to international financial imperatives' (Leyshon and Thrift 2007:106-10, discussing the UK's Private Finance Initiative).[112]

Whereas assetisation depends on the organisation performing it, it ultimately also requires adequate cash flows. This has spatial implications since cost recovery is primarily achievable in (core) urban areas that have both networks (and the utilities operating them that also tend to be more performant), and high numbers of connections to these networks by the middle classes living there. Cities, many of which have populations and economies larger than those of smaller countries (cf. Hoornweg et al. 2010), are the conjunctions of the foundational and fictitious economies. Bigger and Webber (2021), for instance, show how climate projects (also in the global South) are ultimately anchored in cities, and how cities are positioned to maintain development in the wake of climate change by gaining access to private finance (cf. World Bank 2020). Such foregrounding of cities, Bigger and Webber (2021) further argue, avoids sovereign guarantees and the political difficulties that come with it given the history and criticism of Southern (sovereign) debt burden and crisis (see for instance Glennie 2010; Furlong 2020b; Bond 2017; Graeber 2011).[113] Moreover, cities are the places where the two donor agendas of urban development and blended finance meet. The New Urban Agenda for instance stated that in an "urban age" (more people live in cities than in rural

[110]A disruption, or unmaintainable fabrication, of such 'unproblematic unfolding quotidian economic life' may trickle up to these 'layers of debt' and eventually back down, ending, as during 2007-8, in home foreclosures, costly bailouts, and an unseen housing and financial crisis. Similarly, a health crisis might, for instance, both increase demand for water and sanitation services, and decrease the ability to pay for them, putting pressure on any 'layers of debt' depending on utilities' positive cash flows.

[111]The financial crisis of 2007-8 showed that leaving the selection of 'projects that deserve to be financed' (Feher 2018:17) to financial markets and their various entities may not only be an issue of under-financing needed infrastructure but also over-financing unneeded infrastructure: pre-crisis financial engineering created an abundant supply of credit, 'even to the point where a borrower was not even required to have a job or a stable income to be able to purchase a house' (Carchedi 2011:164) – which ultimately fuelled the real estate bubble and created the 'subprime debacle' (cf. Carchedi 2011:159-70).

[112]Whereas this is less of a risk in situations where public ownership is retained and capitalisation does not involve acquiring a stake in the control of the organisation (to for instance 'sweat' the asset 'to deliver the income streams that investors expect and demand', Leyshon and Thrift 2007:106), similar influence of creditors may still be an issue. Such influence, however, may not unpredictably exercised later by unknown investors but even before financing transactions are closed since 'financial imperatives' may still determine the ways assets are constructed and valued, and whether such assets are at all considered for capitalisation efforts.

[113]This moves creditworthiness requirements from the national state (issuing sovereign guarantees) to the sub-national state. Later chapters argue that this fundamentally changes sub-national water service provision. Furthermore, this "front-loads" creditors' power over debtors through their 'ability to select the projects that deserve to be financed' (Feher 2018).

areas, UN DESA 2014) cities can be 'the source of solution to, rather than the cause of, the challenges that our world is facing today' (United Nations 2016:iv). This has required resources, however, and donors have worked to mobilise them, *inter alia*, from commercial sources (see chapter 1). Cities, the human settlements and sub-national governments and associated utilities, provide the dense needs for foundational services and, at least potentially, the economic basis, governance systems, and capacities to supplement or even replace public with commercial finance.

2.6.4 Blending public duty with private sector participation

To recap: water and sanitation infrastructure and services are part of three different economic forms. First, they are critical material objects and practices of what has been called the foundational economy. Second, they have been integrated into the "standard" market economy by making water and sanitation goods and services to be exchanged. Third, they have been turned into assets, through which the material objects and practices that produce the goods and services are turned into financial products that appeal to rent-seeking (excess) capital. Water and sanitation services provision, in other words, is shaped by practices of three different economic forms or complexes of appropriative practices (see section 2.4 above).[114] This, some have maintained, bears contradictions: seeking rents or generating profits from foundational services (such as water and sanitation) may, for instance, reduce the accessibility and foundational character of these services (Meeks 2018; Griffiths and Romero 2018; Hildyard 2016). Full privatisations or private sector participation through PPPs have exposed these contradictions and, subsequently, been rolled back in more and more cities. Publicly owned yet privately financed utilities, however, may exhibit similar issues: corporatised, commercialised, and privately financed public utilities, given the set of practices that are introduced through these processes, may merely continue, instead of resolving, the contradictions of private water and sanitation services provision.

This brings into view how water and sanitation services provision integrates into different economic forms, and how different practices contribute to those integrations. Importantly, this also brings into view how a particular practice may support integrations into several economic forms. Given that the three aspects of basic services discussed above build on each other – the asset form rests on the commercialised and commodified form that rests on the foundational form – this is not surprising. Still, an analysis based on practices as analytical unit (and similar to Elder-Vass (2016) as unit of different forms of services provision) allows the analysis to clearly establish which practices support which form of provision (and integrate into which related economic form). Such analysis, however, also makes visible the

[114]The simultaneity also shows, for instance, in some tariff structures that include a free (or heavily subsidised) first block (for households), followed by increasing rates for additional consumption, that, at some point, recover costs enough to also enable borrowing.

different reasons and norms, including respective normative circles, that back these practices, and how they combine. This is important to enable an analytical distinction between the same practice as underpinning the foundational economy, or, say, supporting assetisation. Moreover, it is important to enable an analytical separation of what is often argued to be dependent practices. Whereas the asset form typically rests on the commercialised and commodified form, this need not be so: 'financial sustainability' (Schwartz et al. 2017; Rusca and Schwartz 2018), for instance, may support assetisation similarly to cost recovery (de-risking does precisely this, as do demand guarantees in privatisation or PPP schemes).

Introducing commercial financing to public utilities then not only introduces new practices to these water and sanitation companies, but also new reasons, norms, and backing normative circles that support these practices and existing ones. Chapter 5 looks at the former: the introduction of new practices. Chapter 6 then explores the latter: the construction of utilities' commitment to these practices, and the different reasons, norms, and normative circles that come together to underpin, for instance, practices that improve utilities' performance. This supports seeing how such critically needed performance improvements, for instance, have been integrated into supporting not only the foundational economy (the argument being that those improvements are needed *for the foundational economy*) but also commercialisation and assetisation. While still vital for the foundational economy, those practices, as part of financial capitalism and financialisation, may then increase risks or undermine the foundational service provision. As Haiven (2014:2) puts it, '[it] is an age when, for all intents and purposes, debts and deficits have become the key and most important arbiters of policy, not only at the level of nation-states but at the level of sub-state actors, including cities, public transportation firms, school boards, universities, hospitals and more' (Haiven 2014:2).

2.7 Seeing the complexes of practices in basic services provision

Starting with critical realist meta-theory (section 2.1), this chapter developed an understanding of social reality as constituted by social positions and the social relations between them (section 2.2). This grounded the research in a theory of causation based on the interference of tendencies to act causally by different "things", and a social theory of positions that can be occupied by those "things" and of the social totalities (themselves "things") constituted by the relations between these positioned "things". Moreover, next to the relational structure that organises coordinated interactions within such totalities or organisations, the framework developed above relies on an understanding of institutional structure based on norms, backing normative circles, and related practices (section 2.3). This forms a normative environment that defines positions and their performance, and, more importantly, shapes the normative beliefs among positioned persons that underpin conformity with these definitions (and therefore enable and reproduce coordinated interactions, i.e. relational structure). Together, institutional and relational structure produce the causal powers and properties of organisa-

tions. Chapters 4, 5, and 6 draw on this conceptual and theoretical framing to identify and explore the central re-positionings within basic services provision, including the relational reorganisation and transformation of the normative environment, in the wake of integrating commercial financing into Kenya's water sector.

This brings concepts and theories of social positioning and normative circles to the study of the financialisation of foundational services provision and of development. Together with the concept of complexes of practices, this enables a causal analysis of the various processes and practices that actually underpin this financialisation: analysing the addition and change of positions, their occupation and performance, and the normative environment that shapes this (including position definition) allows investigating the origin and logic of the sector's causal power to mobilise commercial resources.

Building on this framing, the chapter developed a more concrete conceptual and theoretical foundation for understanding commercially financed development of basic services and the role of debt therein. This conceptualised debt in three dimensions (section 2.5). First, based on social positioning, debt was understood as a financing relation between entities positioned as *debtors* and those positioned as *creditors*, where the emphasis was on the material aspect of this relation. A second understanding foregrounded the extractive and disciplinary power-over aspect of this relation. Finally, a third understanding highlighted the set of norms associated with debt. This concluded by asserting that debt is not "filling" but rather "bridging" a gap, and that it disciplines the entity positioned as *debtor*. Furthermore, it concluded by foregrounding underwriting as essential practice and observing the tension between debt as useful social institution on the one hand, and as the supremacy of the creditor class over the debtor class. Chapters 4, 5, and 6 as well as thesis conclusions (chapter 7) will look at how debt's disciplinary effect not only shapes entities *qua debtors* but also spills over into other positions occupied by the same entity. This will be conceptualised and theorised as *linked positions* or *linked positioning* (see section 7.3.3).

To capture this spill-over, the framing was supplemented by conceptual and theoretical considerations of infrastructure and basic services (section 2.6). These, too, were seen in different dimensions: as material objects and practices of the "foundational economy", as commodity and product in the market economy, and as assets for the fictitious economy. This made use of the three-dimensional understanding of debt to see how the mobilisation of commercial resources has shaped the normative re-definition and relational re-organisation of basic services provision. Understanding commercial borrowing as occupying a *debtor* position, and separating this positioning of utilities as *debtors* from their simultaneous but different positioning as *service providers* allows an analysis (in chapters 4, 5, and 6) of the changes in practices of foundational services provision and in the reasons, norms, and normative circles that back these. Moreover, it allows seeing how the foundational and fictitious economy meet in these practices, reasons, norms, and normative circles: the contact point

of service providers and debtors. These chapters, in other words, build on the distinction between *debtor* and *service provider* positions to disentangle practices according to their function in supporting occupancy of either position (and performance of associated rights and obligations), and to unpack the mutual support of, but also tensions between, *debtor* and *service provider* roles. This will be conceptualised and theorised as *debt emission* and *debt emitter* position occupancy, to capture the range of practices adopted by water and sanitation companies *qua service providers*, and the companies' agency, even before occupying a *debtor* position in the new model of basic services financing and governance in financial capitalism (see section 7.3.1).

The analysis is furthermore supported by the concept of complexes of practices. While promoted by international organisations and donors, commercially financing (networked) services provision through commercialising public utilities is but one way to finance the development and provision of foundational services. This particular form of commercial financing of (development and provision of) basic services can be seen as a specific complex of practices that combines occupancy of a specific *service provider* position with occupancy of a specific *debtor* position – including conformity with associated norms and performance of respective practices. This enables seeing the actual (or potential) co-existence of different complexes, not merely in basic services provision itself (i.e. the heterogeneous infrastructure configurations) but also in funding and financing it – which opens a way to approach an important evaluative question: if one accepted that infrastructure backlogs are liquidity issues – and this remains both an analytical and normative question – how are projects best underwritten? Why and how, in other words, should the *debtor* position be linked to the *service provider* position? This link has critical implications for foundational services provision, and water users' ability and willingness to pay fully cost-recovering tariffs seems an insufficient explanation for the particular link promoted by "gap filling": capitalising future cash flows from commercial services provision through debt. Backlogs may not be liquidity issues, and some may contend that users *should not* pay for the foundational economy, at least not fully cost-recovering tariffs that include capital expenditures (capex) and associated costs of financing (see "normative insolvency" in section 2.5.4 above). Ultimately, this is not merely a matter of costs: mixing fictitious capital and associated practices with the foundational economy may extract value, but may also influence governance, including the decision-making process of which sites of the foundational economy get financed. The following analysis therefore investigates related changes in water and sanitation companies (and the wider water sector), including the changes in governance of infrastructure projects, and their identification and selection.

Chapter 3

Research design, data generation, and analysis

The beginning operationalisation of the "Billions to Trillions" and "Maximizing Finance for Development" agendas described in chapter 1 occasioned this study of how basic services provision has been transformed through commercial financing approaches despite their slow adoption. Making use of critical realism's '[underlabouring] for and occasional [midwifing] of good science' (Bhaskar 2016:78), the research project presented here closed in on this question by identifying, exploring, and explaining central mechanisms at work once commercial finance enters an infrastructure and basic services sector. To do this, chapters 4, 5, and 6 will probe into the ongoing effort to "fill the gap" in Kenya's water and sanitation sector, which serves as a case of a basic services sector that is prepared for and gradually integrating commercial financing approaches. The sections below will make explicit how precisely this was done, i.e. how the research was designed and conducted.

Section 3.1 will present the questions and aims that guided the research, specify the overall and concrete objects of the study, place the project in the broader research cycle, and summarise the data generation and collection as well analysis strategies. Following this, section 3.2 introduces the case and explains its selection as well as the sites and entities included in data generation and collection. Sections 3.3 and 3.4 will then discuss the two processes of data generation and data interpretation/analysis, looking in detail at employed methods. This will be followed by reflections in section 3.5 on challenges and limitations, research validity, as well as reflexivity, positionality, and values shaping the research. The chapter conclusion recaps the research design and raises an additional question that motivated the research: how, if at all, can commercial financing improve fair provision of basic services?

3.1 Research design: a critical realist case study

The previous chapter discussed the critical realist meta-theory that underpins this research project. Building on this, especially the clear distinction between the world (the intransitive dimension) and our produced and situated knowledge of the world (the transitive dimension), this section explains the research design. After stating the research questions and aims in section 3.1.1, this addresses the critical realist 'double specificity of method' (Bhaskar 2016:78) by listing the objects of study as well as where the study is situated in knowledge and knowledge production about the puzzle in section 3.1.2. Sections 3.1.3 and 3.1.4 then explain the research strategy (case study) as well as data generation, collection, and analysis methods specific to the assumed ontology (as theoretically underpinned by chapter 2) and the study's position 'in the transitive dimension' (Bhaskar 2017:42). Critical realist "underlabouring" instrumentally guided design, and enabled execution, of the research, and provided a strong philosophical foundation for approaching the central research aim: doing the 'explanatory work' (Lawson 2019:34) to explain the (ongoing) historical development and transformation of basic services provision for commercial financing and the associated emerging causal efficacy of a reorganised sector. The analysis presented in the following chapters therefore relies on a critical realist understanding of causality (see chapter 2) and focuses on exploratory and explanatory empirical research that aims to 'identify, discover, uncover [...] structures, blocks and (generically) causes, and the particular sequences, combinations and articulations of them at work at specific times and places' (Bhaskar 2016:79).

3.1.1 Questions and aims

Given the research's primary concern with the diachronic and synchronic emergence of a new set of causal powers and liabilities of water and sanitation services provision associated with "gap filling" efforts in Kenya, the following two research questions direct the research:

1. How have Kenya's water and sanitation sector and its entities historically been transformed (developed and organised) to make commercial financing possible and, crucially, probable?
2. Who and what has, at what times and in which ways, contributed to, or stood in the way of, these transformations of the sector and its entities?

These questions leave open whether commercial financing actually filled any gap – the main justification for any changes.[1] This does not preclude querying transformations associated with "gap filling", however. As will become clearer in the following chapters, commercially financed entities are being changed *before* any financing transaction occur, and possibly even

[1]Several accounts or reports suggested actual "gap filling" has remained limited, but evaluating whether this was in fact the case was not part of the study. At the time of data generation and collection, no project proposal of public water utilities for purely commercial financing had been approved. In other words: none had reached "financial close".

without any. The study therefore focuses on exploring the mechanisms that tend to either support or not support the mobilisation of commercial resources, and the associated changes across the sector. This focus is, on the one hand, enabled by the availability and accessibility of data about proposed projects and various efforts to scale commercial financing in Kenya's water and sanitation sector, yet, on the other, also necessitated by the absence of actually implemented commercially financed projects.

Accordingly, the research project has two aims: understanding better the process of integrating commercial financing into Kenya's water and sanitation sector, and understanding better the causal powers and liabilities that commercial financing introduces to the sector and its entities.[2] Achieving these aims includes two main tasks:

1. Exploring and explaining commercial financing of Kenya's water sector and its entities

Chapters 4 to 6 explore and explain the emergence of *Kenya's commercially financed water and sanitation sector* and *Kenya's commercially financed water and sanitation companies*. This looks at the historical process that first established the possibility of borrowing, has later developed required capacities, and has finally shifted towards building the commitment to do so. Based on the theoretical framing presented in chapter 2, this process is understood as one where utilities' additional (and slow) social positioning as *debt emitters* (and *debtors*) is widely (yet somewhat ineffectively) endorsed by norm circles. Consequently, this includes a range of auxiliary inquiries into how the institutional context has been created, trialled, and adjusted; how entities have been selected for, prepared for, and made to accept commercial financing; and who has, in which ways, by which means, and to what ends, supported and executed these efforts.

2. Analysing the emergent causal powers and liabilities

Additionally, the thesis analyses the newly acquired causal powers and liabilities of the commercially financed sector and its utilities. This includes powers and liabilities in addition to resource mobilisation from commercial sources – the declared primary function of "gap filling" and associated transformation of the sector and its entities. Given that additional resources are simply a means to some end, and that any additional powers and liabilities may have significant (side-)effects, this aims to build a fuller understanding of commercially financing basic services.[3]

[2]This was motivated by a third supplementary aim: understanding better the relevance of these causal powers and liabilities for improving and making fairer services provision, and understanding better the context and set-up that supports an actualisation of any tendency of commercial financing to do so see 3.6.

[3]Such fuller understanding can later become the basis for an evaluative critique of commercially financing basic services. Section 3.6 raises some questions in this regard, and the thesis conclusions (chapter 7) pick them up and sketch some responses.

3.1.2 Ontological and epistemological specificity

Bhaskar (2016:78) stresses that the application of critical realism rests on a 'double specificity of method' regarding the intransitive (ontological) and transitive (epistemological/social) dimensions. Elsewhere he adds that 'there is no general method, there is only a specific method for specific objects given certain epistemological circumstances' (Bhaskar 2017:42). The choice of methods of data generation, collection, and analysis employed to produce further knowledge (whose absence is expressed in above research questions), in other words, depends critically on the objects of study as well as existing knowledge about them and the potential to produce more. Similarly, Sayer (Sayer 2000:19; cf. Sayer 2010:162-9) explained that (critical) realist use of research methods and 'particular choices should depend on the nature of the object of study and what one wants to learn about it'. The following list outlines the former, i.e. the 'ontology involved' (Bhaskar 2017:42), based on the theoretical discussions of chapter 2:

- *Historical events* (e.g. the incorporation of municipal water supply departments as water and sanitation companies), understood as critical milestones efficacious in terms of their tendency to fix specific pathways and directions of change, or, if less stable, conditionally point to potential pathways and directions of change. An event, in other words, is understood as a demonstration of, or pointer to, a relatively stable and durable actualisation of a number of mechanisms in a specific context (cf. Mutch 2014)
- *Rights* and *obligations* and the accepted ways of their performance, i.e. *practices*, of organisations and individuals (in short persons), understood as mechanisms that tend to stabilise the relational organisation of social totalities/communities (such as the water sector or water utilities)
- *Norms* (codified or otherwise, including laws, regulations, policies, guidelines, benchmarks, shared convictions and beliefs), *normative circles* that endorse/enforce these norms, and their *reasons* and *resolution* to do so, understood as mechanisms that tend to determine rights, obligations, and practices of persons
- Finally, *organisations* and *people*, in their own right, understood as the relationally organised and, importantly, skilled and reasoned agents that bear particular positions or roles, exercise rights and fulfil obligations by performing certain practices, and endorse and enforce norms in normative circles[4]

These categories of study objects determined the choice of data generation/collection and analysis methods (see sections 3.3 and 3.4 below) and are further specified in section 3.2 in regard to actual data sources and 'carving up and defining our objects of study' (Sayer 2000:19; cf. Sayer 1992:85-117).

[4]See Sayer (2010:66): 'Although social structures are difficult to transform, the execution of the actions necessary for their reproduction must be seen as a skilled accomplishment requiring not only materials but particular kinds of practical knowledge. Actors are not mere "dupes", "automata", or "bearers of roles", unalterably programmed to reproduce' (Sayer 2010:81).

Given the research questions and aims stated above, the research project sought to produce knowledge about the mechanisms that generate the sector's tendency (including possibility, capacity, and commitment) to mobilise commercial resources, to ultimately increase coverage of water and sanitation services. This, after all, have been the explicit and implicit claims advanced by (international) organisations promoting commercial financing: borrowing will help to "fill the finance gap" and, subsequently, improve service provision (see chapter 1). The primary concern of the study was therefore to abduct and '[retroduct] to possible explanatory mechanisms'. It was placed, in other words, in the exploratory and explanatory stage of the 'total research process or cycle' (Bhaskar 2016:78-9). This placement of the study assumes that, in principle, both claims can be true: commercial finance can contribute to mobilising resources and improve water and sanitation services delivery. The Nederlandse Waterschapsbank (NWB), the initial model for a donor effort to scale commercial financing in Kenya, suggests that this assumption is justified.[5] What has remained unclear, however (and especially given the delays to actually reach financial close for project proposals), is *why*, and through which structure and in which context, introducing commercial financing to a water sector would indeed have this effect.

3.1.3 Case study research strategy

Given the questions, aims, objects of study, and kind of knowledge sought – a causal understanding and explanation –, the research was designed as a case study, which allows for an intensive inquiry into the "gap filling" presented in chapter 1. Sayer (2010:163-4) highlights the use of 'intensive research' approaches to ask 'how some causal process works out in a particular case', which includes engaging with 'groups whose members may be either similar or different but which actually relate to each other structurally or causally'. This is opposed to 'extensive research' that aims at discovering patterns or regularities, or 'similarities and differences rather than substantial connections' (Sayer 2000:22). Case studies allow for intensive research by studying the 'particularity and complexity of a single case' (Stake 1995:xi) in a 'holistic' way (Thomas 2015; both quoted in Tight 2022:399-400). Against several 'misunderstandings' about case studies, most notably that generalisations are impossible from single or small number case studies, Flyvbjerg (2006) defends the approach (also Yin 2018). Moreover, he contends that 'good social science is problem driven [...] in the sense that it employs those methods that for a given problematic, best help answer

[5]This national Dutch "promotional bank", whose foundation in 1954 had been accelerated by a flood disaster, initially aimed at banking water authorities and 'secure loans at the best possible terms' for these (NWB 2022:12). The bank has since broadened their portfolio and become a financier for various public and semi-public organisations, including 'drinking water companies and municipalities, [...] housing associations and healthcare institutions' (NWB 2022:12). The bank does 'not pursue profit maximisation' and 'expressly [focuses] on creating long-term social value' (NWB 2022:12). Given that most loans are guaranteed by local or regional governments, the NWB has an 'AAA/Aaa' credit rating and '[ranks] fifth on the list of the world's safest banks' (NWB 2022:12). This ensures that funds raised at international capital markets through issuing "ESG bonds" (for instance water/green bonds, whose proceeds are on-lent to water authorities) comes at minimal cost for public borrowers.

the research questions at hand' (Flyvbjerg 2006:242; cf. Tight 2022). The possibility of, and approach to, generalisation, alongside case definition and selection, are discussed in more detail in section 3.2. Important here is that the case study design enabled this particular research through its focus on complexity and context, and on the substantial and causal relations between elements of the case.

3.1.4 Methods for a qualitative case study design

Given the research questions and aims, and following the design of the research as intensive case study, qualitative data generation/collection (cf. Farthing 2015; Mason 2002:52) and analysis methods were chosen. According to Sayer (2010:179), 'intensive research uses mainly qualitative methods such as structural and causal analysis, participant observation and/or informal and interactive interviews'. Such choice respects the 'double specificity' of the research project indicated above, aligning methods with the nature of the objects of study and 'what one wants to learn about it' (Sayer 2000:19). The research therefore primarily used interviewing, which was supported by additional data generated and collected from observations (workshop attendance, field visits) and documents (cf. Mason 2002:60). Especially documents supplemented data generated through interviewing as authoritative data sources of official codified norms such as laws, regulations, policies, and guidelines but also strategic plans and mission statements; moreover, documents such as official reports were used as a source of data to corroborate, where possible, data generated through interviewing.

Interviewing was used in an 'explicitly "theory-driven"' way (Smith and Elger 2014). Interviews, in other words, were used to generate additional data about the 'relationships between underlying causal *mechanisms* (including actors' understandings and rationales for action), the varying *contexts* in which such mechanisms operate and the resultant *outcomes*, anticipated and unanticipated' (Smith and Elger 2014:116) – as speculated at this moment of the research process by the researcher and participants based on their evolving understanding. Assuming a 'division of expertise across the issues investigated', recruited research participants were assumed to be highly knowledgable about the specific mechanisms, contexts, and outcomes under scrutiny in each interview (see Pawson and Tilley 1997:162-5; cf. Smith and Elger 2014:from 116). Subsequent interviews offered accounts of the matter in question supplementary to other interviews or data from observations or documents, which extended, corroborated, or amended the researcher's evolving understanding. Additionally, interviewing generated data about beliefs and reasons of key actors. In summary, interviews supported all three subsequent analyses: interpretative, structural, and causal (Sayer 2010:77).[6] Section 3.3.1 below describes this in more detail.

Data generated through interviewing was supplemented by data from documents and ob-

[6]There is, furthermore, a personal epistemological and methodological dimension to this: the researcher had previous experience as well as an interest in interviewing, which facilitated generating data through interviewing.

servations. The former included a range of text understood as codified norms or official reports. Such text specifies, sometimes with great detail and precision (for instance laws and regulations, but also performance or end-of-programme reports), organisations' accepted practices, evaluations of their performance, and their stated goals and intentions. This added official and publicised accounts, and furthermore helped to fill in, corroborate, or correct data generated through interviewing. The latter, observation, was used to add to the understanding constructed from interviewing data and documents. However, whereas the research design included interviewing and documents as data sources from the start, observation was only partially planned and even occurred spontaneously (cf. Wästerfors 2022). They were planned, for instance, in connection with interviews, i.e. where interviewing occurred in settings like interviewees' work places. In addition to this, an unexpected invitation to a workshop allowed for an observation of a key process and key actors related to the research. This is described further in sections 3.3.2 and 3.3.3.

Given the research's exploratory and explanatory focus, data analysis was grounded in a thematic analysis[7] based on theoretically informed abstractions (see chapter 2), aimed at preparing data and developing themes to support an analysis of agents' beliefs and reasons, of structures, and ultimately of mechanisms. Data was seen 'as evidence for real phenomena and processes (including mental phenomena and processes) that are not available for direct observation' (Maxwell 2012a:103). The analysis, in other words, aimed at inferring mechanisms that explained the matters in question, in this particular case and under these circumstances. Following Ackroyd and Karlsson (2014:23), this included embedding the 'abductive and retroductive logics of discovery' to generate 'theoretical or transfactual rather than empirical generalisations' (Bhaskar 2016:79).[8] Based on developed themes, the 'interdependent' triad of interpretative, structural, and causal analyses was used to build an understanding of beliefs and reasons, relations and organisation, and (proposed) mechanisms (cf. Sayer 2010:77). This used both 'narrative' and 'analysis', as understood by Sayer (2010:174-7), to develop an explanation of both diachronic and synchronic emergence in an analysis that included the 'episodic' (i.e. 'temporal successions') and 'configurational dimension' (i.e. 'synchronic relations') (Sayer 2010:176).

[7]Although recent discussions of critical realist thematic analysis were published after most data generation and analysis was done, Wiltshire and Ronkainen (2021) and Fryer (2022) are helpful retrospective references to describe the process of abductive and retroductive development of themes. This includes especially the former's distinction between 'subjective viewpoints such as intentions, hopes, concerns, beliefs, and feelings' (experiential themes), abducted re-descriptions (inferential themes), and retroducted theories (dispositional themes) (Wiltshire and Ronkainen 2021:164; cf. Bhaskar 2016:79) as well as the latter's illustration of a thematic analysis process (Fryer 2022). The specific analytic process of this research will be described in detail in section 3.4.

[8]Whereas abduction is the theoretically informed production of a most plausible explanation, retroduction is the theorisation of a mechanism that, 'if it were real, would account for the phenomenon in question' (Bhaskar 2016:79; cf. Thornberg 2022).

3.2 The case and included entities and sites

Case definition and selection was based on considerations of the 'subject and object' (Thomas 2011:514-5; cf. Tight 2022) of what was designed as an intensive and detached case study (Ackroyd and Karlsson 2014). To exemplify, or to develop 'exemplary knowledge' (Thomas 2011:514) of, *the changes in basic services provision in the wake of "gap filling" through commercial financing* (the object), a 'key case' was selected, namely *Kenya's gradual and more or less committed integration and scaling of commercial financing in its water and sanitation sector* (the subject). This choice was both instrumental and practical, following the 'guiding principle' by Maxwell (2012a:94) to 'identify groups, settings, or individuals that best exhibit the characteristics or phenomena of interest, and second, to select those that are most accessible and conducive to gaining the understandings you seek'.

Kenya's water and sanitation sector fulfils both criteria. First, the country has been identified, and singled out, by a range of central actors of this study as a "pilot country" given its facilitative "enabling environment" (including its comparatively well-developed banking sector and capital markets) and ambition to integrate more and scale commercial financing of their water and sanitation sector. One of the organisations active in the sector, for instance, is the novel *Kenya Pooled Water Fund* (KPWF), a capital market-based commercial financing approach and pilot project of the *Water Finance Facility* (WFF). Others include USAID (and its SUWASA and WASH-FIN programmes), the World Bank (with its OBA programme), and the KfW (with its AoD programme). In short: Kenya's water and sanitation sector is a key case of "gap filling" efforts because governments and donors have considered and made it one,[9] especially after the country became, by a tiny margin, a (lower) middle-income country in 2014 due to GDP re-calculations (Manson 2014). Furthermore, water and sanitation services are highly contested and high-stake basic services that have been difficult to commercialise, privatise, or assetise in many countries. The case was therefore (correctly) expected to exhibit a range of difficulties in commercially financing basic services. Second, regarding the 'realities of access, cost, time, and difficulty' (Maxwell 2012a:95), the East African context more generally and Kenya specifically were comparatively more accessible given the official use of English and existing institutional and personal ties of colleagues.

Several entities and sites were selected as sources for data generation accordingly. This benefited from an understanding of the research design as 'interactive' or 'systemic' (Maxwell 2012b, 2022): while categories of entities and some promising sites were known in advance, the actual sources of data were determined during data generation as more knowledge was gained and according to actual accessibility. This also fed back to the research design, including research questions, conceptual framing, and methods. Ultimately, the case

[9]This has also implications for generalisability: donors interested in replicating their commercial financing approaches have learned from the Kenyan case and will probably adjust their future programmes accordingly. Kenya's water and sanitation sector is, in other words, a leading case to study a range of practices (of both preparing a sector and actually commercially financing it) that are likely to be adopted elsewhere in the future.

Figure 3.1: Map of Kenya. Interviewed WASCOs are shown in bold, visited ones are underlined. Based on Wikimedia Commons maps of Kenya.

included water sector organisations, most notably the public water and sanitation companies (WASCOs, i.e. water utilities), and related organisations, finance sector organisations, donors, and consultancies (see table 3.1 and table 3.2). Some water and sanitation companies included in the study were also important sites for observations (see figure 3.1). The most important observation, however, was the spontaneous attendance of a WASREB workshop on sharing knowledge about raising commercial capital, supported by WASH-FIN and attended by several WASCOs as well as the Ministry of Water, WSTF, and other water sector and financing experts.

Table 3.1: Entities included in the study.

Category	Entities included
Water services	Water regulator, water and sanitation companies, WWDAs, other sector organisations. Primarily WASCOs shortlisted for or (previously) in contact with KPWF, or with experience of blended financing; plus some that were met spontaneously.
Financiers	Capital market regulator, commercial banks, KPWF and WFF, impact investors. *No commercial investors could be recruited.*
Government	National Treasury and Ministry of Water of Kenya, Kenyan Cities Initiative
Donors	Multi-lateral and bi-lateral organisations (financial and technical assistance), embassies.
Consultancies	Organisations contracted by donors such as lawyers, financing advisories, or implementers.
NGOs	International and local NGOs, ranging from research and policy organisations to water and sanitation services implementers (especially in low-income areas).

As a key case, the research was designed with the intention to draw conclusions beyond the particular case. Following the critical realist foundation and case study design described above, any such generalisation has to remain ‘analytical’ or ‘theoretical’ (Yin 2018; Bryman 2012; Maxwell 2021). Or, as Bhaskar (2016:79) put it, ‘transfactual’:

> […] for critical realism scientifically significant generality is not on the face of the world, but at a remove or distance, characteristically withdrawn from it […]. Critical realism is interested in theoretical or transfactual rather than empirical generalisations.

Transfactuality was briefly discussed in chapter 2; the key point is that the theorisation of mechanisms, which are understood as tendencies or dispositions to actualise particular events, is based on causal powers and liabilities of persons or objects (*per se* or *qua* positioned person or object), i.e. the entities studied (cf. Sayer 2010:70-8). These mechanisms ‘[operate] “across” both closed and open situations’ (Hartwig 2007) based on the posses-

sion and exercise of causal powers and liabilities. As Sayer (2000:table 1.1 on page 21) notes, whereas intensive research (such as case studies) is unlikely to produce '"representative", "average" or generalizable' results,

> Necessary relations discovered will exist wherever their relata are present, for example, causal powers of objects are generalizable to other contexts as they are necessary features of these objects.

Following this understanding of "generalisation", the research was designed to explore, understand, and explain the causal powers and liabilities of studied entities and various (postulated) mechanisms, to help explain other cases with similar entities.

Table 3.2: WASCOs included in the study. Performance ranking (out of total 88) and creditworthiness rating (AAA-B) according to WASREB (2021). Underlined WASCOs were visited, others met elsewhere.

WASCO	Rank / rating	Experience
Nyeri	1 / A	experienced in commercial financing
Embu	16 / BBB	early adopter & pioneer of commercial financing
Ruiru-Juja	4 / BBB	some experience with commercial financing
Eldoret	9 / BB	experienced in commercial financing
Kisumu	12 / BB	experienced in commercial financing
Thika	7 / BB	some experience with commercial financing
Kiambu	30 / B	some experience with commercial financing
Nakuru Rural	25 / B	interest in commercial financing

3.3 Data generation and collection

After an initial desk research of the case from March-June 2019, main data generation through interviewing was done in three phases between July 2019 and June 2020 (see table 3.3). The first phase, from July-November 2019, included establishing initial contacts and first interviews in Bonn and Frankfurt (am Main) in Germany, and in Amsterdam in the Netherlands. The second phase, from December 2019 to February 2020, included interviewing of Kenyan organisations based in Nairobi, and towns to the north of Nairobi and around Mount Kenya; this included observations and attendance of the WASREB workshop. The final phase, from March-June 2020, included further interviews conducted online through (mostly video) calls since international travel had been restricted during this time. In total, 87 interviews were conducted (86 could be used), and 12 workshop sessions were attended and observed. This included attending a meeting between workshop organisers and a commercial bank interested in lending to utilities. None of these were recorded but extensive notes were taken. Data generation from documents was preliminarily done during the first phase and more thoroughly during the third phase and afterwards.

Table 3.3: Data generation timeline.

Phase	Period	Data generated
I	Jul – Nov 2019	13 interviews, 1 observation
II	Dec 2019 – Feb 2020	66 interviews, 12 workshop sessions, 13 observations
III	Mar – Jun 2020	7 interviews

Recording and note-taking were done with full knowledge and consent of research participants, who filled a participation consent sheet before generation of any data that was later used. Occasionally, data was generated (but never recorded) before consent was given, which was either retroactively consented to by participants or discarded for the analysis (yet not "unlearned"). Recordings[10] were transferred to a computer, encrypted, and backed up in encrypted form as soon as possible after the interview to protect raw data. Similarly, notes taken when no recording was possible as well as field notes were backed up in encrypted form and thereafter only used in pseudonymised form. No recordings were lost, although a few had unintended non-recorded parts (due to interruptions and delayed switching on of recording devices). Some had difficult to hear parts due to unstable internet connections (online) or background noises (physical settings).

3.3.1 Interviewing

Following Maxwell (2012a:93-107),[11] research participant selection for interviewing was based on a mix of 'theoretical', 'snowball', and 'convenience' sampling. This included purposive identification of key organisations and individuals 'on the basis of their privileged knowledge' (Petintseva et al. 2020:63) and relevance of such knowledge for the study, through references and referrals by research participants or others, and based on their accessibility. Most identified organisations could be included in the study, and key staff could be recruited for interviews in most cases. One exception were sub-national governments: despite successful contacting and initial signals of openness towards participation, no county government official was ultimately interviewed because no meetings could be scheduled. Sampling and recruiting of participants was continuously adjusted as new knowledge was gained from previous interviews. Such 'flexible and iterative' sampling (Petintseva et al. 2020:61) helped to include further organisations, whose importance was only appreciated during data generation or who became (more) accessible only later through referrals from previous participants. Furthermore, snowballing sampling helped to more easily (and probably more successfully) recruit experts as well as former staff or retired individuals (cf. Petint-

[10]Recording was done through a mobile phone app in physical settings or through the video call software.

[11]See also Petintseva et al. (2020:59-90). This book was published after data generation was designed and mostly completed. Nevertheless, the book was enormously helpful in making sense of the data generation steps taken and reflecting on them.

seva et al. 2020:63).[12] Given the limited time (especially in phase II) and participants' busy diaries, interviews were conducted as soon as possible and according to participants' availability. This inevitably shaped snowballing sampling and resulted in an uneven distribution of interviews over the data generation period (see section 3.5).

Table 3.4: Interviews conducted by category.

Category	Org.	Int.	
Water services	15	20	IntWASREB1, IntWASREB2, IntWSTF1, IntWSTF2, IntWSTF3, IntWSTF4, IntWASCO1, IntWASCO2, IntWASCO3a, IntWASCO3b, IntWASCO4, IntWASCO5, IntWASCO6, IntWASCO7, IntWASCO8, IntWWDA1, IntWWDA2, IntWASPA1, IntKewasnet2, IntKWAHO3
Financiers	10	19	IntWFF1, IntWFF2, IntWFF3, IntWFF4a, IntWFF4b, IntWFF5, IntKIFFWA1, IntKPWF1, IntKPWF2, IntKPWF3, IntKPWF4, IntBank1, IntBank2, IntBank3, IntBank4, IntBank5, IntCMA1, IntCMA2, IntFin1 *Unused: IntFin2*
Government	3	7	IntGov1, IntGov2a, IntGov2b, IntGov3, IntGov4, IntGov5, IntGov6
Donors	13	30	IntUNH1, IntUNH2, IntUNH3, IntWB1, IntWB2a, IntWB2b, IntWB3, IntWB4, IntWB5, IntUSAID1, IntUSAID2, IntUSAID3, IntUSAID4, IntUSAID5, IntUSAID6, IntUSAID7, IntGIZ1, IntGIZ2, IntGIZ3, IntGIZ4, IntKfW1, IntKfW2, IntNL1, IntNL2, IntSNV1, IntVEI1, IntSE1, IntSida1, IntAFD1, IntEU1, IntIFC1
Consultancies	3	3	IntConsult1, IntConsult2, IntConsult3
NGOs	6	7	IntNGO1, IntNGO2, IntNGO3, IntNGO4, IntNGO5, IntNGO6, IntNGO7

Sampling and recruitment led to 20 interviews with staff of 15 organisations related to water services,[13] 19 interviews with staff of ten financing related organisations, seven interviews with officials of three government organisations, 30 interviews with staff of 13 donors, three interviews with staff of three consultancies, and seven interviews with staff of six NGOs (see table 3.4). Recorded parts of these 86 interviews lasted on average 45 minutes (ranging from 10 minutes to over 2 hours). Out of these, 81 were recorded and 6 were not recorded but notes taken. One additional interview was discarded since the interviewee considered what was believed to be an interview as a preliminary conversation and did not agree to a full interview

[12]Almost every interview ended with the question about further potential participants considered important by the research participant. As Petintseva et al. (2020:63) note, this question also gave 'insights in who knows whom, who values whom and who is networked with whom' (Petintseva et al. 2020:63) in some instances. Snowballing bias was avoided by carefully checking whether referrals were relevant to the study and by reflecting on what other participants were relevant. Those were then contacted directly. Also, research participants were asked whether they could establish contact to other organisations that were found relevant but not immediately suggested by research participants. In all these cases, anonymity was preserved as well as possible but occasionally referrals happened by direct introduction (through email or for instance being guided to their offices).

[13]This included interviews with 8 public utilities (WASCOs) and 2 asset developers (WWDAs).

or using any data generated during the conversation. Most interviews were conducted in English, but six in German.[14] All recorded interviews were transcribed, whenever possible immediately after interviewing to make them available for a preliminary analysis that guided further data generation. Especially during phase II transcription could not keep pace with interviewing, pushing most transcription into phase III.

Recruiting sampled organisations and their staff was approached in two ways. First, existing contacts within the German technical assistance organisation GIZ, personal connections ("friends of friends"), and professional connections (contacts of colleagues) were leveraged to gain access to some of the identified organisations. Second, cold-contacting a researcher led to successful referral to staff of the Water Finance Facility (WFF) in Amsterdam, the organisation setting up and supporting the Kenya Pooled Water Fund (KPWF). From there further contacts could be recruited through referrals. Moreover, some participants were contacted directly via email. These emails included an information sheet about the research project and participation; some also had an official letter with University stamp and supervisor signature attached. Contrary to initial concerns, the most limiting factor of recruiting was not reluctance to participate but participants' availability, i.e. their time constraints given their work responsibilities and, in some cases, travelling.[15] "Being around" and flexible helped to spontaneously agree to meetings once they became possible. Furthermore, attending a WASREB workshop presented the opportunity to (*ad hoc*) recruit additional participants. Still, as mentioned above, one sampled group (sub-national governments) could not be recruited, despite various attempts in different forms, and notwithstanding their initially signalled willingness. This was partly an issue of time constraints and distance, but most likely also due to other reasons, such as the possibly politically sensitive nature of the research for this group.[16]

Sampling and recruiting aimed at gaining access to, and generating data of, what has been called 'privileged knowledge' (Petintseva et al. 2020) or 'insider accounts' (Smith and Elger 2014), including the perspectives of central actors. To this end, interviewing explicitly sought accounts from competing organisations, such as commercial banks (competing with each other and with initiatives such as KPWF), traditional funders (competing with "innovative" financing models), donors (competing with each other and, paradoxically, at times even themselves), and the government (national competing with sub-national, government with "parastatals" or donors). This aimed at mitigating the vested interest some organisations had in presenting a particular account of the matters in question,[17] for instance organisations

[14]Data in German was analysed as similarly to how data in English was analysed as possible. The same steps of data preparation and coding (including same codes) were used. Only quotes used in the thesis were later translated.

[15]Geographical distance could mostly be overcome through online interviewing. Other participants were available *because* they travelled.

[16]While invited to the WASREB workshop as well, no county officials attended. Meeting some of them there was therefore also not possible.

[17]Organisations were understood to work through the individuals interviewed (see section 2.3) given that those individuals occupied positions of those organisations and were thus normatively influenced to implement role

such as the KPWF or associated organisations such as the WFF or the Dutch Embassy. Given the cumulative and iterative approach to sampling, recruiting, and data generation, such accounts were sought to be deepened/confirmed/amended/rejected in successive interviews (or through documents) where possible. At the same time, these different perspectives were regarded valuable data themselves. Interviews were both individual events (documenting a particular voice) and part of a whole: the overall analysis to which they contributed.

The semi-structured interviews were structured in two parts. The first was open, introduced by a prompt to freely talk about commercial financing of Kenya's water sector and the participant's experience with it. Responses ranged from participants just stating their position to extensive accounts with minimal interaction. These revealed participants' perspectives and takes on "gap filling" as unguided as possible. The second part was more guided. Specific questions led the interview, to investigate details and the emerging understanding and to aid the continuous tentative and preliminary analysis next to data generation. Seldom, upon request, questions were sent in advance of the interview.[18] Typically, guiding questions were drafted shortly before interviews took place based on existing knowledge and what was assumed to be the organisations' (or research participant's) relevant "privileged knowledge". This process of cumulative data generation next to preliminary analysis, however, was messy: practical circumstances sometimes limited preparatory analysis ahead of interviewing and the density of interviews during some periods made transcription and analysis next to interviewing less and less feasible (see also section 3.5).

3.3.2 Observation and workshop attendance

Interviewing was supplemented by observations. Observation was mainly used to generate "meta-data" about interviewees and their organisations since the research excluded the materiality (i.e. artefacts) of infrastructure and basic services provision. Such observational data included the interview setting (from location to architecture and desk and wall decorations, i.e. the presentation of the organisation and interviewee), physical accessibility and the procedure leading to the actual interview, and, as far as this was observable during these glimpses, the work environments (including water production facilities of some water utilities). This helped to get a sense of the organisation and recruited participants and, more generally, about the Kenyan water sector and the organisation relative to other organisations. Various walks in, and rides to, Kenyan towns were helpful to understand the context, but these observations were not used in the analysis. Whereas field notes were taken immediately (where possible) or from memory afterwards, no pictures were taken. Still, the notes taken were useful to remember and include in the analysis aspects of organisations and their

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behaviour. Some interviewees were also selected by organisation staff to speak on behalf of the organisation; others made explicit that they do not speak on behalf the organisation.

[18] This seemed to rather be used to decide whether to participate in the research than to prepare the interview.

staff such as the display of trophies and certificates in offices. Moreover, the '"live" experiences' (Mason 2018b:188) and memories of these observations were helpful data.

Attendance of a WASREB workshop about preparing utilities for commercial financing generated valuable data. The opportunity to attend arose spontaneously from an interview with one of the hosting organisations just days before the workshop took place. Twelve sessions were attended. While these were not recorded, notes were taken as verbatim as possible without skipping anything (these were later carefully corrected and formatted). Observation was not limited to sessions, however, and included breaks as well as the mornings and afternoons when participants arrived or left. This revealed additional data about relationships between different organisations of the water sector and allowed for informal chats. Furthermore, a meeting between workshop hosts and a commercial bank new to, but interested in, lending to the water sector was observed. Again, notes were taken as verbatim as possible (later summarised and provided as meeting minutes to the inviting participant). This meeting provided invaluable insight into the concerns of a commercial bank that considered lending to utilities and the efforts of water sector organisations and donors to dispel these concerns. Observations aided the analysis in understanding better the individuals and the organisations they were part of as well as the relationships (including tensions and contradictions) between organisations – i.e. in getting a better sense of how to interpret generated data. When used directly, they are cited in the text.

3.3.3 Documents

Finally, documents were used as a third source of both historical and contemporary data. Historical accounts were included to support the analysis of diachronic emergence, i.e. the historical development of causal powers and liabilities of key entities. Contemporary documents were used to corroborate (or question or invalidate) data generated through interviewing, to fill gaps (research participants often made references to official documents for specific numbers or dates themselves), and to add official accounts of perspectives on matters in question (for instance donor programme reports, vision and mission statements, or self-descriptions on websites). Moreover, documents included historical and contemporary codified norms such as laws or guidelines.

3.4 Data interpretation and analysis

Data analysis involved a thematic analysis of generated data to enable interpretative, structural, and causal analyses. In line with the intensive research design (cf. Sayer 2000:Table 1.1), the thematic analysis focused on 'real' relationships of 'contiguity' instead of 'virtual' ones of 'similarity and difference' (Maxwell 2012a:54). Or, as Sayer (2010:60) noted, the 'substantial' relations of 'connection and interaction', not 'formal' ones of 'similarity and

dissimilarity'. Moreover, the analysis distinguished between 'external' (or 'contingent') and 'internal' (or 'necessary') relations, where relata can exist independently of external relations but not of internal ones (Sayer 2010:60). Primarily regarded data were therefore connections and interactions of different entities as well as the perspectives of research participants on these. This data was read interpretively (cf. Mason 2018b:188-92), which was done in mainly two stages. First, next to data generation, field notes (reflexive and substantial notes about and of interviews) were read. Later, transcripts were read in detail. In both cases, interpretive reading of all data (from interviews, observations, documents) facilitated abduction and retroduction to infer structures, causal powers and liabilities, and mechanisms.

Analysis started with 'data management' (Mason 2018b:192-4; step 2 of Fryer 2022:5-6), which happened largely after data generation was completed. Transcripts and field notes were kept in separate text files and formatted in the same schema; a third text file kept the interview questions and preparation. These digital files were saved in pseudonymised form alongside encrypted raw data in a folder for each interview. Transcripts and field notes were then indexed for full-text search to ease navigation of data.

The transcription process allowed for an initial first familiarisation with the data by carefully re-listening to the recordings to correct speech-to-text results. Transcription preserved almost verbatim what was said, but extra or superfluous words were removed. Similarly, given that the goal was an interpretive reading, pauses and other meaningful specificities of spoken language were only added to transcripts when significant for understanding the data (such as some laughter). This step also included "tagging" (or "attribute coding") files with general content related tags (to ease navigation of data)[19] and adding pseudonymised meta-data such as interviewee organisation and position, interview location, time, duration, and participation consent details. Identifying information for all research participants was kept in a separate, encrypted file.

Data (transcripts and/or field notes) were read a second time for familiarisation, which was also used to descriptively structure transcripts by adding basic headings that indicated the different topics discussed.[20] Afterwards, short summaries were written for each transcript (or note), which helped to get a quick overview of data and to navigate data. Furthermore, notes were taken in a separate document about the current understanding and important insights next to both of these initial readings. These notes referenced and linked the transcript or field note files for quick navigation.[21]

[19]These tags indicated the broad topics covered and were used to group data and aid finding similar data. Data analysis made use of this tagging insofar that typically similar data were analysed back to back. Ultimately, this was less helpful than initially hoped since many interviews covered similar topics (by design, to triangulate).

[20]These, too, served navigational purposes and to break pages of text into sections. These sections were further segmented by adding paragraph breaks, mainly around questions, but also within answers if these were longer than about 300 words.

[21]This data management, including linking, indexing, searching, and querying data, was facilitated by self-written software – which provided a justifiable means to procrastinate and welcome distraction from transcription, analysis, and writing.

Data was then coded (Mason 2018b:194-7; step 3 of Fryer 2022:6-10). Initially transcripts were coded rather descriptively but soon coding involved shorter codes based on abduction, i.e. analytic re-descriptions. The parallel drafting of a blog post and paper manuscript included a first abductive and retroductive analysis, which shaped the development of a provisional coding schedule and themes early on.[22] Codes included 'experiential', 'inferential', and 'dispositional' categories (Wiltshire and Ronkainen 2021) but were not explicitly labelled as such. Instead of a clear sequencing of first coding, refined coding, and reduction to themes (cf. Fletcher 2017), the approach taken was more parallel: provisional analytic codes and themes were developed and refined next to a first coding. This step moreover included (memo) writing about provisional abductions and retroductions (structures and mechanisms) as well as sketching and diagramming (cf. Mason 2018a:213-4), and also included initial work on the final presentation of data, i.e. the thesis structuring. The whole coding process was theory-driven, where the theoretical framing itself was constantly evolving and changing.

Given the amount of data and time constraints, coding was later further adapted in two ways: First, the thesis structure developed in parallel served, *de facto*, as theme development. Second, transcripts were first carefully reduced to summary notes before these notes were then coded. These summary notes included 1:1 copies of what were regarded the most significant bits of transcripts. In short, the coding process was a highly parallel process that produced coded text, analytical memos based on abduction and retroduction, and the final presentation of the analysis by "building" the thesis along analysis. This was supported by repeated re-reading of data and iteratively linking data to the tentative structure and adapting the structure to the growing understanding. Thinking about the presentation of the analysis was an essential part of the analysis.

Building on the thematic analysis, memos, analytic diagrams, and the theoretical framing, the further analysis focused on positions, relations, and norms, including the causal powers and liabilities of positioned and related entities. This structural and causal analysis was theory-driven (see chapter 2) and aimed to explain the ontology, causality, and historical development involved. This included exploring the existence of structures (the 'constituent internal relations and necessary conditions', Sayer 2010:81) as well as explaining their development and origins (cf. Sayer 2010:81) – the '(diachronic) explanatory work' (Lawson 2019:34) that forms the basis of explanations of (synchronic) emergence. An interpretative analysis supplemented this 'explanatory work' to examine the beliefs and reasons of key actors to support (attempt to produce and reproduce) or reject (attempt to evade or change) specific structures. This made use of what Sayer (2010:174-7) called 'narrative' and 'analysis' to present the research and highlight both the 'episodic' and 'configurational' dimensions. Therefore, empirical chapters 4, 5, and 6 will both foreground the 'series of events' that

[22] This also helped to 'try out some of your interpretations' (Mason 2018a:214). The blog post (Heckel 2020) was published on the SPERI (Sheffield Political Economy Research Institute) blog at https://speri.dept.shef.ac.uk/2020/07/13/the-bootstrapping-race-development-by-commercialisation/.

helped commercial financing of Kenya's water sector to develop and 'abstract from the "historical accidents"' (Sayer 2010:175) to describe the sector's reorganisation and associated causal powers.

3.5 Reflections

Data generation had some challenges. Ideally, more preliminary document analysis would have pre-dated interviewing to use interviewing time more efficiently or to include data from documents in interviews. In hindsight, however, pushing for interviewing earlier was serendipitous: the grounding of planes, travel restrictions, and increasing difficulty to meet face-to-face from early 2020 had little impact on data generation. Furthermore, with many interviews already conducted and especially many contacts already established face-to-face, moving to online meetings and conducting further interviews through video calls was comparatively uncomplicated. To reduce travel costs (and later tempted by the ease of switching from one online meeting to another), interviewing was sometimes dense or spontaneous. This was unavoidable, for instance, when an organisation offered interviews with multiple staff at the same day or when participants offered meetings on short notice. Stretching some interviews over more days, ideally with some days in-between, and taking more time to prepare would have allowed for immediate transcription, more initial analysis (to shape subsequent interviews), and better prepared interviewing. A clearly outlined procedure and checklist for interviewing and a "pool" of open questions helped to mitigate this.[23]

Access to research participants was generally not an issue, except for actually meeting subnational governments. As mentioned above, whereas contacts were established, potential participants identified, and the research as well as participation therein explained to them, no meeting actually took place. Scheduling was often mentioned as the issue but given the advance contacting and flexibility, including online meetings, other reasons might have played a role, too. Given that county governments are the owners of public utilities and key organisations in the sector, lacking their account was regrettable. Third-party accounts and documents were sought during data generation instead, but no first-hand accounts could be obtained. This lack as well as the over-represented perspective of one side was minded during data analysis.

[23]Conducting multiple interviews on one day had an influence on interviewing given mental and physical tiredness. Once, five (one hour long) interviews were conducted on the same day. Oddly, the last of these five interviews was one of the most useful ones: tired from a day of often back-to-back interviewing, this interview was conducted much more openly, giving the research participant much more room in a practically unstructured interview – which this research participant used to give a rich account of their perspective.

3.5.1 Validity and generalisability

Following Maxwell (2012a) and Maxwell (2012b), data generation and analysis employed strategies to reduce 'validity threats' (cf. Wiltshire and Ronkainen 2021:164). This included addressing descriptive, interpretive, and theoretical validity (Maxwell 2012a:134-41). The first, descriptive validity, is concerned with the 'factual accuracy of [a research participant's] account', which has two aspects: primary and secondary descriptive validity, where the former refers to 'what the research reports having seen or heard' and the latter 'things that could in principle be observed, but which were in fact inferred from other data' (Maxwell 2012a:134-5). To address primary descriptive validity, interviews were, where possible, recorded; their machine transcription was carefully and minute-by-minute corrected. Where recording was not possible (some interviews, workshop attendance, observations), notes were taken as verbatim as possible and later carefully corrected. Notes taken much later and largely from memory were only sparsely used. Omission of most 'features of the informant's speech, such as stress and pitch' (Maxwell 2012a:137) was deliberate since this data was regarded largely superfluous for the analysis. Nevertheless, in some cases, these features were added to transcripts and field notes (such as laughter, hesitancy to share, or discomfort or non-consent to share specific bits on-the-record).[24] Where the analysis relied on third-party accounts,[25] secondary descriptive validity was addressed by clearly marking these and treating them carefully. This issue was most pronounced regarding sub-national governments. As no research participant from this category could be recruited, the analysis relied on accounts from research participants working with counties. Next to perspectives on county governments *from these participants*, these accounts were used to carefully infer actions of county governments.

Interpretive validity, concerned with the accuracy of interpretive understanding of data from participants' perspectives (Maxwell 2012a:137-9), was addressed by seeking respondent validation whenever feasible (Maxwell 2012b). This typically took the form of further questions and asking research participants to rephrase unclear parts. It also meant asking other research participants for clarification, especially when their account differed. One key interpretive difference between research and participants was often the central term and concept "commercial financing": different participants regarded different financing approaches as "commercial". This required respondent validation, explicit and clear questions, and reading between the lines. In hindsight, while it was often clear what participants meant (since they referred to specific financing approaches such as OBA, AoD, or KPWF), more explicit respondent validation by directly asking about participants' definition should have happened.

[24]No data was used unless consent was acquired. Some research participants, however, only requested data not be associated with them. In any case, anything learned from interviews, also off-the-record bits, inevitably influenced data generation (it was not "unlearned"). Some off-the-record data would later, in further interviews (with other research participants), become on-the-record data.

[25]Given mostly successful purposive sampling and recruiting, except for sub-national governments, most accounts could be acquired directly from primary sources.

Nevertheless, inference of participants' understanding was based 'to a large extent on the participants' own statements' (Maxwell 2012a:139), while still assuming these accounts to be fallible and – even, or especially, for documents – liable to 'self-report bias' (Maxwell 2012b:ch. 6). Triangulation was used to reconstruct accounts where the latter was assumed.

Based on what was then assumed to be descriptively and interpretively valid accounts (descriptions and interpretations), theoretically valid explanations were sought. This includes, as (Maxwell 2012a:139-41) notes, the validity of employed concepts and categories, and the validity of the 'postulated relationships among the concepts', whether proposed by research participants, or developed by the research based on participants' accounts. After seeking to accurately describe and interpret accounts, in other words, this step sought to abstract (in order to explain) using appropriate concepts and theories. This was grounded in a continuously evolving conceptual and theoretical framing (see chapter 2) based on literature, participants' accounts and theoretical propositions, and the researcher's own analysis. Two strategies aided to reduce the 'two important threats to the validity of qualitative conclusions' – 'the selection of data that fit the researcher's existing theory, goals, or preconceptions, and the selection of data that "stand out" to the researcher' (Maxwell 2012b:124). First, the conceptual and theoretical framing was (re-)developed in parallel to data generation and analysis.[26] Second, purposive sampling/recruiting and resultant data generation were adjusted to this evolving framing and no data was discarded for the analysis. This included, as much as possible, moves to navigate the contradictory process of seeing generated data through a formulated conceptual and theoretical framing (preliminary theorising alongside data generation), and staying open to seek contradicting data and re-formulate this framing.[27]

3.5.2 Reflexivity and positionality

My whiteness, European middle-class background, and enrolment in a UK university as international post-graduate research student inevitably shaped data generation, interpretation, and analysis. This includes, importantly, the relationship between researcher and research participant in the particular setting and moment the interview takes place (cf. Maxwell 2012a:143). Most recruited research participants were international, worked with international organisations, and/or occupied positions of relative power. Most also seemed familiar with post-graduate research and interviewing, had acquired post-graduate education in Kenya or abroad, and had travelled internationally. Nevertheless, two observations warrant discussion. First, some international research participants or some of those working

[26]The framing presented in chapter 2 differs substantially from the one prepared before data generation and analysis, which foregrounded more international finance and capital and related concepts and theories of value extraction and global North/South relations.

[27]For instance, whereas the research did not explicitly compare WASCOs that planned to, attempted to, or did finance commercially with those that did not, data generated included many accounts that compared those utilities with less performing ones (see 'comparison' in, Maxwell 2012b:ch. 6). These accounts were from utilities themselves and other entities, and helped to understand the differences.

with international organisations, seemed to assume that I shared their (organisation's) perspective. This was especially apparent in situations where research participants' perspective contrasted (some) local Kenyan perspectives, for instance when Kenya's water sector was compared to water sectors in "our countries". Some accounts assumed an understanding of participants' challenges and frustration that had to be made explicit through further questions. Second, some local research participants seemed more reluctant once they knew about my background.[28] This was confounded by participants' assumption, based on mistaking my name as "Emmanuel" that is common in Kenya, that I was Kenyan, especially when contact occurred over email.[29] These accounts, explicitly sought to add local perspectives, were presumably adapted according to their perception of my positionality. Data was therefore assumed to rather reflect the "Western" perspective given that research participants were believed to give responses adjusted to the white international researcher audience or in line with their international employers' perspectives.[30]

This research is motivated by a central conviction: that preventing the realisation of potential somatic or mental capabilities (i.e. those that are achievable in their respective societies) is a form of violence and socially unjust (cf. Galtung 1969). Any "gap filling" therefore needs to, first, close the gap between potential and actual realisation of capabilities. Access to water services is fundamental to a range of capabilities – tolerating any substandard provision is critically impacting on realising them and a form of structural violence and social injustice. Interventions to provide better basic services to more people by filling financing gaps must therefore, I believe, aim to systematically and systemically reduce such structural violence. The UN has turned a similar understanding into their aspiration to 'reach those furthest behind first' (UN DESA 2017). Closing this gap between the actual and potential may be achieved in several ways, and borrowing may be an important part of them. But commercial financing also poses new risks of structural violence by consolidating the view that financing costs are to be borne by beneficiaries, i.e. the very water users that suffered for years or decades from an absence of water services, and by establishing a perimeter around the social justice debate in the name of "there is no alternative". Lenders' demands, in other words, seem to easily become norms and shape the imagination of the possible. I believe, however, that wherever commercial finance is part of closing the capabilities realisation gap, it must do so by adhering to norms and practices of solidarity and fairness. This includes that the costs of commercially financed development are borne primarily by those who have already closed the gap between the actual and potential capabilities.[31]

[28]This might also explain the non-success in recruiting sub-national governments for the research.

[29]One participant, for instance, greeted me with surprise that I was not 'a black guy'. The interview seemed impacted by this and their replies possibly adapted to the "white audience". Also, I was not sure if the interview had happened without this misunderstanding. Introducing myself as "German researcher" would have avoided such misunderstandings. The particular interview went ahead, however, with consent of the participant.

[30]The research was also designed to primarily seek accounts of international organisations.

[31]This may be achieved in several ways. For instance, many tariff structures, including in Kenya, subsidise the first cubic metres of consumption. Any development of basic services depending on tariffs is therefore mainly

3.6 Exploring and explaining – and evaluating and imagining alternatives?

The research is designed as a case study of the integration of commercial financing into Kenya's water and sanitation sector. This aimed at exploring and explaining how such basic services provision has historically been transformed to enable commercial borrowing by public utilities. The sector and several of its public services companies were studied in depth through interviewing staff of key sector organisations, utilities, and donors, through observing their interactions, and by reviewing documents. Grounded in the conceptual and theoretical framing outlined in chapter 2, the analysis examines the positioning of central organisations and looks into associated rights and obligations, their practices, and the norms and normative circles that shape and endorse the positioning of WASCOs as *debtors* and their position performance.

The thesis stops at exploring and explaining this transformation of Kenya's water and sanitation sector as commercial financing is introduced. An additional, evaluative question motivated the research, however: whether, and how, these transformations reduce structural violence and contribute to fair development and social justice. Why and how, in other words, has commercial financing (or preparing for it) enabled Kenya's water and sanitation sector to provide better services to more people in fair ways? These motivational questions remain largely unanswered, both concretely and abstractly, although the thesis conclusion (chapter 7) provides some pointers. Nevertheless, the understanding of the changes in Kenya's water sector developed throughout the next chapters hopefully prepares and facilitates such evaluative critique and supports imagining and developing potential alternatives.

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paid by those consuming more water – if projects are not ring-fenced in particular ways.

Chapter 4

The possibility of commercially financing Kenya's water services

Commercial financing of Kenya's water and sanitation sector[1] has seen recognition as crucial (supplementary) strategy to overcome long-standing issues of under-funding service provision and associated under-servicing of citizens. This is primarily grounded in the assertion that current models of funding the sector have been both insufficient and unsustainable: neither government funding has been able to match the "gap", nor donor grants or concessional sovereign loans. Both remain, however, critical to funding a sector that has effectively been dependent on budget allocations and loans guaranteed by the National Treasury. Donors and the Government of Kenya (and related entities such as the sector's regulator) have begun to speak of a substantial "finance gap" as the sector is still unable to universally provide water let alone sanitation services (e.g. WASREB 2021:11). The last sector performance report prepared by WASREB, Kenya's water sector regulator, states that urban water coverage stands at 53% and sewerage coverage at 15% (WASREB 2021:27) – despite contrary aims, and aligned national and international goal setting (United Nations 2015; Republic of Kenya 2013, 2007). Kenya's Vision 2030, mirroring the respective UN Sustainable Development Goal (SDG), affirms that 'by 2030, no Kenyan should be without access to an improved water source and sanitation' (Government of Kenya 2007).[2] Similarly, the 2010 Constitution declares 'clean and safe water in adequate quantities' a right,

[1] In the following this is often abbreviated as 'water sector'. Similarly, the thesis uses 'water service provision' and 'water service provider', which is commonly used in official documents, to refer to the complete set of water services provided, including sewerage and sanitation.

[2] Several national development plans had aimed for universal coverage already by the year 2000 or soon after (Nilsson and Nyanchaga 2008; cf. GoK 1974:23, 1979:107). The adoption of the UN's SDGs (cf. SDGs Coordination Directorate 2021) more recently has required the government to, *inter alia*, 'achieve universal and equitable access to safe and affordable drinking water for all' as well as 'achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations' (United Nations 2015:goals 6.1 and 6.2).

and that 'the State shall put in place affirmative action programmes designed to ensure that minorities and marginalised groups [...] have reasonable access to water, health services and infrastructure' (Republic of Kenya 2010).

To reach these goals of universal access in water and especially sanitation, the World Bank estimated that USD 14 billion are needed from 2015-30 (World Bank 2018a) – which exceeds currently available public funds and ODA flows. Such under-funding of the sector, aggravated by Kenya's urban population growth (WASREB 2021), is not new. A position paper jointly prepared by Tampere University of Technology and the Finnish International Development Agency in the early 1990s, for instance, highlighted the sector's fee collection issues and associated dependence on funding from outside the sector during the 1980s (for the history of the sector, including funding, see also Nyanchaga 2016).

> The cost recovery idea is not introduced to the consumers. The fee collection has been ineffective. The water tariff has been uniform (except Nairobi and some urban centres), and controlled by the GOK. The collected revenues will be debited to the Ministry of Finance. It allocates annually the resources to ministries. About 17% of the recurrent budget of MOWD [the Ministry of Water Development that had been responsible for the sector since its establishment in 1974] has been covered with revenues from water charges, and 83% has been a government subsidy during the fiscal years 1979/80-88/89." (Hukka et al. 1992:13)

Additionally, the international development community has increasingly stressed the 'declining significance and importance' of donors, as a USAID official put it, given the economic growth in the countries they used to support (IntUSAID2). The Third International Conference on Financing for Development (UN 2015), for instance, concluded by foregrounding self-reliance and the need of countries to increase domestic resource mobilisation (DRM), and to pursue alternative funding options such as blended finance or purely commercial finance. Kenya, generally and its water sector more specifically, has become one of the main addressees of this message: the country's economy has recently outgrown donors' eligibility criteria for grants or cheap concessional loans (see chapter 1). Blended finance projects such as the World Bank's *Output-based Aid* (OBA) and KfW's *Aid on Delivery* (AoD) programmes, or purely commercial finance initiatives such as the Dutch-funded *Kenya Pooled Water Fund* (KPWF) have been ways for donors to continue supporting the sector while gradually reducing (and eventually ending) their ODA commitments. A UN-Habitat official saw these efforts in a broader turn away from grants, concessional loans, or budget funding, towards other financing options such as capital markets now that Kenya has become a lower middle-income country (IntUNH2).

This chapter examines how this turn to self-reliance and "innovative" or "alternative" financing in Kenya's water sector has been enabled and tested through several reforms and initiatives throughout the last two to three decades. Whereas commercial financing has yet to become widely implemented, it has been a key objective lately that shaped reforms and

efforts by donors and sector organisations. The main argument of this chapter is that Kenya's water and sanitation companies (WASCOs) have been made part and parcel of a social positioning process (see chapter 2) in which these companies occupy *debtor*, or in fact *debt emitter*, positions next to their existing occupancy of *service provider* positions.[3] This positioning and remaking of WASCOs as debt emitters has been a slow and fallible process, and has remained incomplete in many ways. Chapters 5 and 6 look at the lack of capacities and commitment to actually occupy and perform the *debt emitter* position. This chapter, by comparison, focuses on the groundwork laid by sector organisations and donors that has created WASCOs, redefined the *WSP* position, and finally trialled the additional positioning of WASCOs as debt emitters through a cascade of blended or commercial financing pilots.

The chapter is structured accordingly. First, section 4.1 looks at Kenya's corporatisation process in the water sector, which created, at least *de jure*, "viable candidates" (see section 2.2.1) for occupancy of a *debt emitter* position in the sector. (As mentioned above, chapters 5 and 6 turn to the *de facto* establishment of debt emitters.) Then, section 4.2 examines the parallel redefinition of the *WSP* position through Kenya's commercialisation process in the water sector. This is critical not only in terms of resource mobilisation but also commercial financing. A key argument of the thesis is that a *debt emitter* or *debtor* position is linked to a secondary position that guarantees underwriting (see section 7.3.3 in thesis conclusions). Commercial service provision, in other words, enables commercial financing. Finally, section 4.3 – by far the largest section of this chapter – follows the cascade of financing pilots that trialled the parallel positioning of WASCOs as WSPs *and* debt emitters. While these blended or commercial financing initiatives have ended or remained inconclusive in terms of their actual contribution to resource mobilisation, the section argues that they successfully established the possibility of commercially financing (at least the last mile of) Kenya's water sector through WASCOs *qua* commercial WSPs *and* debt emitters. Section 4.4 concludes the chapter with a short summary and three key points: a *debt emitter* position has been created in Kenya's water sector, WASCOs have been indexed as the entities to become debt emitters, and WASCOs positioning as commercial WSPs has been linked to this potential positioning as debt emitters.

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[3]The latter has typically been foregrounded and utilities are therefore often referred to as Water Service Providers (WSPs). The analysis clearly distinguishes between the underlying company or organisation (WASCO) that is being positioned as service provider or debt emitter (or debtor). Thus, when speaking of public utilities, the companies WASCOs) are meant. Given, however, the widespread use of WSP in documents (including laws, regulations, guidelines, etc.) and in interviews by participants, WSPs may refer, at times, also to the water and sanitation companies. Still, Kenyan water related laws and regulations, too, distinguish between WASCOs and WSPs: other organisations such as community-based organisations can be referred to as (WSPs) as well – or in terms of this research, may be positioned as WSPs as well.

4.1 The creation of *debt emitter* candidates

The study understands the introduction of commercial financing in Kenya's water sector as a positioning process (see chapter 2, especially section 2.2) in which specific entities come to occupy a *debt emitter* position. A crucial precondition of any positioning process, if successful, is the availability of viable candidates and their commitment to occupy respective positions. To begin with, the thesis therefore advances two arguments about what entities may (or should) become candidates in Kenya's water sector for a *debt emitter* position. First, Kenya's legal and its water sector's regulatory environment established the possibility of a *debt emitter* position (generally and in the water sector), and has enabled an (existing or newly established) entity to occupy such position. That is, the normative environment, in form of codified norms such as laws and regulations, has enabled entities to become candidates for occupying a *debt emitter* position. This section traces this process and concludes that, in the words of an official of the Kenyan Ministry of Water, 'the environment is right for commercial finance', including 'policy, legislation, the necessary strategies [...], and plans' (IntGov2a). Second, the water sector as organisation, through some of its components, has selected (normatively indexed) specific entities as the primary candidates for occupying a *debt emitter* position. Whereas the argument is built over the whole chapter, this section argues that the reforms have singled out WASCOs as those candidates (further enabled by the redefinition of the *WSP* position, see section 4.2). These two – a conducive normative environment and normative indexation – form the normative foundation of the introduction of commercial finance to Kenya's water sector. Following Bhaskar (2005:43) and Elder-Vass (cf. 2012), the chapter (and whole thesis) understand these norms and institutional structure as '*enabling*, not just coercive' (see also section 2.5.1): once in place they grant for instance WASCOs the right to borrow from commercial lenders.

The establishment of the *debt emitter* position and indexation of potential occupants is insufficient to explain the positioning process, however. The thesis therefore advances two additional arguments about whether these candidates actually can and do become occupants: third (to continue above list), entities singled out as candidates have been primed, through substantial capacity development, to become *viable* candidates. Chapter 5 looks at the process and outcomes of this creation of viable candidates: the introduction of new practices, skilfully and effectively performed by WASCOs. Fourth, and last, these viable candidates have been made into (more or less) committed position occupants, finishing the positioning process. Chapter 6 explores the construction of a normative environment that has tended to establish WASCOs commitment.

This section, then, focuses on the normative environment that has enabled this positioning process in the first place. As the Ministry official quoted above declared, much of the legal, strategic, policy, and planning environment that has enabled commercial financing in the Kenyan water sector has been in place for some time. This goes back to legislation intro-

duced in the late 1980s and 1990s, and, crucially, the sector reforms of 2002 and 2016. A finance expert, who headed a mission to assess the viability of setting up a novel capital market-based financing instrument, therefore confirmed that most conditions were already met when they scoped out the Kenyan water sector (IntWFF3). These conditions mainly included corporatised utilities that can borrow from commercial lenders (see this section), revenue ring-fencing in the sector and ownership of revenues by these water and sanitation companies (see section 4.2). Furthermore, the finance expert highlighted the supportive regulation by both the water sector regulator WASREB and the capital market regulator CMA, and a well-developed commercial banking and investors landscape (see section 4.3).

The thesis develops a differentiation between a *debt emitter* position and a *debtor* position. The *debtor* position is understood as the position within a debt or financing relation, where occupants of this position borrow and temporarily receive repayable capital. Some person occupies such position (and becomes a debtor) once a financing transaction is closed; the same person may be part of several transactions (financing relations) and therefore occupy multiple *debtor* positions. The *debt emitter* position, in contrast, is understood as the position responsible for emitting debt on behalf of the social totality or organisation it is part of. A person occupying a *debt emitter* position may or may not, at any time, occupy a *debtor* position. However, as debt emitter component of a social totality or organisation, it is their function to occupy a *debtor* position at least some of the time. In other words: the *debt emitter* position is a position of a social totality that relies, partially or fully, on debt as a means of resource mobilisation. Examples of debt emitters are WASCOs in Kenya's water sector, or more generally companies or states in capitalist economies. Given the thesis' concern with commercial financing on behalf of Kenya's water services sector, the following sections (and chapters) focus on the creation, definition, and occupancy of a *debt emitter* position.

4.1.1 Local water supplies and corporatisation

Water service provision in Kenya has a long history of local management. In the late 1970s, Water and Sanitation Departments (WSD) were created in some local authorities[4] and by the early 1980s eleven local authorities managed water services (Nilsson and Nyanchaga 2008). Local provision was further promoted by a 1983 study commissioned by the Ministry of Water Development and supported by the Swedish International Development Cooperation Agency (Sida). The revised Local Government Act of 1986 took this up by decentralising water provision to local authorities (Nyanchaga 2016). By the end of the 1980s, 20 municipalities fully or partially provided water supply and/or sanitation services, whereas 'the rest

[4]Even before, under British colonial rule, water supply had been mostly a local function. Starting with water supply systems operated by Uganda Railway in small towns strategic to the railway line (including Nairobi, Nakuru, Kisumu, and Eldoret), the colonial government later began to develop new water supply systems after World War I through the Public Works Department (PWD). In many towns the PWD now took over; Nairobi and Nakuru remained operated by local authorities. The PWD operated around 80 urban water supplies by the end of the 1950s (Nilsson and Nyanchaga 2008).

of about 100 urban water supply systems [were] under MOWD [Ministry of Water Development]' (Hukka et al. 1992:13). The National Development Plan of 1994 re-affirmed the importance of local authorities that 'bear responsibility for the provision of a wide range of infrastructure and social services', including water supply and sanitation services (GoK 1994:224). However, despite these decentralisation plans – and the assertion of a WASREB official that 'water has always been local, we have never managed water from the national level, we have always had those utilities' (IntWASREB1) – local authorities managed only 243 out of 1549 service providers by 2000. Of the remaining, 628 water supply systems were operated by the Ministry of Water Resources Management and Development, and 48 by the National Water Conservation and Pipeline Corporation (Nyanchaga 2016:58). In numbers of people served, central government and the NWCPC served 9.8 million out of a total of 18.6 million (59% overall coverage).[5]

The establishment of the National Water Conservation and Pipeline Corporation (NWCPC) in 1988 on presidential order was an important change in the sector's governance structure. As water provision was slowly moved to the local level in the 1980s, the new NWCPC was tasked to commercially operate some water supply systems and 'to commercialise water sector operations, to achieve financial autonomy in water operations, to improve performances and efficiency of water schemes and to reduce dependence on public funding of independent water schemes' (Nyanchaga 2016:57; cf. Dellapenna and Gupta 2009:114). This moved some water supply systems from the government, either the central Ministry or Local Authorities, to a newly created autonomous state corporation[6], and acted as a precursor of a more decentralised corporatisation of water supply systems. For instance, the water supplies in Embu, a mid-sized town south of Mount Kenya, was shortly run by NWCPC in 1988 before it was handed over to 'a company, [formed and] wholly owned by the council, to run both the water and sewerage services' (Nyanchaga 2016:255). Overall, Ezekiel Nyangeri Nyanchaga referred to the period from the 'early 1980s – mid 1990s' as one of 'decentralisation and commercialisation' during which 'local authorities and NWCPC [got] increasing responsibilities' (Nyanchaga 2016:65).

These changes preceded larger changes in the governance structure of the water sector. By the end of the 1990s, the Government acknowledged the necessity of undertaking 'a thorough review of both policy and institutional framework [...] in the sector to be consistent with the liberalised approaches currently being pursued by various sectors of the economy' (Ministry of Water Resources 1999:8). This mirrored the 'market environmentalism' model of water resources management (Bakker 2010) and included the conservation of water resources and allocation 'in a sustainable, rational and economical way', water supply of 'good quality

[5] 356 water supply systems were run by communities, and 266 by NGOs. *Note: numbers add up to 1541, although Nyanchaga (2016) states a total of 1549; similarly, population served numbers are not fully specified.*

[6] Legal Notice 270, from June 1988, established the National Water Conservation and Pipeline Corporation under the State Corporations Act.

and in sufficient quantities' as well as 'safe disposal of wastewater', the establishment of an 'efficient and effective institutional framework to achieve a systematic development and management of the water sector', and the development of a 'sound and sustainable financing system' (Ministry of Water Resources 1999:9). An important element of this new policy was the recognition (and promotion) of the crucial role of communities (including NGOs) and the private sector as providers of water services. The Minister for Water Resources at that time, Kipng'eno Arap Ng'eny,[7] outlined the new policy[8] of 1999 and resultant changes in the role and tasks of the Government:

> The Government, on the other hand ensures an enabling environment through appropriate policies and regulations. To achieve this, the ownership and management systems of the already existing water supply schemes and water projects must be clearly defined to conform with the new policy change which encourages more active involvement of the private sector in the development and management of the water resources. [...] This scenario inevitably entails a situation where there will be numerous actors in the sector. Their initiatives will need to be co-ordinated to avoid duplication of effort and ensure adequate coverage, both in space and time. (Ministry of Water Resources 1999:v-vi)

The 2002 revision of the Water Act (Republic of Kenya 2002) translated this policy into a comprehensive sector reform: the new legal framework fundamentally changed the institutional and organisational setup of the sector by creating a range of new entities (cf. Dellapenna and Gupta 2009:114-6), and, in the words of a USAID official, 'revolutionised' the sector (IntUSAID3). In terms of water services,[9] the reform created a national sector regulator, the Water Services Regulatory Board (WASREB), which has since been responsible for regulating the sector, developing standards and guidelines, issuing licenses, and approving tariffs. Moreover, it established eight regional Water Services Boards (WSBs,[10] and 117 publicly owned water and sanitation companies (WASCOs) that acted as so-called Water Service Providers (WSPs). Two points are important. First, this separated asset development and holding by WSBs from service provision by WSPs. Second, the role or position of

[7]Until 1993, Kipng'eno Arap Ng'eny had been Managing Director of the Kenya Posts and Telecommunications Corporation (KPTC), which was to be privatised by 1999 according to a 'precondition set by the International Monetary Fund (IMF) for resuming talks with the government on balance of payment loans' (University of Pennsylvania – African Studies Center 1998; cf. The Indian Ocean Newsletter 1998).

[8]Which required and precipitated a revision of the Water Act: 'All the changes contained in this Policy Paper will, of course, need to be supported by an appropriate legal framework. Accordingly, the Water Act, Cap 372, will undergo the necessary amendments to enable it to be consistent with the provisions of this Policy Paper.' (Ministry of Water Resources 1999:vii)

[9]The reform also affected water resources management, but this is not further addressed in the research.

[10]In total, the 2002 reform created seven Water Services Boards, as outlined in table 2 in Republic of Kenya (2002:78): Coast (Kilifi, Kwale, Lamu, Mombasa, Taita/Taveta, Tana River, Bura), Athi (Kajiado, Machakos, Kiambu, Thika, Makueni, Nairobi), Tana (Kirinyaga, Muranga, Nyeri, Embu, Mbeere, Kitui, Meru Central, Tharaka, Meru South, Meru North, Mwingi, Maragua), Rift Valley (Nakuru, Narok, Baringo, Keiyo, West Pokot, Turkana, Koibatek, Nyandarua), Northern (Garissa, Ijara, Mandera, Wajir, Isiolo, Marsabit, Moyale, Laikipia, Samburu), Lake Victoria North (Bungoma, Busia, Kakamega, Vihiga, Mt. Elgon, Lugari/Malava, Teso, Butere/Mumias, Uasin Gishu, Nandi North, Trans Nzoia, Marakwet), Lake Victoria South (Kisii Central, Gucha, Kisumu, Nyando, Siaya, Bondo, Homabay, Nyamira, Migori, Kuria, Suba, Rachuonyo, Kericho, Buret, TransMara, Bormet, Nandi South).

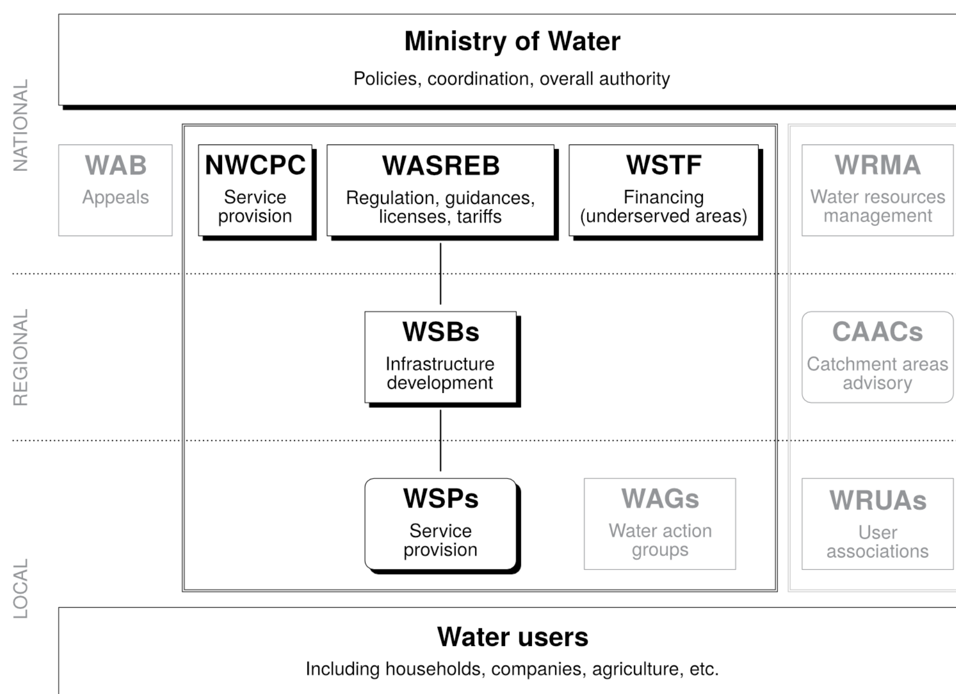

Figure 4.1: Simplified diagram of Kenya's water sector setup introduced by the 2002 reform. Water services in the centre, water resources (not a focus of this research) on the right. Based on WSP (2015b:12) and Dellapenna and Gupta (2009:115).

WSP was designed to be (potentially) occupied by various entities, including the NWCPC, newly created WASCOs, NGOs and CBOs, or other (private) entities. Figure 4.1 shows the new structure of the sector. Additionally, the reform created the Water Services Trust Fund (WSTF), which has been responsible for funding the sector. In sum, the 2002 Water Act fundamentally reorganised the sector and defined 'clear roles and responsibilities of the key water institutions' (Gakubia et al. 2015:10). As will become clearer below, this structure (and its subsequent 2016 revision) have enabled several commercial financing initiatives (see section 4.3 below), and have generally been welcomed as an improvement in the sector's governance system by sector officials and experts involved in those financing initiatives.

This establishment of the *regulator*, *infrastructure developer*, and *water service provider* positions (occupied by, respectively, WASREB, WSBs, and mainly the newly created WASCOs) was one of the key changes to enable commercial financing. In this setup, WSBs became (sole) licensees (Republic of Kenya 2002:sec. 57(1)) of WASREB, provided with the right (and obligation) to provide water.[11] WSBs, however, transferred this right (and obligation), dependent on WASREB approval, to so-called agents of WSBs – the WSPs (cf. Republic of Kenya 2002:sec. 53(2)). The Act's 'framework for the implementation of new institutional arrangements' lists which entities qualify as candidates for occupying the *WSP* position: '[…] water service providers may be community groups, Non-Governmental Organisations,

[11] 'A licence shall authorise and, to the extent provided therein, require, the provision by the licensee of water services specified in the licence.' (Republic of Kenya 2002:sec. 58(1), 70)

or autonomous entities established by local authorities or other persons' (Republic of Kenya 2002:77). This changed the role of the government, which had already been 'redefined with emphasis on regulatory and enabling functions as opposed to direct service provision' by the 1999 policy (Ministry of Water Resources 1999:42), and enabled a range of entities to become agents of WSBs and occupy the newly created *WSP* position. Such entities include WASCOs of public utilities (the focus of this research), but also community organisations[12] or private entities (few have been established and private sector participation in Kenya's water sector has remained limited, IntGIZ2).[13]

Several publicly owned WASCOs were established shortly after the reform (or, in some cases, also before) to take over water service provision from local authorities (water departments), the Ministry, or the NWCPC.[14] These companies were incorporated under the Companies Act (current version Republic of Kenya 2015) as private limited companies[15], and were 'autonomous entities' to the extent of reducing government control of operations to that of majority shareholders (sub-national governments have typically held 100 per cent) and the regulator. According to relevant laws and the corporate governance principles (cf. WASREB 2020a:22, 2018b), WASCOs therefore have a board of directors that shortlists and ultimately appoints managing directors (MD) of these companies. Board constitution and MD appointment follow 'due process', as a lawyer familiar with the water sector put it, and boards are mandated to 'make decisions that are in line with [… and] for the best interest of the corporation' (IntConsult1).[16] Crucially, for the ongoing introduction of commercial financing, this also furnished WASCOs with the right to bill and collect revenues (see section

[12]Community participation is highlighted: '[…] in the changing economic conditions, it has become inevitable that the community should be involved at all stages of water projects development (including water resources investigations planning, implementation and operation and maintenance)' (Ministry of Water Resources 1999:46).

[13]WASREB currently lists three privately owned utilities: Kiamumbi, Runda, and Tatu City. Together, these supply 0.12% of Kenya's population that is serviced by licenced providers (WASREB 2020a:35). Unlicenced providers have not been part of my study; the general thrust seems to be to ultimately extend licenced service provision to every Kenyan, either through WASCOs (or private operators) directly, or through formalised community providers contracted by WASCOs. Commercial financing has been seen a critical part of achieving this goal.

[14]The part of the 2002 Act that specifies the 'process of transfer' gives clear dates: 'The Act commenced on 18th March, 2003 and the transfer shall be completed by 30th June, 2006, after which date Ministry and the National Water Conservation and Pipeline Corporation shall no longer be operating or maintaining any water supply and sewerage service except as may be required by section 67(2).' (Republic of Kenya 2002:81). Accordingly, many WSPs were created/began operations in the immediate years following the reform, some even before: for instance EWASCO in March 2003/July 2005, KIWASCO in 2001/July 2003, or NYEWASCO in September 1997/July 1998. The overwhelming majority of water and sanitation companies are owned publicly, but the regulator has also licenced three (comparably small) privately owned ones (Kiamumbi, Runda, and Tatu City, see WASREB 2020a).

[15]WASCOs were historically incorporated as private limited liability companies (according to Companies Act, see Republic of Kenya 2015:sec. 9). Later, as stipulated by the 2016 Water Act (Republic of Kenya 2016:sec. 77), any newly established WASCOs ought to be public limited liability companies (according to Companies Act, see Republic of Kenya 2015:sec. 10), and existing private limited liability water and sanitation companies (i.e. existing WASCOs) ought to be transformed into public limited liability ones (cf. WASREB 2018b:6).

[16]WASREB explains that corporate governance enables 'advancing long-term shareholder value', which 'in the context of water services […] is realised in universal coverage in safe, clean water in adequate quantities and reasonable standards of sanitation' (WASREB 2018b:1).

4.2 below) and borrow: as companies incorporated under the Companies Act (Republic of Kenya 2015), WASCOs are permitted to borrow from commercial lenders given approval by their boards and no-objection from the National Treasury (IntWFF2; IntGov4; IntConsult1; cf. WSP 2015c:14-5).

This is important: unlike sub-national governments that require a sovereign guarantee to be able to borrow (Republic of Kenya 2010:sec. 212, 2012:sec. 140), WASCOs only require a no-objection from the National Treasury. Water and sanitation companies owned by sub-national governments, in other words, have not been as restricted as sub-national governments in terms of borrowing. This has put WASCOs in a unique legal and regulatory position: they may borrow, yet only from lenders that do not require a sovereign guarantee – such as commercial creditors (IntConsult1).[17]

4.1.2 Strengthening of local level and "political interference"

In 2010, Kenya's new Constitution devolved some water related functions to newly created sub-national county governments (Republic of Kenya 2010:article 6 and fourth schedule). Whereas the national government retained the functions of 'water protection, securing sufficient residual water, hydraulic engineering and the safety of dams', the county governments gained responsibilities for the 'implementation of specific national policies [...], including [...] water conservation' and for 'public works and services, including [...] water and sanitation services'. This separation of functions is 'very clearly laid out in the constitution' according to a lawyer, but the transfer of functions, which depended on counties' demonstration of capacities to perform those functions, 'took some time' (IntConsult1). The 2016 Water Act revision later aligned the sector's organisation to the new Constitution (see figure 4.2). One key change was that counties became the owners of WASCOs, which were previously owned by local authorities, and that WASCOs became direct licensees of WASREB and mandated with water service provision. The WSBs, which previously had this role, were converted into Water Works Development Agencies (WWDAs).[18] These WWDAs, which more or less directly map to what were previously the WSBs,[19] have since been '[... mandated] to de-

[17]WSP licensing, however, conditions commercial borrowing on 'disclosure and approval by the WASREB and approvals under its constitution and the Public Finance and Management Act 2012' (WASREB 2020b:22).

[18]WWDA staff remembered the previous arrangement: 'before [... the devolution] we used to have what we call service provision agreements with utilities. And basically we used to supervise them, directly. With the devolution now, that's not the case, [...] now the license is issued by WASREB' (IntWWDA1). At the same time, the 2016 Water Act removed regulation of WWDAs by WASREB (IntWASREB1).

[19]See Cabinet Secretary for Water and Sanitation (2019), which created one WWDA, the Tanathi Water Works Development Agency, in addition to the exiting WSBs; geographical areas of jurisdiction remained similar in most WSB to WWDA conversions. The eight WWDAs are: Coast (Mombasa, Kwale, Taita Taveta, Kilifi, Lamu and Tana River Counties), Athi (Nairobi, Kiambu and Murang'a Counties), Northern (Garissa, Wajir, Isiolo, Mandera, Marsabit, Samburu and Laikipia Counties), Lake Victoria South (Kisii, Nyamira, Kericho, Bomet, Migori, Homa Bay, Kisumu and Siaya Counties), Lake Victoria North (Kakamega, Vihiga, Busia, Bungoma, Trans-Nzoia, Uasin Gishu and Nandi Counties), Rift (Turkana, West Pokot, Baringo, Nakuru, Nyandarua, Elgeyo Marakwet and Narok Counties), Tana (Kirinyaga, Nyeri, Meru, Embu and Tharaka Nithi Counties), Tanathi (Kitui, Makueni, Machakos and Kajiado Counties).

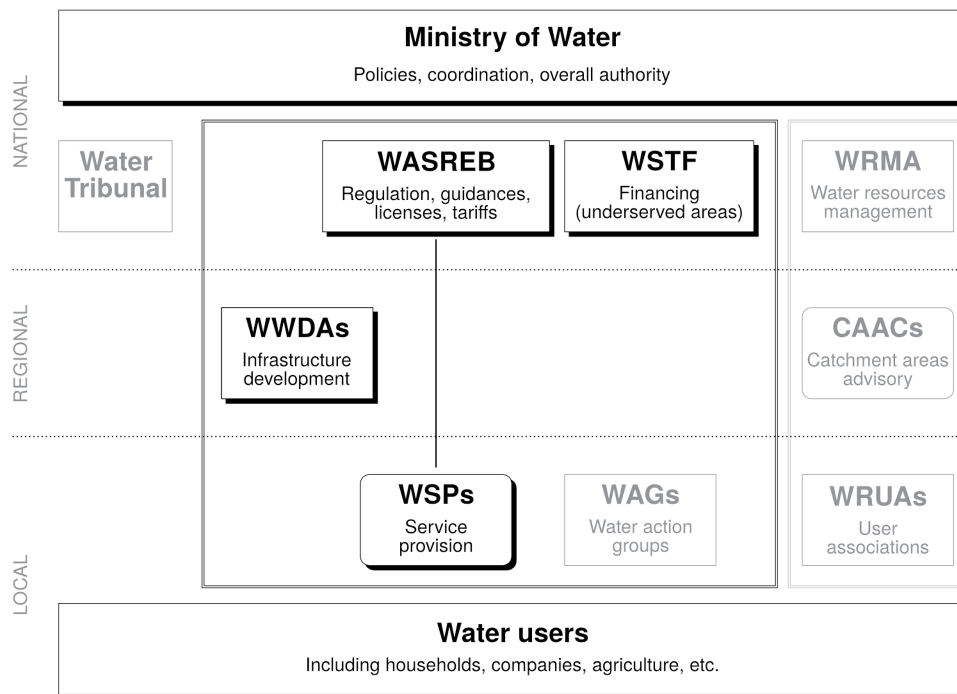

Figure 4.2: Simplified diagram of Kenya's water sector setup introduced after the 2016 reform.

velop national public water service works and residual water service provision' (WASREB 2018b:4; cf. Republic of Kenya 2016:sec. 68). The protracted transfer of functions and this continuation of WSBs as WWDAs responsible for infrastructure development, however, led to a dispute between counties and the national government early in the process when counties sued the national government for an alleged incomplete transfer of functions.[20] Others, such as a long-time water expert formerly with GIZ in Kenya, asserted that the continuation of this division of functions between WSPs and now WWDAs was unhelpful (IntGIZ2).[21]

From the national government's perspective, the new Constitution and 2016 revision of the Water Act were a lesser change than the 2002 reforms, which separated asset ownership from operations, corporatised utilities, and created the national regulator. Whereas the revised law accounted for what has been called a devolution, these tenets remained unchanged. Essentially, only two changes are relevant in terms of commercially financing water service

[20] As the lawyer explained, this was 'not an issue of clarity [of reforms], it was an issue of just process. The process took a very long time. [...] especially [in] the water sector with the large water, the regional development authorities [WWDAs], you found that the counties then went to court. But [...] there was a draft policy that had been jointly prepared [by county and national governments], there was a draft bill. But, you know, they still run to court and say, this function hasn't been transferred. But there was a process that was happening. Yes it was taking longer, but it was happening' (IntConsult1).

[21] According to the expert, this separation of functions was 'one of the great design errors' of the 2002 Act that could have been amended with the 2016 revision (IntGIZ2:translated from German by author). It created an 'artificial separation', the GIZ advisor maintained, which has since complicated commercial financing efforts and created political tensions between sub-national and national governments. Since the 'responsibility for financing or development of infrastructure and service delivery had been transferred to counties', a proposal existed to remove WSBs and create only one WWDA. Yet, against counties' expressed and 'technically substantiated' preference of this proposal, the Ministry decided to keep them and create an 8th additional one. This was referred to as 'power struggle' between the Ministry that wants to retain functions and power, and the counties that want to exercise their mandate – which has created 'tensions' in the sector (IntGIZ2).

provision: first, the transfer of ownership to counties of WASCOs, and second, the transfer of water service provision responsibilities from national WSBs to sub-national WSPs. Given that WSPs had already been the key water service providers (as agents of WSBs), and given that WASCOs, previously owned by local councils (IntWSTF4), had already been the primary WSPs, and further given that those WASCOs continued operations as WSPs[22] under their new owners (Republic of Kenya 2016:sec. 154, 78), water service provision remained relatively unchanged in practice. On the whole, the national Ministry of Water regarded this not 'a big change'; an official only noted the difference in board representation in WASCOs where county representatives now replaced municipality representatives (IntGov2a). And a WASREB official saw the changes primarily as a 'strengthening' of the local level by '[having a] governor, who is elected by the people, [and who] has a constitutional mandate' (IntWASREB1). A former USAID official agreed, seeing no 'big negative impact' in the devolution, noting that they now simply interacted with a 'specific county' (IntUSAID4).

The perspective of newly created county governments (and their governors) differed.[23] As their expectations remained unmet, they took their claim about incomplete transfer of functions to court (see above). Furthermore, counties criticised their exclusion from planning and executing infrastructure works (which county owned WASCOs eventually pay for, IntSE1) and spoke out against WWDAs favourable access to concessional loans negotiated at the national level (that came with the infrastructure planning they felt excluded from).[24] Additionally, they questioned national regulation and proposed county level regulators instead (IntWASREB1), and attempted to take control over "their" WASCOs. This was repeatedly described by observers as a misunderstanding by counties, as issues of unawareness of the nature of the sector, and ultimately wrong expectations: counties, in these accounts, wrongly saw utilities as extensions of their politics and 'cash cows' (IntWASPA1; cf. IntUSAID3; cf. IntWASCO4). Whereas water utilities *can* bring in money (see section 4.2 below), the financial situations of many WASCOs has been far from it. Governors and county governments soon realised this, and moreover that WASCO revenues were ring-fenced, i.e. not directly owned by the county government. Similarly, whereas counties had believed they could 'bring [their] people to manage the company' (IntWASPA1), this has been restricted by 'due process' requirements of company board and management appointments.

What was expected to be fully controlled new responsibility (and opportunity) by counties

[22] 'The existing water services providers shall continue to operate as the county water services providers or cross county water services providers as the case may be within the period specified in the transfer plan published by the Cabinet Secretary.' (Republic of Kenya 2016:sec. 154)

[23] This paragraph draws on data generated in interviews with key informants, *who claimed to know the effects of and issues around the devolution but not with any county representatives directly.* While I reached out to several key informants on the county level, none agreed to a research interview; also, the county representative invited to a WASREB workshop on commercial financing in the sector did not attend the workshop and I was unable to meet them see also section 3.3.1 and 3.5.

[24] WWDAs have remained the recipients and implementers of concessional finance (handing over developed infrastructure to WASCOs later), and have not taken up commercial finance (IntWFF5).

turned out to be still substantially co-controlled and regulated by national laws, the Ministry and its policies, and the national sector regulator and respective regulations, guidelines, and licencing conditions. This relatively robust institutional and organisational setup introduced with the 2002 reforms limited what counties could do, and coerced them to accept and conform with already established norms. Corporatisation of water service provision, including 'due process', ring-fencing, and public participation in board constitution (IntWASCO4), has been a cornerstone of this robustness. It had already largely removed service provision from politics and retained revenues in these autonomous organisations. To use water service provision for 'political gains' and to 'buy votes',[25] counties have had to instead rely on their water budget and develop water projects without involving "their" WASCOs (IntWASPA1; IntSE1). Counties therefore questioned corporatisation (IntWASCO2), challenged revenue ring-fencing and interfered with tariff setting or implementation (IntWSTF4; IntNL1), attempted to (politically) steer board constitution and MD appointments (IntUSAID3), and tested the system. Some therefore expressed a pessimistic view on the contribution of county governments to improve WASCOs and commercially finance them (IntNGO1). Similarly, a financing expert, whose work to promote commercial financing in the sector has been affected by such what has widely been called "political interference", expressed concern over how governors in Nairobi and Kiambu attempted to take hold or control of "their" utilities (IntWFF3; cf. Wambui 2018; cf. Maichuhie 2018; cf. WASREB 2018d).

The Kiambu case is insightful in regard to the consequences for commercial financing. A former governor, who was 'impeached' in early 2020, attempted to merge all eight WASCOs in the county into one (NoteWS2/3). This was legally stopped eventually, and WASCOs continue to exist as before (furthermore affirming the robustness of institutions).[26] However, while the governor was attempting to merge utilities, one WASCO (THIWASCO) was negotiating a subsidised commercial loan (as part of the OBA programme through WSTF, see section 4.3.3 below). The commercial bank supposed to lend 'pulled out', also because the bank found out about interference with the company board (NoteWS2/3), and negotiations had to be stopped. A WSTF official remembered the case:

> by the time you've agreed to fund somebody, you know their books [and] cash flows, you know they can repay. Then [the governor] comes and just wants to merge all of them. And then the books change, the cash flows change, and now you don't know whom you are lending to. And you don't know whether they can repay. So we had to stop that right there (IntWSTF2; cf. IntWASCO3a).

[25]As a USAID official noted, 'water is like the biggest demand [...] and so these guys can win a lot of political capital by doing visible water projects' (IntUSAID6).

[26]Generally, WASREB seems in favour of 'clustering' WASCOs. WASREB (2020a:37) and WASREB (cf. 2018d) encourages this, for instance, instead of handing over to communities: 'the breakeven point using 100% cost coverage corresponds to about 18,000 connections. County Governments are encouraged to cluster small utilities including rural/community water projects for financial sustainability instead of handing them over to communities.'

The official also remembered a case in Murang'a, 'where the governor was fighting with the water company every step of the way', allegedly 'for supremacy' (IntWSTF2).

Not all claims about incomplete devolution by counties are unsubstantiated, however. Counties have continued to affirm that devolution of functions and mandates was not paralleled by fiscal devolution or matched by a transfer of funds (IntConsult1), and that they have not been excluded from (concessional) financing and related decision-making (IntKewasnet2). Whereas some of the counties' complaints about this exclusion as well as lack of coordination and collaboration were described to be constructed and blown out of proportion,[27] there has been some acknowledgement of failure of working together by the national level. Contrary to their assertions of integrating county-owned WASCOs in funding decisions through investment planning in each region by WWDAs (IntGov2b), a regulator official recognised that the national government and its agencies have fallen short of the required integration of counties in infrastructure development planning:

> We still have a lot of work to do in terms of coordination because we have, this is where our waterworks agencies are doing projects to hand over to the counties but the counties are not involved in the planning. And involvement is not just writing a letter [… to] come for a meeting. No, it should be stronger than that. The county should be part and parcel of that team that is planning [… to know] what is being put underground (IntWASREB1).[28]

This depends on counties' technical capacities that need to be strengthened. Whereas the Constitution requires the national government to provide this training, the WASREB official observed that 'the counties also have to be ready for that capacity strengthening, first and foremost by hiring people who are trainable' (IntWASREB1).

A related issue has been to resolve legacy debt. WWDAs, the former WSBs, have financed infrastructure development mainly through concessional loans, which were repaid from special fees collected from their agents, the WSPs. The new owners of WASCOs disputed the continued repayment, noting that they were not involved in decision-making about financing and implementation, and claiming that (some) infrastructure development has not been useful to fulfilling their mandate. Some counties have therefore been reluctant to service these loans (IntSE1; IntConsult1). This has had two effects. On the one hand, non-payment, furthered deterred by the National Treasury guarantee and a policy gap in regard to repayment obligation (IntKfW1), has started to "trickle up" to making a sovereign debt crisis (IntWB3). On the other, repayment of these loans by WASCOs does not show in WASCOs books and thus masks real creditworthiness by hiding existing debt service obligations (Int-

[27] Counties, for instance, believed to be excluded from planning processes when communication did not happen 'formally correctly', i.e. not through accepted channels at the right hierarchy (IntSE1).

[28] Such lack of coordination was, for instance, experienced by the Swedish Embassy: a national government negotiated project supported by the African Development Bank rendered one of the Embassy's projects that was done in partnership with counties 'completely meaningless' (IntSE1), a situation that should be avoided by integrated development plans that inform national government borrowing from donors on behalf of counties.

WASREB2).[29] The Ministry, regulator, and donors have been aware of this issue and encouraged WASCOs and their owners to find solutions with WWDAs and the National Treasury (see 5.2.1). Whereas tensions between WWDAs and WASCOs have remained (IntWWDA2), 'working relationships' (IntWASPA1) between WWDAs and counties are not rare – the Athi WWDA, for instance, mentioned having a good relationship with the county (IntWWDA1).[30]

The central issues, then, have remained insufficient capacities, lack of understanding, or divergent ideas about water service provision. For instance, when asked about the government's efforts in scaling commercial financing of the sector, a Ministry official mentioned, among other activities, assisting county governments in understanding utility operations (IntGov2b). A financing expert spoke of still 'young' county governments and their need of support in managing county government processes and utilities in order to become more predictable for lenders (IntKPWF1). Similarly, a USAID official working on scaling commercial financing said that the national government would understand, but it was a 'new thing' for county governments, also expressing concern with some counties having difficulties 'to understand why a company providing water should be borrowing money' (IntUSAID1). And staff of the Water Service Providers Association (WASPA) added that some counties 'do not understand [… and] still apply politics within the company' (IntWASPA1), and for instance tell 'people that water is for free' as put by a Swedish Embassy official (IntSE1). These issues are not surprising given that county governments were only established *de jure* with the new Constitution in 2010 and formed *de facto* after the general elections in March 2013 (now just entered their third electoral cycle after the August 2022 general elections). Accordingly, issues were regarded 'teething problems': 'gradually, we're moving towards […] even them understanding how the water sector runs', especially counties where CECs (Ministers) have prior experience with WASCOs (IntWASPA1). County governments, therefore, were sorted into the ones who already understood, and the ones who will understand after national government, the regulator, and donors explained and trained them (see chapter 5).

This is relevant for the creation of candidates to occupy a *debt emitter* position in two ways. First, WASCOs, singled out as those candidates, have weathered the changes related to the new Constitution and revised 2016 Water Act. They have remained the central service providers even as the mandate has been transferred to counties, and continued to provide the bulk of water services as county-owned WASCOs directly licenced by WASREB. Second, threats to the candidacy of WASCOs have been seen as temporary by virtually everyone in the sector. Ministry, regulator, and donor officials were confident that the institutional and organisational setup of the sector after the two reforms in 2002 and 2016 was robust enough to curb and eventually stop any attempts of political interference in WASCOs by county gov-

[29]This has affected creditworthiness in both ways: by hiding the debt, creditors have had an incomplete perspective on WASCOs, which has made debt capacity assessments difficult. At the same time, WASCOs have been unable to demonstrate their existing ability to service debts.

[30]The law is clear about the issue: WWDAs remain owners of infrastructure until loans are repaid, and a default on loans can lead to the transfer of service provision function to WWDAs (Republic of Kenya 2016:sec. 69).

ernments. Corporatisation and associated ring-fencing of revenues, and 'very good' laws (IntKPWF1) and the constitutional right to water (which have enabled public interest litigation) have meant that in practice or from water users' perspectives little has changed.

4.1.3 WASCOs' debt emitter candidacy

Kenya's 2002 sector reform established a number of water and sanitation companies (WASCOs). While this corporatisation process aimed to improve coordinated interaction and therefore performance (compared to others such as municipal departments or direct Ministry control), it also created autonomous entities in the sector that are permitted to borrow (IntGov4). WASCOs, by this mere possibility, have since become candidates for a *debt emitter* position in the water sector. This was solidified with the 2016 Water Act revision that aligned the sector to the country's new Constitution, which had established county governments that have since become the owners of WASCOs. Apart from adjustments to account for the transfer of mandates to counties, the updated Water Act left the institutional and organisation setup of the sector largely unchanged. Many, including the Ministry, sector regulator, and donors, have seen the changes as relatively inconsequential for water service provision or efforts to commercially finance the water sector. This is not to say that the transfer of mandates and WASCO ownership occurred seamlessly. Counties attempted to steer "their" WASCOs or gain more control over them, and some planned financing transactions, for instance, did not happen (IntWASCO4; IntKPWF1; World Bank 2015). The sector's institutional and organisational setup, however, ultimately proved robust enough to limit such "political interference" – and corporatisation has especially been a cornerstone of this.[31] Devolution related power struggles or termination of financing negotiations have therefore been seen as transient issues or setbacks. As a USAID official put it, 'people are still positioning themselves, still trying to figure out where do I fit, how much power can I control' (IntUSAID1). Eventually, according to this widely shared sentiment, these "teething problems" will be solved.

The new ownership of WASCOs by county governments means, however, that county governments' approval and indeed support of commercial financing has become crucial. Donors and banks are aware that utilities cannot borrow without board, and therefore county government, approval (IntBank2), and that 'if there was to be interest [… in] commercial financing, it must come from the county government' (IntUSAID3). At the same time, the devolution has made commercial financing by WASCOs more likely (or necessary), precisely because county governments have become their owners: whereas counties acquired the mandate to

[31]Still, loopholes were found and made use of. Not long after the 2002 reform, Nilsson and Nyanchaga (2009:116) for instance notes that '[…] the effective autonomy of municipally owned water companies in Kenya can be questioned and political interference is still rife (Nyangeri 2004). Although no legal framework can be completely waterproof from the start, it is obvious that the new Water Act of 2002 still has quite a number of leaks to seal for it to stay afloat.' Yet, cases like Kiambu's merger attempt have shown the sector and, importantly, lenders that WASCOs are legally sufficiently shielded from interference and ultimately autonomous entities.

provide water services, this was not paralleled by a fiscal devolution or matched by transfers of funds. Commercial financing opens a pathway for compensating for this lack of funding. A USAID official was indeed worried ‘that lending becomes a way to address another problem, which is the deficiency in money from the national to the county level’ (IntUSAID6). And a World Bank official noted that funding of the water sector has become more complicated (IntWB3). Part of the problem has been that donors cannot directly fund counties (IntSE1) and concessional finance therefore ends up with WWDAs (IntKewasnet2). The side effect of this has been that WWDAs have remained focused on concessional financing and therefore not been considered candidates for a *debt emitter* position.

WASCOs, then, have become the main candidates for the *debt emitter* position[32] – but are not necessarily *viable* candidates. First, “political interference” has remained a critical risk for lenders. One bank, for instance, noted that county-owned utilities have ‘become more of politically staged businesses’ and that lending to them depended on the relationship between the bank and the governor (IntBank4). Donors and sector organisations promoting commercial financing have therefore worked to strengthen corporate governance, build these relationships between lenders and WASCO owners, and protect WASCOs from the electoral cycle (IntWASREB1). Second, WASCOs capacities to actually function as debt emitters have been limited. Again, donors and sector organisations have therefore worked to develop these capacities. Chapter 5 looks at these two points in detail. Finally, given the sector’s funding arrangement and deficiency, corporatisation has remained insufficient to enable commercial financing. The next section therefore looks at the twin process to corporatisation: commercialisation.

4.2 The positioning of WASCOs as commercial WSPs

Corporatisation relied on the prior creation of the *water service provider* position (see section 4.1.1 above). This position was created in the water sector to replace services provision by the Ministry (or local government departments), and explicitly allowed occupancy by several kinds of entities, including communities, private utilities, and the newly established WASCOs (Ministry of Water Resources 1999; Republic of Kenya 2002). The purpose of this position has been twofold, however. First, to transfer service provider function away from the government to separate entities. A former USAID official asserted, for instance, that commercialisation would not have succeeded in (national or local) government departments (IntUSAID4; cf. Nyeri’s somewhat successful attempt in Nyanchaga 2016:140-1). Second, to commercialise water service provision. The 1999 policy document says, also mentioning earlier policies on ‘cost sharing in the water sector’, that

[32] Attempts of counties to show and establish themselves as effective governments may further promote WASCOs’ positioning as debt emitters and greatly accelerate the transformation of the sector’s financing.

> All water consumers should pay for water on the basis of the user-pays principle. In this regard, water supplies will be gazetted for this purpose and appropriate tariffs set in such a manner that the scheme will be self-sustaining at all times (Ministry of Water Resources 1999:51).[33]

The *water service provider* position, as later affirmed by the 2002 and 2016 reforms as well as subsequent sector regulation, is in fact a *commercial water service provider* position that bears an obligation to recover costs from water users.

Cost recovery has increasingly included recovering financing costs. WASREB sets a cost recovery target level of 150% of operation and maintenance (O&M) costs, at which 'a utility can meet its O+M costs, service debt and renew its assets' (WASREB 2021:57).[34] WASCOs *qua* WSPs, in other words, are faced with a normative environment that 'encourages' recovering costs to a level that makes debt service and further commercially financed investments possible. Given the continued under-funding of the sector, the gradual but determined exit of donors (i.e. concessional financing sources), and the difficulty of counties and WASCOs to access concessional finance (see above), this commercialisation of the *WSP* position has enabled commercial financing. Full cost recovery of WASCOs *qua* commercial WSPs can, in principle, underwrite debt emissions – and therefore make WASCOs into more *viable* candidates for the *debt emitter* position.[35] (Chapters 5 and 6 explore further aspects that make WASCOs viable candidates.) This *links* the *commercial WSP* position with the *debt emitter* (and *debtor*) position in two ways: WASCOs *qua* commercial WSPs make debt emission possible, and WASCOs *qua* debt emitters make (further) water service provision possible.

This section looks at this making of WASCOs into more viable candidates for the *debt emitter* position through commercialising the *water service provider* position. Whereas chapter 5 examines in more detail the related changes in practices of WASCOs *qua* commercial WSPs, this section focuses on the legal and regulatory foundation of commercialisation. Section 4.2.1 briefly explores the ring-fencing of revenues in the sector and their ownership by WASCOs *qua* commercial WSPs. Section 4.2.2 then looks at tariff setting. The section concludes with a short summary of legal and regulatory environment that enables, *de jure*, viable candidacies of WASCOs for the *debt emitter* position.

[33]The Ministry recognised that the 'universal application both in rural and urban areas' of cost-recovering tariffs 'is likely to have adverse effect on the more vulnerable sections of the populace. To address this, the Government in close liaison with the various water undertakers will develop a tariff structure that both ensures adequate cost recovery on the water supplies and protects the rural poor.' (Ministry of Water Resources 1999:51-2)

[34]Debt service, however, is also part of cost recovery below 150%. WASREB lists three ranges of cost recovery: 100%, which includes O&M, 101-149%, which includes O&M plus debt service plus minor investments, and above 150% (full cost recovery) (WASREB 2021:57).

[35]The law also makes cost recovery the only option to underwrite debt or guarantee repayment: debt of county corporations 'cannot be repaid using "public funds"' (WSP 2015c:14-5).

4.2.1 Revenue ring-fencing and ownership

Historically, revenue collection was ineffective, primarily done by the Ministry, and accounted for only about a sixths of the Ministry's recurrent budget in the 1980s (Hukka et al. 1992; cf. Dellapenna and Gupta 2009:113). The collected revenues were then 'debited to the Ministry of Finance' (Hukka et al. 1992:13), and funding of water supply systems relied on budget allocations to ministries (such as Ministry of Water Development or Ministry of Local Government). Few local authorities collected user fees: by the end of the 1980s, only 15 municipalities collected revenues and additional five collected revenues for sanitation services (Hukka et al. 1992). Even where revenues were collected by separate departments of municipalities, funds would still be used outside the water sector. Nyeri, for instance, formed a separate water and sewerage department in 1995, which also had its own bank account to which revenue collections were deposited. Whereas the department was set up with 'managerial and financial autonomy' and was therefore a first step towards commercialisation, it faced a 'frequent transfer of funds from [the] water and sewerage bank account to meet unrelated expenditure at an expense of these services' (Nyanchaga 2016:140-1).

This changed with corporatisation introduced by the 2002 reform, which ring-fenced revenues within the sector (WASREB 2018b) and particularly within WASCOs, to ensure funding of operation and development of water services instead of covering other government expenses (IntAFD1). The new ownership of WASCOs by counties did not change this. The 2016 Act clearly reiterates the ring-fencing of revenues in the sector according to WASREB regulations (Republic of Kenya 2016:sec. 131), and WASREB made clear that while counties have the 'constitutional mandate' to provide water, they 'have delegated that responsibility to their autonomous special purpose vehicles in the name of the utilities' (WASREB 2020a:73). Revenues, in other words, are collected and owned by WASCOs, and cannot be extracted from them. Whereas some said that the new ownership of WASCOs by counties introduced a risk of revenue extraction (IntNL1), the legal and regulatory framework is clear and such actions would therefore clearly violate the law. While this may be disruptive temporarily, there seems to be no structural threat to the overall institutional framework that has clearly furnished WASCOs *qua* WSPs with the rights to bill users and collect revenues, and the obligation to use these for operating and improving or expanding water service provision.[36]

This ownership of ring-fenced revenues by WASCOs has been crucial for two reasons. First, user fees have been made (actually or potentially) an essential component and direct way of financing maintenance or development of water services. Combined with efforts to establish cost recovery (see next section), this aims at protecting revenues from political interference and making WASCOs *qua* WSPs self-reliant. Second, ownership of revenues has enabled

[36]The law also forbids any dividend or other payments before achieving universal service provision (of water; sanitation services are not mentioned): 'Dividends or other payments shall not be paid to the owners of public water services providers as long as the universal rights of access to safe and clean water have not been achieved in the designated service areas' (Republic of Kenya 2016:sec. 131).

commercial borrowing by turning user fees into cash flows against which commercial banks lend[37] or assets that can underpin capital market debt issuances.[38] This ownership of revenues by WASCOs therefore provides the material basis for repayments, but, importantly, also shields resultant cash flows from politics and therefore establishes trust with creditors. Unsurprisingly, a finance expert mentioned revenue ring-fencing and ownership first when asked about the requirements of commercial financing (IntWFF3).

4.2.2 Cost-recovering tariffs setting

Commercial financing based on cash flows relies on predictably sufficient revenues that enable debt service. Ring-fencing and ownership by WASCOs of revenues, together with reliable management of WASCOs and effective collection of user fees by them (see chapters 5 and 6), have created such predictability. But those revenue streams have largely remained simply too unattractive to commercial lenders. WASCOs, on average, struggle with recovering O&M costs, let alone any costs of debt service or investment: according to WASREB, 'the performance of this indicator [cost recovery] continues to remain below the sector benchmark of between 130% and 150% required to cover justified O+M costs, debt service and undertake new capital works' (WASREB 2021:58).[39] Physical and commercial non-revenue water, which has remained a massive problem in the sector given the poor state of infrastructure, poor quality of services, and associated reluctance of water users to pay, have required recurrent subsidies (from donors or government) to operate, maintain, and extend and improve services.[40]

A WSTF official therefore noted that 'in terms of commercialisation, [...] probably the most important thing is tariff setting [...] because it is with a proper tariff that you'll be able to repay' (IntWSTF2). WASREB, mandated with issuing tariff guidelines and approval of tariffs, has long promoted (and approved) such 'proper' tariffs that enable commercial financing (IntWASPA1). When a team of financing experts met with the regulator in 2012 (as part of a scoping mission to set up a capital market-based financing initiative, see section 4.3.4), WASREB was clear that they could, and would, approve tariffs that included the cost of commercial financing (IntWFF3). A legal expert advising the same initiative asserted that

[37]Borrowing form commercial banks became possible for WASCOs once banks started to lend based on cash flows instead of collateral, which WASCOs could not provide (IntBank4; IntBank5). See sections 4.3.2 and 4.3.3 below.

[38]The latter is the approach of, for instance, the KPWF and the model preferred by the Capital Markets Authority (CMA) for counties to raise capital. It is also the proposal of a group of large Kenyan cities to finance their infrastructure needs. This is explored below in section 4.3.4.

[39]The previous Impact report stated that 'only 21 counties (48%) were able to meet their O+M costs [... which] implies that counties still have a very big role to play in nurturing their utilities into commercially viable entities' (WASREB 2020a:72). WASREB's target cost recovery level is 150% of O&M costs, which allows for debt service and investments.

[40]WASREB states that '21 counties [...] lose more than 50% of the water they produce' and that overall non-revenue water (NRW) is at 47%, up from 43% in 2018/19 (WASREB 2021:75). The regulator's sector-wide target is a NRW level of 20%.

the 2016 Water Act and this position of WASREB were 'why we started this whole thing anyway', adding that the regulator's role in enabling commercial financing was 'very instrumental' (IntWFF2). But WASREB also expressed during the meeting in 2012 that utilities have generally not applied for such tariffs, which could therefore also not be approved (IntWFF3). Recent Impact reports highlight that not 'operating on justified tariffs' has been a result of delayed applications for such tariffs (WASREB 2021) and that county governments need to 'ensure that all their WSPs are operating on justified tariffs' (WASREB 2020a:59). As a former USAID official observed, whereas 'a lot of the fundamentals are in place' for commercially financing WASCOs, devotion over-shadowed 'the conversation about [the] ability to charge a cost-recovering tariff' (IntUSAID5).

Two points put this into context. First, promises about water and sanitation services, including tariffs, have remained essential parts of election campaigning (IntWASREB1), and county governments have been reluctant to increase tariffs. This has included not applying for, or simply not implementing, tariffs (many WASCOs operate with expired tariffs), and has made commercial financing difficult (IntWFF2; IntNL1). Second, while now an issue of WASCOs and counties as their owners, political interference with tariff setting is nothing county-specific but rather has a long history in Kenya: Nilsson and Nyanchaga (2009:113) tells of presidential interference long before the devolution when 'in 1981, a Presidential decree abolished payment of water tariffs based on metering in rural areas, in direct conflict with the Ministry's policy'. Moreover, whereas tariff setting in Kenya had long aimed at 'cost sharing' (dating back to the 1974-78 Development Plan, see Ministry of Water Resources 1999:50f) and establishing the 'user pays' principle, tariffs rarely recovered costs given that 'traditionally, water has been perceived as a service commodity to be supplied freely' (Ministry of Water Resources 1999:50), especially in rural contexts (Hukka et al. 1992).[41] During the 1970s and 1980s, for instance, 'urban supplies under MoWD were able to recover only operating and maintenance (O&M) costs, but no part of capital charges' and 'less than 10% of the total cost for rural supplies was recovered' (Nilsson and Nyanchaga 2008:142; cf. Nilsson and Nyanchaga 2009:114).

With the 2002 and 2016 Water Acts, the WASREB acquired the power and function to 'evaluate and recommend water and sewerage tariffs to the county water services providers and approve the imposition of such tariffs in line with consumer protection standards' (Republic of Kenya 2016:sec. 72; cf. Republic of Kenya 2002:sec. 47). Whereas WASREB therefore cannot change tariffs without tariff adjustment applications from WASCOs (IntWASREB1), the regulator has important influence on both the lower and upper boundaries of tariffs through licensing. On the one hand, WASREB targets universal affordability of tariffs,[42] which WAS-

[41]Donors, however, influenced tariffs in the 1980s towards cost recovery: 'In early 1980s a new, significantly higher tariff was agreed by the GOK to meet the conditions of a large loan' (Hukka et al. 1992:59).

[42]WASREB's CEO is clear in the Impact report: 'National standards must ensure that water and sanitation services, whether privately or publicly provided, are affordable for all, including the poorest, that water and sanitation tariffs do not compromise or threaten the realization of other rights' (WASREB 2020a:8).

REB ensures through tariff structuring,[43] public consultations (IntWASREB1; cf. WASREB 2020a:8), and ultimately refusal to grant tariff adjustments.[44] On the other hand, WASREB strongly promotes full cost recovery (where possible) in its recommendations and through its licence conditions that aim at, *inter alia*, commercial viability.[45] Specifically, the licence requires a tariff to support 'financial sustainability', 'the recovery of costs', and 'reasonable return on capital invested for the provision of water services if the investor is a third party' (WASREB 2020b:22f):

> Building on the 2009 tariff reform led by WASREB, with support from partners, WASREB has worked with utilities to develop ways to finance new infrastructure with their own revenues on a sustainable basis [… which included] earmarking surplus revenues to improve water assets [… and] a revenue-backed lending structure, through which utilities would be able to borrow against future surplus revenues (WASREB 2020a:11).[46]

"Justified tariffs" therefore explicitly aim to enable WASCOs to service debt, old or new. A crucial way to achieve this – although in practice undermined by county governments that simply operate WASCOs with expired tariffs – are licencing and tariff application, review, and renewal processes (IntWASREB1; IntWASREB2). This makes sure that tariffs follow consumer price index (CPI) increases, which is critical for long-term commercial financing (IntWFF3; NoteWS3). WASREB has supported the 'indexation of approved tariffs [… which] has presented an enabling environment for WSPs to borrow against their approved tariffs, with the knowledge that inflation related adjustments will not eat into the available cash flow for debt repayment' (WASREB 2020a:19). Yet "justified tariffs" setting by WASREB, which has involved public consultations, has been important for a second reason: WASREB guarantees that tariffs are set according to the legal and regulatory framework, affordable (according to their criteria), widely supported, and therefore likely to evade or withstand legal challenges – therefore "comforting" lenders (IntWFF2).[47] (Chapter 5 will go into more detail about practices related to tariff setting by WASCOs and WASREB.)

[43]The block tariff includes, for instance, a subsidised first block. While such structure ensures affordability for essential water use even with fully cost-recovering tariffs, it also means that actual cash flows to support borrowing require a certain amount of consumption *above* this subsidised first block. Areas in most need of investments, in other words, may struggle to generate the necessary cash flows even with fully cost-recovering tariffs given the on average lower consumption of water (cf. IntWASCO3a).

[44]WASREB's 'model licence' published on their website mentions a number of minimum requirements for customer tariffs, including limitations on 'surplus and profit' as well as 'the use of income generated by the recovery of charges'; it also asks for a structuring that '[differentiates] on an equitable basis between different users [… and] different types of water services' as well as differences in the 'socio-economic and physical attributes of each area' (WASREB 2020b:22).

[45]This has been part of the law since the 2002 reform: the Water Act requires that a licence 'applicant […] will provide the water services authorised by the licence on a commercial basis and in accordance with sound business principles' (Republic of Kenya 2002:sec. 57(5)), and the 2016 revision added the need to demonstrate 'that the water services to be provided will be commercially viable' (Republic of Kenya 2016:sec. 86(5)).

[46]This quote, taken from the Impact report, is strikingly similar to a 2015 World Bank note (cf. World Bank 2015).

[47]Slum Dwellers International (SDI) in Kenya opposed the 2002 reform and related ideas full privatisation or commercialisation (IntNGO5).

4.2.3 Underwriting WASCOs' candidacy

Turning the *debt emitter* candidacy of WASCOs into a *viable* one has relied on the commercialisation of the *water service provider* position occupied by them. This process has made use of the legal and regulatory framework of corporations (see 4.1 above) as well as the Water Act and related water sector regulations to make WASCOs the owners of any fees collected, and ring-fence them (for use by WASCOs for O&M and investments). Together with the commercialisation (and professionalisation) of WASCOs (see chapter 5), this has legally enabled WASCOs to create cash flows that can be used to borrow commercially. At the same time, WASREB, the sector's regulator, has encouraged and supported tariffs that fully recover costs of O&M, debt service, and new investments from water users. While tariffs have remained contested by county governments and election campaigns, so-called "justified tariffs" that, in principle, enable commercial financing have been part of licencing and tariff review processes. Table 4.1 gives an overview of important reforms and milestones that created today's corporatised and commercialised water service provision in Kenya, and evaluated the creditworthiness of incorporated WASCOs *qua* commercial WSPs.

Table 4.1: Key events in the transition towards commercially financing Kenya's water sector.

Event	Description
National policy (1999)	Stressed importance of commercial operation of water service providers. Prepared the 2002 reform of the sector.
Water Act (2002)	Corporatised and commercialised water service provision by creating water and sanitation companies (WASCOs) and stipulating their commercial operation. Also created a national sector regulator (WASREB) mandated with licencing of water service providers and tariff setting, and a sector funder (WSTF) mandated 'to assist in financing water, sanitation and water resources management projects to the underserved and marginalized rural and urban areas' (WSTF 2018b:2).
Tariff adjustments 2008/9	Sector-wide tariff increases to increase cost recovery of WASCOs *qua* WSPs (cf. Ministry of Water and Irrigation 2010; cf. World Bank 2018a). This 'Extraordinary Tariff Adjustment in January 2009 […] resulted in tariff increases levied by WSPs of between 70 percent and 100 percent' (Kimani et al. 2011:5)
Constitution (2010)	Established the rights to 'clean and safe water in adequate quantities' and 'reasonable standards of sanitation' (Republic of Kenya 2010:24). Created counties and county governments and transferred the water service provision responsibility to them. Prohibits county governments from borrowing 'without a full National Treasury guarantee' (Gakubia et al. 2015:12)
Shadow Credit Rating 2011	Rating of 43 utilities by WASREB and World Bank's Water and Sanitation Program. 13 WASCOs were identified as creditworthy (Kimani et al. 2011)

Event	Description
Creditworthiness Index 2015	First simplified creditworthiness rating and non-qualitative index. Established creditworthiness of 13 (different) WASCOs, and potential creditworthiness of another 15 (Gakubia et al. 2015). Builds on the 2011 shadow credit rating but automates the process. Has been repeated annually since, published in WASREB's Impact reports (cf. WASREB 2021)
Water Act (2016)	Revised and aligned Water Act to new constitution. Solidified corporatisation and commercialisation of water service provision. Replaced WSBs with WWDAs and made WASCOs direct licensees of WASREB. Amended WSTF mandate to 'provide conditional and unconditional grants to the Counties' (WSTF 2018b:2) and mobilise funds from private sources to on-lend to creditworthy utilities (cf. WASREB 2018c).

In principle then, WASCOs *qua* commercial water service providers have become viable candidates for the *debt emitter* position: revenue ownership and ring-fencing as well as cost-recovering tariffs can create high enough cash flows that can underwrite debt emission. Whereas the next two chapters (5 and 6) look at effective and actual performance of the *debt emitter* position in detail, the following section (4.3) traces initial trials of *debt emitter* position occupancy – which exposed issues of capacity and commitment but crucially confirmed that the normative environment was enabling commercial financing. These trials have also, in principle and to some degree in practice, established that there is demand for debt emitted by WASCOs. Several (large) commercial banks have been financing water utilities for several years (IntBank1; IntBank2; IntBank3; IntBank4) and others have expressed interest in entering the market recently (IntBank5). One bank described WASCO financing as competitive and lucrative (IntBank2), and another mentioned that they have actively canvassed WASCOs (IntBank1). Moreover, Kenya's capital market regulator stated that both domestic and international investors (IntCMA1) were interested in such debt – although the 'depth' of Kenya's well enough developed capital markets (i.e. the extent to which investors are willing to buy such debt) has remained untested and therefore unknown (IntKPWF4).[48] Nevertheless, the Dutch initiative that plans to attract capital from investors has been confident about their ability to raise the planned amount of capital from domestic 'retail and also institutional investors' (IntKPWF4; cf. IntWFF1). Debt emission by WASCOs, in other words, is, in principle, both possible and matched by demand.

[48]While I could speak with WASCOs, commercial banks, and the Dutch initiative, I could not speak directly with investors (which were also largely unknown/undisclosed). Instead, I draw on data generated in interviews with third-party key informants, especially for claims about capital market actors.

4.3 The cascade of positioning trials

This possibility of debt emission by WASCOs (and others) has been trialled through a cascade of commercial financing initiatives. Several efforts that have built on each other have made it possible to navigate the fallible and, importantly, contested process of positioning entities as debt emitters in the water sector. This process has relied on 'proof-of-concept' pilots to begin gradually introducing commercial financing to the sector when many still endorsed budget allocations and concessional loans from donors. With each of these initiatives, the environment has become more favourable to and supportive of commercial financing: by demonstrating the viability of an initiative, the next step became imaginable and possible. This has been less a change of involved norms but of their endorsement. The normative environment has enabled and promoted commercial financing since the 2002 reform (see sections 4.1 and 4.2). Or, as a Ministry official put it, 'the environment is right for commercial finance' (IntGov2a). Instead, this cascade of initiatives has established broad endorsement by showing that commercial financing was not merely permissible but also feasible and appealing. This gradually strengthened the normative circles that have endorsed and enforced the transition to commercial finance, especially by creating a broader membership that *endorsed* (instead of enforced) commercial financing.

These initiatives have trialled different entities as debt emitters and lenders (and combination thereof). According to Kenya's legislation, various entities may become water service providers, and borrow commercially to (better) perform this function. The first approaches to commercially finance the sector, for instance, were microfinance or small-scale finance programmes that targeted communities. Soon, however, WASCOs became the sector's primary debt emitters. Whereas these had indirectly repaid loans before (through administration fees levied by WSBs to repay concessional loans), programmes like the World Bank's Output Based Aid (OBA) programme or KfW's Aid on Delivery (AoD) programme have brought them in direct contact with commercial banks, and initiatives such as the Water Finance Facility's (WFF) Kenya Pooled Water Fund (KPWF) with investors (albeit intermediated by the KPWF). Table 4.2 gives an overview of the initiatives looked at below, and their debt emitter and lender combinations. Four points are important: First, each of these approaches has trialled a different combination of creditors and entities borrowing on behalf of the sector. Second, later initiatives have built on the experiences gained, and environment adjustments introduced, by previous ones. Third, whereas many of those earlier ones have ended or subsided, they have lived on in some forms. Finally, other and similar initiatives have existed; these are mentioned below whenever important to the sector's transition, but otherwise not further examined. What all these approaches share is their approach to commercial financing that relies on cash flows generated from water user fees (or other payments).

Table 4.2: The cascade of trialling commercial financing initiatives.

Initiative	Debt emitter	Lender	Description
Traditional finance	National Treasury	Donors	Traditional model of sector financing through donors with sovereign guarantees. Foreign currencies, concessional rates, long tenors. Typically large-scale first-mile or network projects (e.g. dams or sewers) implemented by WWDAs. Concessional finance likely to end given Kenya became (lower) middle-income country.
Community OBA	CBOs	Banks	Initial World Bank programme to commercially finance communities. Local currency, very high commercial rates, short tenors. Subsidised by World Bank. Typically small-scale projects (e.g. wells) implemented by CBOs or saving groups. Continued by banks as facilities for community projects or community-guaranteed individual (bulk) purchases (e.g. water tanks). (Similar projects by other donors/NGOs.)
OBA and AoD	WASCOs	Banks	World Bank and KfW programmes (through WSTF) to introduce commercial financing to WASCOs. Local currency, commercial rates,[49] comparably short tenors, grace periods. Subsidised by World Bank and KfW. Typically last-mile projects implemented by WASCOs. Programmes ended (World Bank) or likely to end soon (KfW), banks attempt to continue relationships with WASCOs.
WFF and KPWF	WASCOs	Investors	Dutch initiative to introduce capital market-based commercial financing to WASCOs. KPWF as intermediary that pools WASCO loans to issue bonds. Local currency, commercial rates, long tenors, no grace periods. Credit enhancements from donors, Government of Kenya, and private guarantors. Typically last-mile projects implemented by WASCOs. First bond still to be issued.

The section follows this cascade in chronological order, starting with the traditional approach of government funding and sovereign guaranteed concessional loans (in section 4.3.1). While this is not a commercial approach to financing the sector, it provides the context and starting point for these. Section 4.3.2 turns to the first model: the World Bank's 'proof of concept'

[49]When I talked to some of Kenya's commercial banks and the KPWF, who raises capital at Kenya's capital market, the market rate stood at about 17%.

(IntWB3) that targeted communities peri-urban and rural areas and aimed to persuade the government of the viability of commercial financing. Section 4.3.3 then looks at the World Bank's successor programme and the similar KfW programme, both implemented by the WSTF that scaled up the approach to WASCOs. In many ways, these highly subsidised programmed have been instrumental in demonstrating the feasibility of positioning WASCOs as debt emitters, and bringing commercial banks and WASCOs in direct contact. At the same time, this also revealed several capacity and commitment issues that prevented WASCOs to become effective (capable and committed) position occupants (see chapters 5 and 6). Section 4.3.4 explores the most recent (and ongoing) approach: the Dutch KPWF that pools WASCO loans into (green/blue) bonds issued at Kenya's capital market to increase loan volumes, lengthen tenors, and (potentially) reduce costs. Finally, section 4.3.5 concludes the section with a brief summary, highlighting donors' role and the remaining capacity and commitment issues exposed by these initiatives.

4.3.1 The starting point: grant and concessional funding

Water service provision has historically relied on public funding from government or donors (guaranteed by and channelled through the government as appropriations in aid). The prevailing understanding of the state as provider meant that most water supplies were operated and developed by the Ministry or local authorities (see section 4.1.1 above). Any expansion of the budget, however, was 'eaten up by inflation' and under-funding has remained an issue in the 1970/80s (Nilsson and Nyanchaga 2009:113-4) and later given rapid population growth (cf. WASREB 2021). As donors noted, grants and concessional loans, which feature extremely low interest rates (but foreign exchange risks), long tenors, and long grace periods of up to 10-20 years (IntGov4) have supported both recurrent and especially development expenditures (IntWB1; IntGIZ2; IntKfW1). The WSTF, for instance, has been funded to a great extent by donors (IntWSTF2). This dependence was acknowledged and recognised as unsustainable by national and local governments (IntGov6). Furthermore, the gradual donor exit and shifts in government and donor policy (government as regulator and facilitator, donors as deriskers) have accelerated efforts to find 'alternative financing' (IntWASREB1; cf. NoteWS1) models. Nevertheless, public funding through grants, subsidies, or concessional loans has remained critical, especially for WASCOs operating in rural areas and for development of regional large-scale infrastructure.[50] The Government of Kenya therefore continues to receive or express interest in external finance (IntWWDA1; IntAFD1).

[50]World Bank (2015:2) lists several external loans and grants, including from the African Development Bank (AfDB), World Bank, European Investment Bank (EIB), International Development Association (IDA), Agence Française de Développement (AFD), Kreditanstalt für Wiederaufbau (KfW), Swedish International Development Cooperation Agency (Sida), Japan International Cooperation Agency (JICA), the Dutch government, and the European Union (EU), stating that 'this low-cost funding is critical for the development of capital-intensive infrastructure assets and is essential to utilities aiming to strengthen their operating and financial performance in order to access commercial finance at a later date.'

Such external finance typically enters the sector through the national government and in case of concessional loans with full sovereign guarantees, i.e. as a national state liability with full repayment obligation by the National Treasury. Funds are mainly forwarded to WWDAs (former WSBs) that are responsible for regional large-scale infrastructure development. The French development agency AFD, for instance, has financed water infrastructure in this way since 1997 (mainly in Nairobi, Mombasa, and Kisumu through respective WWDAs). An AFD official explained that these loans have been guaranteed and serviced by the National Treasury irrespective of any repayments by the final recipient, and that AFD had little influence over terms and conditions of loans (or grants) extended to these final recipients by the treasury (IntAFD1; cf. IntConsult1). Given Kenya's debt levels and ceilings imposed by parliament, the National Treasury has been slower in approving guarantees for external loans lately, despite demand and fully prepared projects (IntCMA1; IntAFD1). Furthermore, WWDAs have experienced repayment problems since they cannot easily charge WASCOs 'administration fees' any longer, which were used to recoup borrowing costs in the past when WASCOs were agents of WSBs. This has begun to "trickle up" to an external debt crisis as loan grace periods and moratoriums end, and repayments that are insufficiently backed by WASCOs' revenues but guaranteed by the National Treasury become due (IntWSTF4).[51]

Public national, sub-national, and external financing (through grants or loans) will probably continue to play a role for some time given the limited ability of many WASCOs to pay for loans (IntKfW1; IntAFD1), and generally WASCOs' capacity and commitment issues revealed by commercial financing trials.[52] At the same time, "alternative financing" has been widely promoted, and AFD is one of a few remaining donors that engage in traditional development finance. World Bank, EU, KfW, and other bi-lateral donors have begun to "blend" their contributions OBA or AoD, see 4.3.3 below), or to use them to de-risk initiatives such as the KPWF (see 4.3.4 below). This concurrence of traditional and "alternative" financing approaches is considered transitional: concessional money continues to support, first, the development of infrastructure that remains unfeasible to finance commercially for now,[53] and, second, the transformation of WASCOs to make them and their projects "bankable" (see chapter 5).[54] Traditional financing, then, aims to retain equitable outcomes and popular

[51]This is allegedly also claimed by an undisclosed study supported by the World Bank that identified substantial debt in the sector that is currently not recouped by the National Treasury (cf. IntWB2a; IntWB2b). A financing expert in KfW's office in Nairobi expressed this bluntly: 'National Treasury is repaying all the loans, it's only one company that pays, Nyeri' (IntKfW1).

[52]Water supply and sanitation has also been a prominent part of Kenya's Vision 2030 under its social pillar (Government of Kenya 2007), and the water sector is expected to continue to attract concessional loans even under increased external debt pressure (IntAFD1).

[53]Virtually all donors have called for such coordination and allocation of concessional monies to projects that cannot be commercially financed through a national finance policy (IntKPWF1; IntUSAID1; IntUSAID2; IntNL1; IntSE1; IntAFD1), especially since – paradoxically – donors tend to fund precisely those top-performing WASCOs that could also finance projects commercially (IntWASCO5; IntUSAID1). See section 6.1.3.2.

[54]This is a transition for donors, too, who aim to make their loans more efficient. KfW, for instance, aims to move away from 'build-neglect-rebuild' by rethinking their loans and making use of, for instance, results-based financing models (IntGIZ4).

support during the transition, support the "turn around" of currently unbankable WASCOs to make them viable candidates for the *debt emitter* position, and demonstrate to commercial lenders that WASCOs have serviced (restructured treasury) loans before. The "legacy model" of traditional funding, in other words, has been aligned with and incorporated into the commercial financing agenda.

4.3.2 'Proof of concept': (micro-)financing community projects

Commercial finance entered Kenya's water sector first through small-scale projects of community-based organisations (CBOs). The approach was pioneered by the World Bank in 2007 and aimed to incentivise 'rural and peri-urban communities [...] to access loan finance to rehabilitate and expand small piped-water systems' (World Bank 2015:2), filling in for mandated WASCOs that lacked the 'financial capacity to extend services to these communities' (IntWB3).[55] The World Bank convinced the Ministry to allow WSBs to issue Service Provision Agreements not only to WASCOs but also CBOs, which enabled them to 'develop water infrastructure, provide the service, collect revenues, and [...] operate and maintain the infrastructure' (IntWB3). The programme then identified communities that 'had the potential to cover O&M costs and partially repay loans' (World Bank 2015:2), and facilitated project financing by a commercial bank through subsidies and technical assistance. Communities contributed 20% equity, borrowed the remaining 80% from K-Rep bank (now Sidian Bank), and repaid these loans over 'five years through [...] revenues [generated] from water sales' (World Bank 2015:2). The World Bank supported this by awarding up to half of the loan (40% of total project costs) to 'communities that successfully implemented sub-projects' (World Bank 2015:2),[56] and by providing technical assistance, which included 'engineering aspects', 'consulting on the environmental and social aspects', and preparing project documentations (IntWB3). At the same time, commercial banks were helped to assess these project documentations and evaluate projects' viability (IntWB3).

The World Bank had difficulties to identify and enrol eligible communities, however. The Managing Director (MD) of EWASCO, which looked for ways to finance infrastructure development at the time, heard about the programme and difficulties, and found it 'awkward' since it targeted communities instead of WASCOs, which actually had experience in project implementation and management (IntWASCO4). Convinced that 'the community was not the right vehicle' but WASCOs were, the MD approached the World Bank and suggested to

[55]One eligibility criteria for the programme was that the community/area needed to be included in the MajiData database, a UN and GIZ supported effort that mapped under-served and 'pro-poor' areas.

[56]USAID provided a guarantee for the 40% of the loan that were not paid for by the World Bank subsidy, effectively furnishing K-Rep bank with near zero risk (IntBank1). The results-based financing programme, which was later also supported by the EU, disbursed USD 2.8 million in 'output-based grants' to 35 communities that 'had borrowed USD 3.4 million from K-Rep Bank [and] raised USD 1.2 million of equity' (World Bank 2015:2). It has been considered a success by the World Bank (stating 'economic benefits of USD 4 to USD 5' for every US dollar invested), although a bank employee remembered that three projects had difficulties: whereas one struggled with a muddy well, two had 'issues of governance' (IntBank1).

'modify the arrangement [and] give the money [to] the community [but] let the water service provider be contracted by the community [...] to do the works for them and to manage it for them' – noting that 'no matter how poor the service provider is managed, it's better managing that service than the community' (IntWASCO4). The World Bank was open to this, and EWASCO met 'for over a year with their lawyers' until eventually the World Bank 'adopted what we were saying' and EWASCO implemented a Ksh 25 million project with a community[57] under the scheme (IntWASCO4).[58] To the World Bank, it 'made sense' (IntWB3): EWASCO was able and willing to repay and could guarantee that the community would be the sole beneficiary. In a key moment for bringing commercial finance to the sector, the World Bank then approved WASCOs participation in the programme for area- and community-specific projects[59] since they fulfilled all requirements (IntWB3).[60]

In many ways this programme was a crucial step in opening up the sector to commercial financing.[61] First, it was a 'good learning step for the [World] Bank' since the small scale made innovation possible: 'it's easier to start on a smaller scale where you can learn your lessons, cut your teeth, get to deal with any challenges [...] before scaling it up' (IntWB3). Second, it introduced communities and banks (albeit only one) to each other, and exposed them to the idea of commercially financing water projects. This introduced the so-called "social connection policy", which recoups costs of financing through instalments added to the water bill (IntUNH3; IntWB3). Additionally, it introduced as 'one of the early stage wins' (IntWB3) cash flow based lending (instead of collateral based). The World Bank technically assisted banks in understanding and assessing the 'projected cash flows', which helped

[57] 'We were able to implement it on time. Actually, the consultant, who was employed to do the design, did a very bad job, we rejected. So finally we did the design ourselves. But we implemented it together with the community. And, of course, within the time, [so] the community got the subsidy. [...] And the community went on getting water' (IntWASCO4). EWASCO also added some additional funds to slightly extend the project beyond the community that the World Bank supported.

[58] According to a World Bank officer, EWASCO initiated the borrowing: 'So the utility, Embu, came to us and said, we know you have a programme that [...] provides commercial financing to community-based organisations. We have a community in Kiambui that doesn't have the requisite funding, but there is willingness and there is demand for the service. So what we're going to do, we as a utility are going to take up this loan, and the funding that is going to be [...] received under the commercial financing is going to be dedicated solely to that community' (IntWB3). A similar development happened in Kisumu: 'Kisumu also scaled it up, there was a slum [...] just next to Kisumu town, whereby, I mean, there was need, and the utility did not have the financing to sort of, you know, extend the infrastructure to these people. So the utility applied for the loan on their behalf' (IntWB3).

[59] This was checked in ex-ante and ex-post studies. Utilities were 'only allowed to borrow to develop infrastructure in pro-poor areas', as mapped by MajiData.

[60] Eventually, the programme was upscaled to the World Bank's OBA and KfW's AoD programmes (see section 4.3.3). EWASCO's MD remembered that 'the World Bank felt it was a good thing, [and that] it could be upscaled. And [the] Germans [KfW] heard of it; in fact, I remember somebody from Germany came here, they took it up faster than the World Bank' (IntWASCO4).

[61] A similar programme by Water.org predated the World Bank's one. In a microfinance programme from 2005, Water.org started channelling USAID money to NGOs that on-lent to communities. However, this programme, which was 100% repayable, had difficulties with repayment since NGOs were known for aid (IntKWAHO3). When the World Bank set up their programme, Water.org was 'part of the discussions', the two organisations shared 'notes', and Water.org staff moved to work with the World Bank (IntKWAHO3). Water.org later, in 2010, began to work with the MasterCard Foundation and NGOs, where the former provided microfinance and the latter '[mobilised] the people' (IntKWAHO3).

them 'to see the numbers and understand how they were going to recoup their loans' (IntWB3). This clearly worked for the commercial bank. A bank employee stated that 'out of that [programme] everyone now appreciated, this is a sector, which we can still continue funding, whether we are partners [of the World Bank] or not' (IntBank1). This is important: banks, overall, have created so-called facilities for CBOs or saving groups to commercially finance small-scale water projects or for instance bulk purchases of water tanks (IntBank4; cf. IntWWDA2; cf. IntNGO2).[62]

Third, the World Bank managed to establish a proof of concept and set a precedent that paved the way for subsequent approaches that targeted WASCOs and marked the 'beginning of commercial finance in the water sector' (IntWB3). This was, according to the World Bank official, an 'intentional strategy' (IntWB3; cf. IntSNV1) that was 'informed by previous knowledge of [...] innovating models into the market': 'the strategy at that particular point was to simply develop a proof of concept [...] that would be taken up by the government' because they saw it working (IntWB3).[63] Importantly, the success of the programme generated demand from (organised and unorganised) communities and WASCOs, which strengthened the World Bank's position in their efforts to convince the government of commercial financing. The government had been still divided at this point: the Principal Secretary (PS) was 'very resistant' and believed that commercial financing 'was not a route to go' in the water sector (IntWASCO4). The Director of Water at the Ministry, by contrast, was more supportive and pointed out that communities were only introduced to the availability of such facility (cf. IntWASREB1).[64]

Two aspects innovated and introduced by this initial commercial financing programme are noteworthy, particularly with regard to the OBA and AoD programmes, or the KPWF initiative, that followed. First, the programme effectively introduced ring-fenced collection of cost-recovering user charges as well as loan repayment on the project level since these loans,

[62] Several donor initiatives also continued to work with small-scale water service providers (often just referred to as small and medium-sized enterprises, SMEs). One is Aqua for All (IntNGO4), another USAID's KIWASH programme that has 'figured out how to make it work with banks' and 'actually been able to get commercial loans to what we call WASH enterprises' (IntUSAID6). Moreover, impact investors like Take-a-Stake fund have begun to partner with commercial banks to lend to communities, saving circles, and households (IntFin1). Generally, a former USAID SUWASA project team member said, banks should engage more with water enterprises (SMEs), instead of only utilities (IntUSAID5).

[63] 'It makes it easier to have a similar discussion, I mean in terms of scaling up, with the government [...] because you really have a proof of concept. You're not coming in to present something that is on paper, you're actually coming in to present something that is being implemented somewhere'. Which is crucial, because 'you can only explain, you can hold so many workshops, prepare so many PowerPoint presentations, draw so many models, but the ultimate point of understanding is when they see it working, you know, when they actually see being implemented'. He added: 'So that's the natural side of things, because we had a proof of concept that was easy now to scale up, because the model was easily understood by all the stakeholders, be it from the Ministry, be it from the water utility, be it from the consumer, be it from the commercial banks. Everyone had something to see' (IntWB3).

[64] Eventually, the government agreed to a continuation of the programme with WASCOs (see next section). This was strongly promoted by the World Bank but crucially also strongly underpinned by demand from WASCOs such as EWASCO that could even demonstrate that they had already (successfully) borrowed on behalf of communities.

even when managed by WASCOs, exclusively targeted specific communities and their projects (and could not be used for anything else). The justification for this was the World Bank's subsidy. Linking it to commercial borrowing for specific projects, however, not only tied the World Bank grant to this particular community but also ring-fenced the cost of finance to it.[65] Second, the subsidy effectively came in as a reward. Although the World Bank also offered technical assistance to communities, the CBOs essentially needed to demonstrate their project implementation and management abilities *before* they could access the subsidy since the subsidy was conditional on successful project implementation (so-called "output-based" or "results-based"). In other words, the programme incentivised and rewarded 'owning one's problem' (IntWASREB1), borrowing commercially, and adopting practices that guaranteed repayment such as cost recovery through user charges and stable governance and management of projects.

4.3.3 Scaling up: introducing commercial finance to WASCOs

After the successful participation of WASCOs on behalf of communities, the World Bank attempted to upscale the programme and work with WASCOs instead of CBOs. Water tariffs had just been adjusted in 2009, and working with WASCOs provided an opportunity to increase impact through 'bigger loans for big infrastructure projects for more people' (IntWB3; cf. IntUSAID6). Whereas the World Bank was 'strongly pushing it' (IntWASREB2) and 'four utilities [...] received term sheets from a local commercial bank' (World Bank 2015:2), the attempt failed, however, for mainly two reasons. First, as EWASCO's MD noted, the costs of finance and required guarantees were a barrier (which led EWASCO to eventually approach the IFC instead).[66] Second, the devolution and related uncertainty 'over asset ownership' (World Bank 2015:2) made transactions difficult. A WASREB official remembered that 'because of the policy and legal issues, it became clear that the utilities could not directly access commercial financing from a commercial bank' (IntWASREB2). EWASCO's MD added that

[65]The precise financing arrangement in case of WASCOs borrowing on behalf of communities would need further investigation; it remains unclear whether the community actually collected user charges to repay the loan, or whether this was also done by, for instance, EWASCO, i.e. the utility collected on behalf of the community and serviced the loans. The latter was indicated by a World Bank officer (IntWB3). In either case, loan (repayment) and subsidy seemed to have been clearly separated from other water users served by the respective WSP. This was achieved through the so-called 'social connection policy' that transferred additional project related costs to associated communities, who otherwise were charged the same tariff as other water users (IntWB3).

[66]According to a World Bank note, Embu was one of the four utilities that 'received term sheets from a local commercial bank' and that 'loans required a 50 percent partial credit guarantee from Gurantco, a company that helps overcome constraints in the supply of local currency debt finance for infrastructure, which had appraised the projects and offered to negotiate a guarantee' (World Bank 2015:2). The premium charged for this guarantee increased financing costs, and EWASCO and World Bank agreed that this was too expensive. The World Bank suggested IFC financing instead [EBF3]. The IFC showed further interest in the sector, but never got engaged because of the sector's governance structure and poor performance (IntWASCO4; IntWB1; IntIFC1). Still, the IFC may be indirectly involved in financing Kenya's water sector: Sidian Bank, for instance, borrows internationally from *inter alia* the IFC and then makes these funds available to the water sector through their commercial loan facility.

> The [World Bank] was not very sure how the devolved units [county governments] would treat water [companies]. Would they allow them to go and operate independently? Because if they [did not], the inefficiencies that [accrued] to their governance then will be passed on to the water utilities. Meaning, you may have been viable today, but tomorrow you [are] not because of that interference. So the World Bank shied away from it.[67]

Instead, the World Bank, together with WASREB, changed their course and began to work with banks. Over the course of 'a lot of meetings', they now focused their efforts on 'enticing the lenders to the sector' (IntWASREB2), and demonstrating the ability of utilities to repay loans to commercial banks. Part of this effort was an arduous 'shadow credit rating' in 2011, which comprehensively (quantitatively and qualitatively) assessed the creditworthiness of 43 WASCOs (Gakubia et al. 2015). A simplified yet automated creditworthiness index (CWI) has since been calculated annually and published in the Impact reports (WASREB 2021).[68] This CWI has become a key effort by WASREB to increase the readability of the sector for lenders, and provide a quick overview of the readiness of the sector as a whole and individual WASCOs to borrow commercially (see also section 6.1.2.2). Another effort was the development of two toolkits, one for WASCOs 'interested in commercial borrowing [… to help them] strengthen financial management, project modeling, and business plan writing', and one for lenders to help them 'improve their knowledge of operations and risks in the water sector, conduct utility credit analyses, assess legal issues, and develop appraisal guidelines and loan structures' (World Bank 2015:3; WSP 2015b,c; cf. WSP 2015a). Overall, this work and the OBA and AoD programmes were based on the belief that 'market penetration is the first step', and that banks' engagement should be made 'as easy as possible' (IntUSAID6) – which required, first and foremost, a subsidy (IntBank2; IntBank4).

In 2012, however, the WSTF began operating two results-based financing programmes, which offered post-implementation grants to projects by urban WASCOs that were initially commercially financed by a local bank (IntWSTF2). One of these was the World Bank's 'Output-based Aid' (OBA) programme, which was similar in many ways to the Bank's earlier programme for CBOs, but now targeted WASCOs. The other one has been KfW's 'Aid on Delivery' (AoD) programme.[69] Both were initiated externally, but run by WSTF

[67]EWASCO's borrowing, however, had established a precedent that paved the way for other utilities and encouraged them, and put pressure on the government to work on reforms that enabled commercial financing (IntSNV1).

[68]The World Bank had contracted Ernst & Young to develop an 'Excel template', which served as basis for the creditworthiness index that has since been prepared 'internally' by WASREB (IntWASREB2). WASREB's CEO wrote in 2015: 'The Creditworthiness Index provides a simplified snap-shot of the financial and operational performance of WSPs in lieu of performing full shadow credit ratings analysis, which is more thorough but time consuming and expensive. The Creditworthiness Index is automated and calculated from data collected by WASREB. […] The trade off of this automation is that qualitative analysis normally performed in detailed shadow credit rating is omitted' (Gakubia et al. 2015:iv).

[69]WSTF received grant funding of USD 11.835 million for OBA from Sida through the World Bank, and EUR 1.36 million plus EUR 2.6 million for AoD through KfW (WSTF 2020). The two are very similar, and both target 'Kenyan towns and cities except Nairobi' (WSTF 2016:19). AoD, however, has offered a slightly lower subsidy (50% instead of OBA's 60%), required 20% equity from WASCOs, and has an emphasis on outcomes (compared to OBA's focus on outputs), for instance a 'higher volume water reaching final consumers, an increase

(IntWSTF1). As a continuation (of sorts) of the community programme, setting up OBA and AoD was 'simple': political push-back was 'short-lived', WASCOs already understood the model and how banks work, and they had already established 'rapport' with banks (IntWB3). Joining the new programmes therefore was 'as simple as going for a top-up loan': 'you've been pre-qualified before, so you're just coming back for a larger facility' (IntWB3; cf. IntWASCO4). In a presentation about the programmes in 2021, a WSTF official listed 9 projects of 8 WASCOs that were financed by three commercial banks (Sidian Bank, Family Bank, and Co-op Bank) for a total of Ksh 1,278 million, including water pipes, tanks, kiosks, pumping stations, last mile connections, and ponds and sedimentation tanks.[70] The OBA programme ended in 2020, after raising 'about 25 million dollars' with WASCOs (up from two million with communities).[71]

The main goal of the programmes has not been to (durably) finance the sector, but to transition the sector to commercial financing. The OBA programme was described as a 'precursor' to the World Banks 'Maximizing Finance for Development' (MFD), and a 'proof of concept' that is often referenced as one of the initial MFD initiatives (IntWB3).[72] Seeing an 'opportunity' in the water sector for commercial financing, the World Bank began to (attempt to) build durable relationships between WASCOs and commercial banks with the OBA programme. This was based on an initial study by PPIAF, which found that WASCOs and banks did not know each other, that banks did not 'see the opportunity' and 'know how to engage' or 'assess the risk', and that WASCOs were not ready 'in terms of their finances, in terms of their collection of revenues, and provisioning [of] services' (IntWB3). So OBA, apart from supporting the financing of WASCOs through the subsidy, was designed to bring WASCOs and banks together and 'address and close' gaps in the normative environment (IntWB3). A WSTF official acknowledged that '[OBA and AoD are] temporal, this is simply meant to introduce, to link [a WASCO] to someone with access [to] funds' (IntWSTF3). Two key goals, then, define the programmes. First, to demonstrate the feasibility of commercial financing by facilitating transactions and establishing a 'proof of concept'. And second, to build rela-

in revenue, [or] a reduction in non-revenue water (NRW)' (World Bank 2015:3). Klingebiel (2012) cites internal memos exchanged between KfW and the German Ministry BMZ that suggest that AoD dates back to 2010, and EWASCO's MD remembered that AoD started slightly earlier (IntWASCO4).

[70]This seemed to be a selection of both OBA and AoD projects. According to a World Bank official, 11 projects alone were finished under the OBA programme when it ended in 2020.

[71]The hope has been that another programme, ideally by the government, could take this further, given that the World Bank has a 'pipeline of about 100 million dollars' (IntWB2a). The Ministry of Water has considered this, once they '[understood] the lessons' of the WSTF/World Bank programme: 'then from there [we can] be able to pilot, based on this, to develop a new programme' that would 'enable [WSPs] to move to commercial finance' (IntGov2b). Furthermore, initiatives such as the KPWF (see next section) have been regarded follow-ups (of sorts). They are said to have only been possible due to the OBA/AoD programmes, being 'interested in the water sector purely based on the success' of OBA and AoD (IntWB3).

[72]'The OBA itself is a precursor for it. Because [with] MFD […] the question that we should ask ourselves when we invest in some ways, one, is there private sector interest? And if the answer is yes, then what can the Bank do to catalyse it? […] If the [… answer is] no, MFD then asks a follow-up question […], what can we do as a Bank to bring in private sector interests? […] And this is what we're doing, this is what OBA, and that's why I'm saying OBA is a precursor for the MFD approach' (IntWB3).

tionships between WASCOs and commercial lenders, and establish them as the 'way to go' for sector financing (IntWSTF1; IntWSTF3).

This required some work,[73] especially in regard to sensitising banks and sharing knowledge with them (IntWSTF1). Building on the community programme, which had already established commercial pre-financing and post-implementation subsidies and a 'revenue-backed loan structure' (World Bank 2015), the approach was adjusted to further 'comfort' and 'calm' banks. First, subsidy disbursement was changed: instead of a 10%/40%/50% (after contract signing, completion of works, confirmed connection of users) split,[74] the subsidy was disbursed in a 10%/65%/25% split to account for 'large infrastructure works' that 'take a lot of time' and are a 'huge financial burden for the utilities'. Importantly, however, it also helped the banks to 'see the subsidy is coming in after a long period of [loan] disbursing' (IntWB3). Second, loans were disbursed on a 'drawdown basis' when needed and requested (IntWSTF1) instead of immediately in full after contract signing. This further restricted use of funds to the project,[75] and reduced loan costs for WASCOs since interest only accrued from actual disbursement. Third, these requests for loan disbursements were tied to 'interim payment certificates' (IPCs), which needed to be raised by a contractor and verified by the respective WASCO, lending bank, and WSTF engineers before the bank would pay the contractor.[76] This enabled WSTF (and lending banks) to monitor and control progress and implementation pace,[77] and helped banks to learn about and better understand water projects.[78]

Furthermore, repayment was secured through the establishment of escrow accounts, to which WASCOs could only transfer but not withdraw from.[79] WASCOs were required to daily transfer certain amounts from their current accounts to these escrow accounts to secure loan

[73] 'We all agree it has been, in fact our experience was really tough at the beginning. The commercial banks did not understand water, what it meant to finance the water sector. Because they were used to energy and the conventional systems' (IntWSTF1).

[74] This is based on the recollection of the initial programme by a World Bank officer (IntWB3). While confident about a change in the subsidy disbursement structure between the programmes, this account remained vague and unconfident about the precise numbers of the initial programme.

[75] '[…] because here, typically, if you give a company money, it has 200 million, it will not go to the project, perhaps even salaries of the employees may be paid' (IntWSTF1).

[76] As a first step, the contracted company that implemented the project would be assessed in regard to their ability 'to raise […] their own capital and implement the project to a certain milestone'. Once the contractor requested payment through an IPC, engineers from the contractor, WASCO, and WSTF, accompanied by lending bank staff, would inspect progress and execution of works through site visits (including checks of materials) and, if satisfied, approve the payment by the bank (IntWSTF1; cf. IntWSTF2).

[77] 'So every time a contractor raises an IPC, the bank checks, and then the bank follows up. If they are comfortable, they release the funds. So that way we have seen all projects following the designs, as well as the pace of the OBA project'. The progress checks are not merely verification, but also influence works: 'We will tell them we have 3 years for this, you're moving slow, you have to increase the pace. We push the contractor. And to me, that's [been] very successful' (IntWSTF3).

[78] 'We go to the field together, you know, most of these guys [bank staff] are, have financial backgrounds, few are engineers, so when they go to the ground we tell them, this is a pipeline, this is how it's laid, you know. So they are able to follow. But not in terms of the technical part of it, but just to see how things are done and if their money, whatever is disbursed, is actually going into the project' (IntWSTF3; cf. IntWB2a).

[79] In total, three bank accounts would be opened with the commercial bank for projects: a loan account, a 'new current account, where [the WASCO] transacts', and the escrow account.

payments at the end of the month.[80] Since this process started 'from day one' (IntWSTF3) when signing the loan agreement, any due repayment was secured by already accumulated funds in the escrow account. Together with the oversight offered by IPCs, this provided banks with substantial security: 'So banks are really, really interested in the escrow account, and also the release of loans based on IPCs. And to date we have not seen even one project defaulting on its monthly payments. Because money is already sitting in the escrow account' (IntWSTF3). This is in addition to the (conditional) subsidy paid by World Bank and KfW – OBA pays 60% of total project costs, AoD 50% – and a USAID DCA (cf. USAID 2018) guarantee on 50% of principal and interest.[81] Given these credit enhancements (subsidies[82] and DCA guarantee), commercial banks were 'left with 20% as their residual risk', which, together with delayed disbursement, IPCs, and escrow accounts, furnished banks with 'very minimal' risk (IntWSTF3). Loans were so safe that they were often repaid faster: EWASCO, for instance, repaid an AoD loan in two instead of the negotiated five years.

A World Bank official described commercial financing, including the OBA and AoD programmes, as 'quite a successful approach in the Kenyan water sector for the last 10-15 years' and even a 'huge success' (IntWB3).[83] This evaluation was shared by many in the sector, including the WSTF (IntWSTF1; IntWSTF2), and WASCOs have been eager to apply given the substantial subsidy and potential of transforming service delivery (IntWASCO1) – EWASCO even financed through AoD and OBA (IntWSTF2).[84] It also inspired others to set up similar programmes,[85] and established relationships between banks and WASCOs outside of the programme (IntBank3). Importantly, the programmes tested and contributed to solidifying institutional change (such as revenue ring-fencing), showed commercial banks the potential of lending to WASCOs,[86] and demonstrated to WASCOs how '[keeping their] finances and

[80]As a WSTF official explained: 'we call it a daily build-up of funds. So daily they will be building money, from the current account to the escrow account. By the end of the month, on the 30th day, we should be having money enough to offset the monthly instalment' (IntWSTF3).

[81]Since 2009, USAID's SUWASA programme had also been running, which provided technical assistance to WASCOs and prepared projects for financing, including OBA and AoD (IntUSAID4).

[82]The subsidy payment is reserved for loan repayment and 'may be swept into WSP loan account to pay down part of the loan' (WSTF 2018a:5).

[83]Although OBA and AoD, for instance, fell short of reaching beneficiaries and loan volume targets. According to a WSTF overview, the programme led to Ksh 1.3 billion (approx. USD 11.5 million) borrowed, about USD 4 million short of earlier estimates of USD 16 million (World Bank 2015:3). Still, project sizes increased considerably, ranging from Ksh 18 million to Ksh 450 million (the majority around Ksh 100 million), and implemented projects connected almost 7000 households to the water and almost 8000 to the sanitation network. By 2020, the programme had reached 43,733 (out of 120,000 targeted) 'primary beneficiaries' (WSTF 2020). During the programme period, requirements and challenges changed: environmental and social safeguards (e.g. displacements) as well as due diligence (e.g. procurement issues) became much more important (IntWB3).

[84]Whereas some stressed how the subsidy helped 'in doing individual connections' (IntWASCO7), NYEWASCO noted the transitional nature of OBA or AoD, and suggested to look at commercial financing 'as an attractive form of financing [not only] because of the subsidy element' (IntWASCO5).

[85]Oxfam, for instance, launches an 'outcomes fund' (with Turkana as pilot) that mimics OBA/AoD (IntNGO3). Furthermore, Water.org, which had already been in contact with the World Bank, went through a similar process to upscale their micro-finance programme. Water.org worked with utilities, and Equity Bank and Family Bank (which were interested in the water sector because of Water.org, IntBank2), but could not offer a guarantee. Eventually, Water.org connected with the OBA programme (IntKWAHO3)

[86]Most bigger commercial banks have continued to offer special facilities for WASCOs, some even facilities

operations in order' opened up commercial finance to them (IntWB3; cf. IntSida1). For the World Bank, it was a 'double win':

> One, you're using only 60% of what would have been 100% grant funding. Two, you're almost guaranteed of results because this is output based aid. It's a motivation, you are dangling the carrot. So everyone is motivated, and instances of misappropriation of funds, lack of delivery of outputs, have been [...] very, very rare in this kind of approach (IntWB3).[87]

In sum, these programmes (OBA, AoD, and the community-targeting predecessor) have created and trialled a 'proof of concept', and, crucially, established broader endorsement of positioning WASCOs as debt emitters.[88] Few in the sector remain unconvinced of, or reject, the idea that "alternative finance" is a precondition for achieving sector goals, despite continuing challenges in scaling commercial financing approaches, especially without such generous credit enhancements (see chapters 5 and 6, which look at various efforts to build capacities and commitment of WASCOs to borrow even without subsidies). After years of 'much work' (IntKfW1) by World Bank, KfW, WSTF, WASREB, and later also Ministry (IntWSTF2),[89] these efforts showed an effect: since 'around 2014/2015', a World Bank official noted, 'we started seeing this general trend of moving the sector towards commercial finance' (IntWB1).

4.3.4 Big money: tapping the capital market

An important initiative in this 'trend of moving the sector towards commercial finance' has been the Dutch-initiated and funded Kenya Pooled Water Fund (KPWF). The key idea behind the KPWF is to raise capital not from commercial banks but financial markets, which allow for larger volumes, longer tenors, and (potentially) cheaper rates of loans (IntWFF1; IntKPWF2; IntKPWF4), to "fill the finance gap" in Kenya's water sector. Work on this idea had started during the Millennium Development Goals process in the United Nations Secretary-Generals' Advisory Board on Water & Sanitation (UNSGAB). Willem-Alexander, who chaired the group from 2006 until his accession to the throne as King of the Netherlands, attempted to advance the group's financing agenda as specified in the first Hashimoto Ac-

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for communities (IntBank1; IntBank2; IntBank3; IntBank4). This was temporarily halted by the government's introduction of a interest rate cap from 2016 until 2019 that made lending less profitable, however. Sidian Bank, for instance, stopped lending since it became unprofitable (IntBank1). Three banks also applied for and were approved by the DCA. Since DCA's guarantee mechanism is not tied to specific projects but instead to lenders, this can enhance further transactions.

[87] The WSTF, too, believed the programme was a 'good practice' since it made WSPs approach commercial banks and repay 'the 40% plus interest', and because it demonstrated to banks and 'given [them] confidence that even water companies can get loans and pay back' (IntWSTF1).

[88] Whereas it has been widely regarded the 'way to go' (IntWSTF1; IntWSTF3), WASCOs have also less and less choice given the changing financing environment: 'commercial finance will pick up, there is no choice' (IntUSAID1). See also section 6.1.3.2.

[89] As well as, for instance, a UNSGAB mission that scoped the potential for capital market-based financing (IntWASCO4). See next section.

tion Plan (UNSGAB 2006). To support this, Richard Torkelson joined the UNSGAB,[90] who had previously worked at a Wall Street bank and later in the 1980s for US municipalities to support their move from federal grants to user fees-based bond financing to develop (water) infrastructure. The UNSGAB signed agreements with development banks that encouraged local currency and capital market financing, yet little happened (IntWFF3). Convinced of the necessity to develop capital markets to sustain infrastructure investments after donors left, however, Willem-Alexander, Torkelson, and Payen met with the World Bank to win the Bank's support (IntWFF3).

UNSGAB suggested studies, together with World Bank water sector staff, to look at the potential of capital markets in respective countries to finance their water sectors (IntWFF3). Two such studies followed: to Peru in 2009 (cf. Requena and French 2011) and Kenya in 2012. The latter, the mission to Kenya, occurred in parallel to the setup of World Bank's OBA programme, which had already worked with the government to enable commercial financing. The MD of EWASCO at the time remembered how 'eminent persons' visited the utility in Embu, the Nairobi Stock Exchange (NSE), and also 'sat with the Treasury' to 'convince the government they needed this additional income from that commercial sources' (IntWASCO4). The participation in these talks of EWASCO, which had already borrowed on behalf of communities (see above), helped to make a strong case that utilities like EWASCO 'can be able to do it' because they were 'already doing some of these things on the ground' (IntWASCO4). Despite earlier opposition to utilities borrowing commercially, the Principal Secretary for Water and Sanitation eventually agreed and 'said we can experiment' (IntWASCO4). UNSGAB therefore found the country's environment conducive (see also sections 4.1 and 4.2 above) and secured the World Bank's further support (IntWFF3).

Ultimately, the Netherlands committed (in front of the UN) to drive the capital market-based local currency financing agenda. In 2015, the Dutch government decided to implement a pilot and asked the Netherlands Water Partnership (NWP) to do a feasibility study. This confirmed earlier findings of the World Bank study, and in 2015/16, KIFFWA[91] was provided with fund-

[90]Torkelson was financed by existing board member Gérard Payen, former CEO of Suez/Lyonnaise des Eaux and president of the 'International Federation of Private Water Operators' AquaFed (IntWFF3)

[91]The Kenya Innovative Finance Facility for Water was established in 2013/14 by the Netherlands to support the Dutch government's "aid to trade" transition by facilitating private sector participation in the Kenyan water sector through de-risking financing transactions. The organisation has become an 'independent entity in Kenya' and 'fully transitioned from establishment to operational activities' (Mastenbroek 2022) in 2017, although the Dutch government remains 'still very very much engaged' through the NWP and by liaising with other donors and governments on behalf of the organisation (IntKIFFWA1). KIFFWA works to 'break down [the] barriers' that have prohibited private sector participation and trade, namely water being considered a social good and constitutional right, investors not understanding water, and the unfavourable risk/return ratio (IntKIFFWA1). This takes the form of a 'convertible grant instrument', which provides a 50% subsidy on project preparation that only needs to be repaid (in a one-off fee plus premium, or by being converted into shares or debt) if financial close is reached (IntKIFFWA1). KIFFWA's investment committee considers offering such de-risking to 'any water related' project (IntWFF4a), which includes hydro power, water transport, ports, irrigation, livestock, or water supply and sanitation projects, as long as it has a 'private angle' and is larger than USD 2 million (IntKIFFWA1). The KPWF was created as separate entity to focus on working with public utilities (and smaller financing). KIFFWA remains an investor in KPWF and hopes to recoup this investment after some bonds are issued (IntKIFFWA1).

ing from the Dutch Embassy[92] to set up an organisation that would finance WASCOs by raising capital from Kenya's capital market (IntWFF4a; IntKIFFWA1; IntKPWF4). Eventually, this became the KPWF, which was formed as a private non-profit entity since 'everyone advised against' the first ideas of using an existing government entity such as the WSTF (IntWFF3; IntKPWF4) or creating a public 'MajiBank' modelled after the Nederlandse Waterschapsbank (IntNL2; cf. IntWSTF2; IntWFF1; IntNL1).[93] As an independent organisation, KPWF facilitates commercial borrowing of public utilities (WASCOs) by pooling loans to issue local currency bonds similar to the US' municipal financing approach (IntWFF3; IntKPWF4). In 2016, a business plan was created (IntWFF4a), and shortly after KIFFWA sought a different organisation to take over management to improve the model (IntKIFFWA1). In parallel, the Dutch Ministry of Development Cooperation took interest in innovative financing and the KPWF, which seemed to deliver an exit strategy for the Dutch government from Kenya by leaving behind a 'sustainable financing mechanism' (IntKPWF3). Subsequently, the Water Finance Facility (WFF) was created and funded through Cardano Development (IntWFF4a; IntKIFFWA1; cf. Cardano 2019; Cardano Development 2019, 2018), which took over 50% of KPWF, became its manager, provided legal and general support to the KPWF, assisted the arranger (a commercial bank) and the CMA, and has since worked to scale the approach beyond Kenya (IntWFF2).[94]

KPWF has been imagined as a pilot and proof of concept (IntKIFFWA1) similar to the World Bank's OBA programme, which was praised by the WFF team as paving the way (IntWFF1; IntKPWF1). KPWF took over some approaches, which were pioneered by the OBA and AoD programmes and have since become well understood by utilities, such as escrow accounts, the social connection policy, or interim payment certificates (IntKPWF2). The initiative crucially differs in its approach to commercial financing and its setup, however. First, the KPWF attempts to raise capital through bond issuances. Second, despite its ties to the Netherlands (through KIFFWA, WFF, NWP) and the Dutch government (and other donors), it was set up as independent entity and 'as local as possible', relying on Kenyan regulations and jurisdiction as much as possible (IntWFF2). This has been part of the deliberate attempt to create a 'temporary vehicle to introduce [the approach] to Kenya' and inspire others to take it up or replicate it (IntWFF1). A central goal of the KPWF, in other words, has been to demonstrate feasibility (and potentially profitability) of a reference implementation of capital market-based infrastructure financing, including its self-reliance by charging borrowing utilities a premium over the costs of the bond to cover administrative costs (IntKPWF4). As the initiative's CEO phrased it: the KPWF has been a policy experiment that tests the

[92]The Dutch ambassador to Kenya used the Embassy's 'aid money and instead of using it for grants and loans put it into an entity to capitalise commercial financing for Kenya, for the water sector' (IntWFF3).

[93]The WSTF still considers becoming a "MajiBank" and reduce dependency on donors through a revolving fund housed by the organisation (IntWSTF2).

[94]For instance to Indonesia (IntWFF4a), but also other countries (IntWFF1; IntWFF2).

readiness of the sector and aims at effecting a 'refined policy environment' (IntKPWF1).[95]

This approach has been promoted for several reasons. First, the UNSGAB process that led to it had looked at US municipal bond financing as example for commercially financing water sectors. Second, capital markets have been regarded as vast reservoirs of finance that merely need 'unlocking' and 'tapping into'. Third, it matched the Dutch "aid to trade" agenda at the time, which focused on promoting private sector participation to increase trade (with the Netherlands). Fourth, the Dutch, like other donors leaving the Kenyan water sector and driven by a need to innovate new approaches, have found the KPWF to not only fill a financing gap (created by their and other donors' exit), but also a gap in approaches to financing. The approach of the KPWF to finance water sector investments, in other words, is new, both in Kenya and elsewhere, providing further opportunities to replicate the model. As KPWF staff described it, the organisation has learned from other donors, borrowed their support, and then distinguished itself from them (IntKPWF1).[96]

The initiative has established 'excellent relations' with WASREB and the capital market regulator, as well as utilities, investors, and donors (IntWFF1; IntWFF4a). These relations and the already existing supportive environment were described by KPWF staff as 'enabling' (IntKPWF2), singling out especially the 2016 Water Act (IntWFF1; IntWFF2) with its 'greater clarity' (IntKPWF1) and WASREB, which was regarded 'instrumental' (IntWFF2) and 'very supportive' (IntWFF4a). The main efforts of the KPWF have therefore been to trial the approach and adjust the environment (where still needed), to make it reproducible without donor funding, and to demonstrate to the water sector (Ministry, regulator, counties, WASCOs) and other donors that the approach can contribute to solving the sector's financing problem. Moreover, by adding a second (major) approach to commercially financing the sector, the initiative will add "resilience" and competition to commercial financing: WASCOs will have another option besides commercial banks, which can strengthen their negotiation position, lower costs, and keep a commercial financing source available even when banks stop lending (or vice versa).[97] Finally, the KPWF has contributed, through associated technical assistance to WASCOs shortlisted for bond issuances or by simply exposing them to the requirements, to the change in practices of WASCOs and WASCOs *qua* WSPs (further entrenching practices that had already been introduced by the OBA, AoD, or WASH-FIN programmes, see chapter 5), and further strengthened the norms and normative circles that endorse commercial financing of the sector (see chapter 6).

[95]This framing might also be (partly) shaped by KPWF's failure to issue bonds (see below). Data does not suggest this interpretation, however; it was also not further investigated during the study.

[96]Moreover, the KWPF was set up despite warnings of others, such as KfW (IntKfW1), that the sector is not yet ready for commercial financing, especially without credit enhancements.

[97]Banks expressed that whereas there is competition among commercial banks (IntBank2) they remain not concerned about competition from KPWF or water bonds for now (cf. IntSNV1). If these at some point became a competition, however, one bank noted that they could then simply invest in the bond (IntBank3) instead of lending directly.

4.3.4.1 Creating the pilot

Trialling and adjusting the environment has taken two steps. The WFF and KPWF teams asked WASREB to have tariffs track inflation (IntWFF3), and worked with the capital market regulator (CMA) on bond financing regulations (IntWFF2) and fitting a pooled financing structure into these regulations (IntWFF3) – the key innovation of KPWF. This included to first scope the potential of Kenya's capital market to absorb, and related regulations to permit, bonds that are issued by a private organisation[98] on behalf of WASCOs and that are backed by revenues generated from contractual payment obligations of water users. During the early scoping mission in 2012, the CMA confirmed to the UNSGAB team that revenue bonds and pooling were possible, but something new (IntWFF3). Since then, the WFF has therefore worked with the CMA on this 'first true local issuance other than the sovereign issuances that they had' (IntWFF2), and the CMA engaged the WFF and KPWF teams in the development of enabling regulation (IntCMA2).[99]

In 2017, CMA issued a policy guidance note on asset backed securities (ABS) 'to assist in allowing asset backed securities transactions to be brought forward for approval during an interim stage until the [Capital Markets] Act is amended and new regulations are introduced' (CMA 2017:5; cf. Republic of Kenya 2019). With the policy guidance note, the CMA proposed that so-called special purpose vehicles (SPVs), which issue the bonds, may either be a 'common law trust' or a 'company structure' under the Companies Act (and Insolvency Act),[100] These SPVs would need full and sole control over assets, would need to be credit rated and possibly supported by guarantees or credit enhancements, and would need to use any revenues generated by their assets to pay interest and principle of issued debt. Furthermore, these SPVs, into which 'assets are directly originated' (or sold to), are 'bankruptcy remote' and cannot be 'wound up' or dissolved (CMA 2017:17ff). In other words, the transfer of assets (such as loans to WASCOs or contractual payment obligations of water users) to SPVs occurs 'in a manner that cannot be challenged by e.g. creditors or shareholders of the seller' (CMA 2017:17ff). Such ABS structure has remained untested, however. The KPWF, which is set up around trust SPVs with WASCO loans as assets, has attempted to issue a bond, but has so far struggled to find capable or committed WASCOs that would borrow from the KPWF (see below).[101]

[98]In the case of KPWF. There has been a second initiative by several Kenyan cities to issue bonds on behalf of basic services providers. In that case it would be sub-sovereigns, either counties or municipalities.

[99]The initiative by Kenyan cities has similarly worked with CMA and the Nairobi Securities Exchange (NSE) to develop a mechanism to finance cities through the capital market (IntGov6). The CMA has since stated that its preferred framework for sub-sovereign (counties and possibly municipalities) capital raising through capital markets was asset securitisation, given that 'there were bankable projects within the counties even though they were on budget deficit' (IntCMA1). A former SUWASA expert, however, thought this was a 'hard lift' (IntUSAID5).

[100]The Capital Markets Act currently only permits a 'common law unincorporated trust'. Trust SPVs can issue ABS either as 'an equity (or beneficial) interest in the trust' or 'debt securities secured over the assets of the trust' (CMA 2017:15).

[101]Sub-sovereigns such as counties or municipalities could similarly issue bonds by transferring assets to SPVs. The CMA noted that this would be their preferred approach, instead of involving a private organisation such as

Notwithstanding its current non-success, the KPWF has developed a non-PPP (IntKPWF2) model that could, in principle, facilitate local capital market-based commercial financing of the almost exclusively publicly owned and operated water sector. This relies on pooling[102] together loans to several WASCOs as assets in an SPV to issue a bond at the Nairobi Securities Exchange (NSE) in Kenyan Shilling (IntKPWF3).[103] An SPV is created for each bond issuance, which is anticipated to eventually occur annually depending on the available pipeline and volume of "bankable" projects (IntKPWF2; IntKPWF4).[104] By purchasing the bond, in other words, investors fund a specially created trust, which then on-lends proceeds from this bond sale to several WASCOs for their projects included in the bond.[105] These loans are 'company loans' (instead of ring-fenced project financing), which means that 'it's not only the funds generated from the project that will [...] gain the assets to repay the investors' but the balance of the utility (IntWFF2). Loan terms are a tenor of 15 years (up to double what commercial banks offer, IntWASCO2), commercial market interest rates of 'around 15%' (IntWFF4a), and a grace period of 2 years on principle (IntWFF2). Contrary to OBA or AoD, the loan is fully disbursed to WASCOs at financial close (i.e. once the financing agreement is signed, IntKPWF2) and interest payments are due from day one. The additionally charged premium to cover administrative costs is kept to a minimum through pooling (IntKPWF2; IntKPWF4). Similar to OBA or AoD, funds will be held in escrow accounts and released based on achievement of milestones (IntKPWF2). A 'cash sweep mechanism' (from the general account to an escrow account) will ensure full and timely repayment of the trust and ultimately investors (IntWFF2).

To act as a 'bridge' (IntKPWF4) between public utilities and private investors, bonds are de-risked technically in several ways. First, KPWF has provided (through third parties) technical assistance such as project development support,[106] approval requirements preparation,

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the KPWF – work on such sub-national debt issuances, however, is still ongoing (IntCMA2) and a legal opinion by the Attorney General is still pending (IntCMA1). At the same time, such issuances face the problem that 'the status of the [existing] infrastructure [... is likely not creating] an excitement for potential investors' (IntCMA1).

[102]Pooling serves multiple purposes. Primarily, it creates larger transactions and thus makes it possible to finance relatively small last mile water projects in the first place (IntWFF3). It also helps to de-risk transactions by spreading credit risk (IntKPWF2), and helps to mix projects in ways that make the resulting bond attractive to a wide range of investors, including impact and green investors, by 'ticking [several] boxes' (IntKPWF3).

[103]KPWF has not planned to issue bonds in non-local currencies, but a CMA official noted that of course any investor, domestic or international, can buy those bonds (IntCMA1). These could be regular international investors (IntWFF2) or (international) impact investors (IntKIFFWA1).

[104]This has been described as a 'unique selling point' since the KPWF model offers WASCOs a more reliable and perpetual financing option, compared to less predictable government and ceasing donor funding (IntKPWF2; IntKPWF4).

[105]Related financing agreements are based on Loan Market Association (LMA) standards that had been translated into the Kenyan context, which are signed by the trustee on behalf of the trust and the utilities (IntWFF2).

[106]Project preparation has often been neither accounted for by WASCOs nor backed by necessary project preparation skills in utilities since it had historically been done by WSBs/WWDAs or donors, not utilities (IntWFF4b; IntKPWF1). The KPWF managed to get support from the Kenya Markets Trust (KMT) for project preparation and wants to establish a donor seed-funded revolving fund to pre-finance project preparation in the future (IntWFF4b). Ideally, projects preparation costs would be covered externally (e.g. through donors) to keep KPWF rates low (IntKPWF4).

or financial modelling (IntWFF1; cf. IntWASCO3a).[107] This has also included support in 'loan development' since 'some [… borrowers] are not really fit to borrow yet' as they do not fully understand 'the whole set of requirements that come with our kind of institutions or with the standards that the investors […] might expect' (IntWFF2). Working more holistically with utilities, for instance on good corporate governance or business practices (see chapter 5), however, has been largely left to other donors (IntWFF2), although governance has been a 'serious issue' (IntWFF4a) and major reason to prevent bond issuances.[108] Second, these governance issues have meant that the KPWF has required a cascade of commitments from utility managements and owners to guard transactions against political interference and comfort investors (IntKPWF2): WASCOs sign a letter of intent, which is confirmed by a letter of no-objection from counties, a resolution to borrow from WASCOs' boards, and a final letter of support from counties (IntKPWF3).[109] Third, utilities are expected to repay in nine instalments over a year, which accounts for seasonality (revenues may decline during the rainy season) and unexpected repayment difficulties (IntWFF2); investors are paid twice a year (IntKPWF2). These repayments are built up through (sometimes weekly or daily) cash sweeps to a special escrow account that is jointly managed and monitored by the WASCO and KPWF.[110] Fourth, pooling loans to different WASCOs further helps in dealing with payment delays (IntWFF2), and oversight over WASCOs extends to 'each and every cheque that is written' (IntKPWF1). The KPWF has a 'very very keen eye on what is happening' with regard to disbursements (IntKPWF4).

Furthermore, credit enhancements have been added to "comfort" investors and bridge any repayment delays.[111] These include a reserve fund, initially planned as a junior investment of the Kenyan government, as a first guarantee (IntWFF2; IntKPWF1; IntKPWF3).[112] Further guarantees come from Sida and USAID in form of a loan portfolio guarantee agreement (partial guarantee on principle) (IntKPWF1; IntKPWF2) and GuarantCo, a private guarantor,

[107]Financial modelling is based on a debt capacity assessment tool that takes a number of parameters as input to generate projections (IntKPWF3). This tool has also been shared with WASCOs and its operation explained to them, enabling utilities to create scenarios on their own. See sections 5.2.1 and 5.3.1.

[108]The project of Nairobi's WASCO, for instance, had to be removed from the pool because of governance issues (IntKPWF4). Generally, political non-interference has been regarded 'critical' (IntKPWF2) but rarely achieved, especially around elections (IntKIFFWA1). Nevertheless, the presence of WFF and KPWF has helped to '[put] a certain check on undue political influence' that is often difficult to resist for many WASCOs (IntWFF4b).

[109]Moreover, KPWF provides 'the option to go for [local] arbitration [… that is] in accordance with certain arbitration rules' (IntWFF2).

[110]The KPWF sends repayment notifications to utilities at the beginning of each month. If by the 15th no funds have been received, the matter is escalated (IntWFF2; IntKPWF2). The KPWF also signs 'loan performance monitoring agreements' with utilities (IntWFF2). WASCOs are declared in default after payments have been delayed for 24 months, after which debt recovery is started (IntKPWF2) to restock any funds that have been used from guarantee mechanisms.

[111]Investors, who will mostly be domestic pension funds and insurance companies (IntKIFFWA1; IntKPWF1; IntKPWF4), have been interested yet careful and passive, and '[asked for a] 100% guarantee' (IntWFF1): 'this is how a financial market works. They wait till we come with propositions and the right structure. It's not that they actively are going to help us' (IntWFF1).

[112]This government contribution has been contested, and its use had to be changed several times. At the time of interviews, KPWF stated it would become a reserve fund. See section on challenges below.

in form of a partial guarantee on interest (IntKPWF1; IntKPWF2). Whereas the former ones are grants, the latter is priced into transactions (as premium charged by KPWF to WASCOs).

4.3.4.2 Selection of WASCOs and their projects

Eligibility for KPWF financing is established in a multistep process that checks both WASCOs and their proposed project (IntWFF4b).[113] First, KPWF pre-selects eligible utilities based on their size (KPWF prefers 'large' and 'very large' WSPs, IntWFF4a), performance, and creditworthiness rating. This relies completely on others' analyses, primarily by WASREB (IntWFF4b). KPWF may actively approach WASCOs in this step, for instance by giving 'a presentation' to WASCO boards (IntWASCO8). Then, a workshop with pre-selected WASCOs is held, which ends with an expression of interest. Finally, a full investigation of WASCOs and their proposed projects, overseen by the investment committee of WFF, vets projects and determines whether the utility can borrow for it. This was described as 'very serious technical assistance' (IntKPWF4), and starts with an 'intake document', continues with a project proposal that evaluates technical, financial, and social feasibility, and concludes with a detailed design. Feasibility checks during the project vetting phase also include demand assessments (IntWFF4b; IntKPWF3), necessary impact studies (IntWFF1; IntKPWF3),[114] and making sure that WASCOs have updated financial statements (IntKPWF2). At each step, projects may be dropped because either the project is not considered feasible or the WASCO is not rated creditworthy enough or too risky (e.g. because of governance issues, IntKPWF4). Ultimately, the investment committee of WFF and board of KPWF need to approve the project.[115]

Project identification, however, is left largely to utilities and counties (IntWFF2), and water users are considered participating in this process through their representation in the company boards. Still, KPWF has some influence over projects (IntWFF1),[116] especially through feasibility checks (which may for instance reduce their size, IntWFF4b; IntKPWF1), and the organisation's general requirements. These include that projects must be within WASCOs

[113] The KPWF exclusively targets WASCOs for reasons of size and impact, comparability, and transparency. However, other entities positioned as WSPs, such as licenced private operators, may be considered later as well (IntKPWF1).

[114] This includes an environmental impact study and related National Environment Management Authority (NEMA) licence (IntWFF1; IntKPWF3). In addition to these legal requirements, some guarantors demand further studies. Sida for instance requires an additional gender impact study. However, these extra requirements, which also include documentation prepared to international standards, are said to not influence the cost of financing: 'the Kenya Pooled Water Fund proposals subscribe to higher standards [compared to local commercial bank financing ones], subscribe to an international standard, that's just the difference. [...] But it doesn't directly mean that it's more expensive, it's just maybe higher standards' (IntKPWF3).

[115] Overall, the WFF and KPWF acknowledged that the KPWF 'probably has to play a bigger role than a normal private lender would have to play in order to bring about quality credit, quality borrowers' (IntKPWF1), that it has taken 'a lot more work on the projects to get them finance ready', and that the KPWF has been very involved in due diligence (IntKPWF4).

[116] Additionally, the government would have given a special right to influence projects as junior investor; such right would have only been given to the government, not other investors (IntWFF2). Given that the reserve fund will not be used as a junior investment, such influence is not forthcoming.

mandated areas, need to increase revenues or save costs (IntWFF4b), and must be 'cost reflective' (i.e. fully cost-recovering) to avoid any requirement on external subsidises (IntKPWF4). Additionally, projects with quick revenue benefits are encouraged (IntKPWF2) since projects need to earn revenue within 18 months (IntKPWF3). Ideally, projects have a pro-poor component (e.g. expand access to areas mapped by MajiData), which is especially promoted given that the Dutch government and Sida provide guarantees (IntWFF4b; IntKPWF1; IntKPWF3).[117] In sum, whereas KPWF has no stated preferences (IntKPWF3) and thus a range of projects are possible in principle [bulk, last mile, efficiency; water or sanitation, IntKPWF2], and although KPWF has encouraged projects that 'serve everyone' (IntWFF1), in practice most are urban and in WASCOs 'core markets' (IntKPWF1; not in 'the real poor areas', IntWFF1) and aim to expand water supply (given higher costs of sanitation, IntKPWF3) or improve efficiency. Several projects have been fully prepared and ready for financing, yet held back by regulatory issues such as licences and permits (IntWFF4a; IntKPWF2). During the period of conducting interviews, this list has shrunk from eight (IntWFF4a) to six (IntKPWF2) to ultimately three (Nyeri, Embu, Kisumu) projects (IntKPWF4), however.[118]

4.3.4.3 Challenges and ultimate success?

Whereas the government, WASREB, CMA, and other donors have been supportive, the initiative has faced obstacles. The Kenyan government, for instance, has widely acknowledged commercial finance as an important part of the necessary 'gap filling' (IntWFF1; IntKIFFWA1), has promoted commercial viability of WASCOs, has been interested in, and encouraged financing through, the KPWF (IntWFF1; IntKPWF2; IntGov1), and has signed an implementation agreement between the Ministry of Water and KPWF (IntKPWF4). Moreover, the government has pledged Ksh 250 million (plus additional Ksh 250 million later, IntKPWF2; cf. IntWFF1; IntGov1) in financial support to the initiative (IntKPWF4), and the KPWF has had 'a great relation with WASREB' and its (now former) CEO (IntWFF1). Yet despite this support, the KPWF has faced significant difficulties in practice. First, the government's financial support, which was initially planned as a guarantee in form of a reserve fund, could not be integrated in such a way into the KPWF for legal reasons (IntWFF1) and will now instead need to come from donors (IntNL2).[119] Second,

[117]This pro-poor orientation is 'not as distinct' as other donor funding, however (IntKPWF4). NYEWASCO noted, for instance, that they have considered KPWF for projects that did not qualify for OBA since 'KPWF is not specific to pro-poor initiatives' (IntWASCO5). Overall, KPWF's pro-poor philosophy has been that utilities can be transformed through KPWF projects and that resulting good performance contributes to pro-poor development (IntKPWF1).

[118]Given pooling, bond issuances depend on all pooled projects being ready at the same time. This is coordinated by KPWF by clearly communicating timelines and the expectation of meeting them (IntKPWF2); once annual issuances are established, projects could also be rolled over to next year's issuance if a timely issuance would be at risk. Some WASCOs mentioned that they have been waiting for others (IntWASCO3a).

[119]Integrating public money into the private entity proved difficult and ultimately impossible given that the Public Finance and Management Act (PFM) prohibits channelling public funds into private entities (IntKPWF2;

and more difficult to resolve or work around, WASCOs have been reluctant to commit given the high financing costs. NYEWASCO, for instance, the sector's top performer, has not yet agreed to finance through KPWF because of costs – despite a prepared project (IntWASCO5; IntGIZ4). Utilities have stayed hopeful of finding cheaper alternatives (IntWFF2; IntKPWF1) and governors and county governments were described as a 'political class' that demonstrated 'lots of resistance' (IntKIFFWA1). One aspect of this resistance is the slow implementation of necessary (and WASREB approved) tariff adjustments (IntWFF4a), especially around elections (IntWFF2; IntKIFFWA1), another is that many still regard water (actually or for campaigning) a social good to be provided by the government (IntWFF1; IntKIFFWA1).[120] Furthermore, counties are said to fear a 'loss of control' (IntKPWF1), and politicians and officials generally to be anxious about what has been called 'anti-corruption activism' (IntWFF2; cf. IntKPWF2).[121]

This has delayed the process and significantly reduced the fund's size compared to initial plans. Although the team had worked for years and prepared transactions, it had still only talked to the 'champions' in the sector, and not actually financed any project (IntWFF2). The WFF has been aware of this, and chosen not yet to speak publicly about the KPWF, adopting a 'first do it and then speak about it' approach (IntWFF1). Some in the sector said that it 'was a great idea' that has been 'quickly losing momentum', and that it would create 'a club, something for the few and selected' without a 'mechanism to directly provide financing for the poor performing entities' (IntKewasnet2); others mentioned that it was simply too expensive for most WASCOs (IntUSAID3; IntConsult3) and that many in the sector were 'extremely sceptical' (IntUSAID5);[122] and yet others said they had 'warned' KIFFWA before setting up KPWF that the Kenyan water sector was not ready (IntKfW1). Yet despite such criticism and non-success, both WFF and KPWF were optimistic: acknowledging that the KPWF may be a bit too early, they seemed confident that there was no alternative, that commercial financing would ultimately increase (IntKPWF4), and that the success of their approach was not a matter of 'if' but 'when' (IntWFF4a). Others added perspective and noted that the KPWF faces 'the same challenges that we all face in the sector' (IntWB1). Ultimately, the KPWF had been met with much excitement from the donor community (IntUSAID6) as the

IntKPWF3). Initially planned as junior investment, i.e. serving as a guarantee mechanism, the public subsidy has now been reconsidered to become a revolving fund of the WSTF to act as some sort of 'sweetener' (IntKPWF2) to KPWF financing . Instead, the Dutch government stood in and provided yet more funding since such reserve fund was necessary to de-risk bond issuances and keep their costs low (IntKPWF1; IntKPWF3); the precise arrangement of how the government's pledge was to be used remained unknown at the time of my fieldwork. The Kenyan government's commitment was also seen as a form of 'political de-risking' (IntWFF2); instead, a framework agreement will be signed with the Government of Kenya to demonstrate their support (IntKPWF2).

[120] A KIFFWA official stressed that 'people [need] to understand that water is not free' (IntKIFFWA1).

[121] While stressing that much remains not understood, WFF and the Dutch Embassy explained the lack of support and legal or regulatory obstacles by this recent 'anti-corruption activism' that made everyone careful (IntWFF2; IntKPWF2).

[122] A KIWASH official, who has been working with many utilities and other water service providers, for instance quoted a local staff member, who (allegedly) said that 'I'll be damned if my pension money goes into water projects' (IntUSAID6). KIWASH supported the KPWF in the past by paying for technical assistance, but thought that the donor community was not 'realistic' about the initiative (IntUSAID6).

next step in the water sector's transition to commercial finance, and was seen as the cutting edge of commercial financing that may not yet be accessible to all utilities (IntSNV1; cf. IntUSAID6).[123]

Nevertheless, KPWF has shaped the environment. The initiative builds on decades of sector reform, donor interventions,[124] and especially achievements of the OBA and AoD programmes, to create an entity that facilitates financing transactions between public water utilities and private commercial investors with – eventually – no external subsidises: a financing facility that '[stands] on its own' (IntSNV1) This has pushed the commercial financing debate to approaches that are independent of donor or government support. Furthermore, it taps into and reproduces the "finance gap" narrative, and adds that (domestic) capital markets can provide the required amount, at lowest cost, and in a durable way. Whereas this claim ultimately depends on the success of KPWF (or similar efforts), the initiative has already created an example structure of capital market-based financing, shaped respective regulations and WASCOs practices (see chapter 5), and advanced the debate about a sector-wide financing policy (see section 6.1.3.2). Importantly, the KPWF has created a pilot that demonstrates, at least in principle, that lending to the water sector does not necessarily need the trust and close relationships that come with commercial bank lending, but can also work with investors that are primarily interested in returns (IntSNV1). WASCOs can become debt emitters even when this debt is bought and absorbed by investors through an intermediary.[125]

Whereas KPWF is currently the only initiative with such approach, other similar ones have emerged. For instance, a group of Kenyan cities has started to consider sub-sovereign ABS structure to finance basic service (as mentioned above). This approach targets local governments and works closely with counties and the CMA to develop regulations and guidelines, promote legal change to enable sub-national bond issuances through securitisation (IntGov6). Similarly, but on the national level, a relatively autonomous unit in the National Treasury aims to issue green and blue bonds, which may also bring capital to the water sector. The unit has focused on funds like the UNFCCC's Green Climate Fund (GCF) and impact investors (IntGov5). Aqua for All, too, has begun to work with an impact investor fund, albeit to fund 'water kiosks [and] safe water enterprises' (IntNGO4). Moreover, the KPWF, as a

[123]This is a balancing act. Ultimately, the KPWF depends on donor funds, which are tied to pro-poor projects; Sida, which provides guarantees to KPWF, for instance insisted on pro-poor orientation for some projects (IntSida1). Moreover, the delays and non-success has created 'frustration by even the bilateral partners on further financing the pool' (IntKewasnet2). While Dutch Embassy staff did not say so, this frustration was palpable during interviews (cf. IntNL2; cf. IntNL1).

[124]One had been SUWASA, which ran from 2009-2015. The programme had already been 'exploring a possibility of using pension funds' (IntUSAID4). SUWASA decided to focus on commercial banks since pension funds would have required more guarantees and since the Dutch were already talking about the KPWF (IntUSAID5).

[125]WASCOs remain the debt emitters in this case, although technically KPWF issues the bond. But KPWF can only do so because it acquires debt emitted by WASCOs – it has no assets by itself without buying them first. Whereas KPWF therefore "merely" repackages debt, WASCOs *qua* WSPs produce it through their various practices of billing and collecting commercial user fees and creating assets from those revenue streams. Even where KPWF offers credit enhancements, these are acquired either externally or through WASCOs debt.

pilot, attempts to inspire other local entities to copy the approach.[126]

4.3.5 The cascade of 'alternative finance'

Several donor funded initiatives have built on each other and sector reforms (see sections 4.1 and 4.2 above) to further commercial financing of Kenya's water sector. A cascade of three key "alternative financing" programmes have trialled the Kenyan environment and, where incomplete or unsupportive, worked with the Kenyan government or respective regulators to adjust it. First, the World Bank's commercial financing of communities introduced the idea to the sector and generated demand from below: WASCOs, looking for financing options, started to borrow on behalf of communities. Out of this, KfW and the World Bank soon realised that working directly with WASCOs instead of communities would scale projects in size and reach, and guarantee better implementation. Second, using the success of the community financing programme and the demand for, and support of, the approach from communities and WASCOs to convince the Ministry of commercial financing, KfW and the World Bank funded two WSTF programmes (OBA and AoD) that facilitated financing of projects through commercial banks and aimed to establish relations between public utilities and commercial lenders. Third, the Dutch KPWF has attempted to take commercial financing of WASCOs to Kenya's capital market. The initiative created a pilot that pools loans to WASCOs to issue bonds, which, so the idea, allows better financing terms.

Two points are important about this cascade of pilots. First, it has been primarily donor driven. The World Bank was repeatedly singled out as the most instrumental organisation in orienting the sector towards commercial finance. But many others have been vital, too. This includes virtually all donors, but also Water.org and other NGOs with their microfinance and revolving fund approaches, and importantly UNSGAB that led to the KPWF. Second, whereas these initiatives have ended already, will end soon, or were established as temporary pilots, they inspired others to replicate them or attempt similar commercial approaches to financing the sector. This includes commercial banks, NGOs, the Kenyan government, which considers an (+OBA)/AoD successor, and the WSTF, which still considers becoming a "MajiBank". In sum, then, donors have demonstrated that WASCOs can be viable candidates for the *debt emitter* position – although this has continued to depend on external support, for instance in form of credit enhancements or technical assistance.

None of these initiatives therefore achieved or precipitated substantial actual financing outcomes (arguably, OBA and AoD did, but they have ended or will end soon). Few WASCOs have significantly borrowed for instance from commercial banks without the OBA or AoD subsidies, and none through KPWF. Donors realised this and have started to "capacitate" WASCOs; chapter 5 looks at these efforts and WASCOs new practices and capacities to

[126]The KPWF is the first of such pilots by the WFF. The Dutch-funded organisation plans to establish more pilots worldwide, one in Indonesia is already being planned.

become *self-reliant* viable candidates that do no longer need external support to become effective debt emitters. Yet notwithstanding this seeming non-success, each of these initiatives, and all of them together, have demonstrated the legal and regulatory possibility of commercially financing the water sector, and changed the sector's environment and key entities' practices (including their discourse). Over the last 10-15 years, commercial financing has become the 'way to go', and the normative circles that endorse this norm have been broadened and strengthened. Through these pilots, the government has effectively reversed its initial opposition to commercially financing the water sector, and the two regulators WASREB and CMA have become instrumental in enabling and promoting commercial financing through their guidelines and regulations. Moreover, many WASCOs have accepted commercial financing as crucial resource mobilisation strategy, and several have already been exposed to commercial lenders (even if only in highly cushioned "sandboxes" such as OBA, AoD, or even KPWF). Chapter 6 looks at this broad endorsement, and remaining commitment issues, in more detail.

4.4 Alternative *debt emitter* occupants

Kenya's water sector has long been financed through debt. Historically, this debt came from concessional loans guaranteed (and therefore ultimately emitted) by the Kenyan Government. There has long been, in other words, a *debt emitter* position, which has been occupied by the National Treasury. However, despite some recent efforts to issue sovereign bonds on behalf of the water sector, the National Treasury has been gradually de-positioned from the sector's *debt emitter* position. Kenya's external debt ceilings have slowed sovereign borrowing, and concessional loans (historically the primary form of debt in the water sector) have been drying up after Kenya's reclassification as a lower middle-income country. Yet the sector has remained dependent on debt to finance necessary investments (and "fill the gap"). Someone, in other words, needs to emit debt, that is to produce a credible (worthy of credit, or creditworthy) repayment obligation (of any funds received at specified terms), and sell this obligation to a debt absorber to actually receive these funds (see Fig. 4.3).[127] The 1999 policy and following legislation has transferred the mandate to provide water services from the state to so-called Water Service Providers (WSPs). Importantly, this has meant that whoever assumed this role (occupied the *WSP* position) and provided water services, also needed to finance their effective performance of the *WSP* position.

The water sector reforms of 2002 and later 2016 have created the so-called WASCOs (wa-

[127]Debt emitters are understood as the entities that produce and sell debt ('IOU's or repayment obligations), whereas debt absorbers are understood as the entities that purchase this debt. Once such transaction occurs ("financial close"), the two entities become debtor and creditor of a debt or financing relation. These two positions (and matching rights and obligations pairs) are defined by general norms (such as a country's legislation, and norms about debt such as 'one has to pay one's debts') and the specific financing agreement (which typically specifies in detail repayment and disbursement terms).

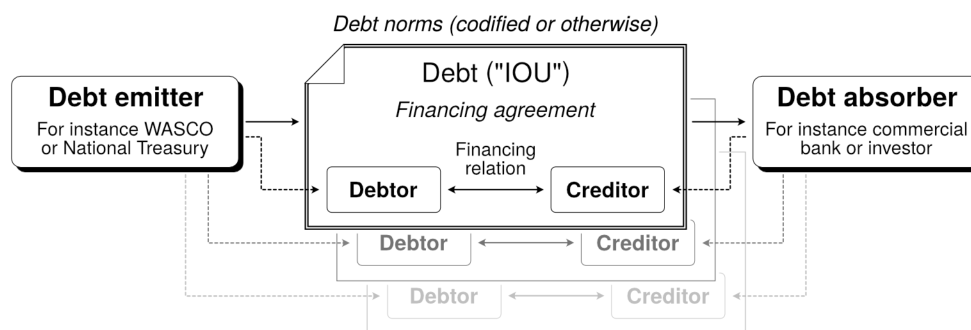

Figure 4.3: Debt emission and absorption.

ter and sanitation companies), whose shares are completely owned by county governments (section 4.1). Furthermore, these laws (and associated regulations by WASREB) indexed these WASCOs as the sector's key WSPs: 47 publicly owned WASCOs *qua* WSPs have since been responsible for the vast majority of licenced provision of water and sanitation services.[128] At the same time, the reforms commercialised water service provision (section 4.2). This established the goal of recovering costs of operating, maintaining, and improving or extending service provision from users, and made WASCOs the owners of revenues generated by charging such (increasingly) cost-recovering user fees. Effectively, this indexed the publicly owned WASCOs, which have been positioned as commercial WSPs, as (potential) debt emitters; few others have the possibility to emit debt because they either lack revenues or access to lenders. Two points are important. First, debt emission, by WASCOs or any other entity, does not necessarily target commercial lenders.[129] The National Treasury, for instance, has targeted mainly concessional lenders. WASCOs, however, have limited access to concessional sources: donors cannot directly lend to them or their owners (and, moreover, have begun to reduce concessional lending in Kenya), and impact investors find it difficult to finance individual WASCOs. Second, then, WASCOs *qua* debt emitters depend on debt absorbers (lenders) to purchase their debt. Donors, through a cascade of initiatives (section 4.3), have trialled some lenders, which have mainly been commercial banks and (possibly) investors through the KPWF.[130]

These trials have demonstrated that WASCOs can *in principle* occupy a *debt emitter* position, but face various difficulties to do so *in practice*. Mainly, WASCOs have lacked capacities to effectively perform the *commercial WSP* position (which generates the necessary revenues to repay debt) and the *debt emitter* position (which packages those revenue streams into debt). Moreover, even where these capacities have been sufficiently developed, WASCOs have lacked the commitment to actually occupy and reliably perform the *debt emitter* position.

[128]Many other entities provide crucial water services in Kenya, but few others are officially licenced WSPs.

[129]This has been an issue for commercial lenders since WASCOs have continued to attempt to attract concessional finance instead of commercial finance. See chapter 6. Also, WASREB has referred to WASCOs non-traditional resource mobilisation as 'alternative financing' instead of 'commercial financing' (cf. NoteWS1).

[130]Especially the latter, the KPWF, created a reference implementation of what has been understood by some as the future of commercial financing: (local) capital market-based financing.

As a consequence, any commercial financing has depended on de-risking measures by third parties (such as donors), either transactional de-risking through preparing projects and financing agreements or financial de-risking through providing guarantees and subsidies. The various commercial financing initiatives by donors over the last 10-15 years have provided substantial technical assistance, subsidies, and guarantees; the KPWF, which has offered the least credit enhancements and de-risking, has struggled most with actually financing WASCOs. Nevertheless, these trials have demonstrated that WASCOs can indeed become debt emitters if they adopt necessary practices and commit to it. The next two chapters (5 and 6) look into this: how practices underpin and enable occupancy and effective performance of *commercial WSP* and *debt emitter* positions, how these practices have been disseminated, and how WASCOs' commitment to occupy and reliably perform these positions and practices has been constructed.

One last important aspect of this positioning process is the relationship between WASCOs *qua* commercial WSPs and WASCOs *qua* debt emitters. To some degree the two positions (*WSP* and *debt emitter*) are independent. An entity may provide water services without emitting debt (as many WASCOs continue to do), and at the same time an entity may emit debt on behalf of the sector without providing water services (as the National Treasury has done).[131] However, the two positions are also *linked*: given the normative environment, a WASCO can only emit debt because of its occupancy of the *commercial WSP* position, and vice versa can (increasingly) only effectively provide water services because of its occupancy of the *debt emitter* position. Instead of being nested, i.e. a WASCO *qua* commercial WSP being positioned as debt emitter, the two position occupancies are linked (see section 7.3.3). Whereas *WSP* and *debt emitter* positions can be independent positions, in this case they have been made dependent on each other.[132]

[131]Arguably, given that the National Treasury attempts to recoup loan repayment from WASCOs, the National Treasury is not the debt emitter. However, concessional lenders lend against a sovereign guarantee, not any potential cash flows from projects implemented with the loan, which makes the National Treasury the debt emitter. This is reflected in the fact that few debt emitted by the National Treasury is actually repaid by WASCOs' revenues but instead from the budget (or through refinancing).

[132]This becomes clearer with the *debtor* position still. If a WASCO lost its licence (and thus ceased to be a WSP), it would still be obligated to repay debt (whether it would still be able to remains open). The finance agreement that creates this obligation was signed between the WASCO and a lender, not the WASCO *qua* WSP and a lender (although at the time of signing the agreement, the WASCO acted as WSP). Whereas the financing agreement would most probably not have been signed if the WASCO would not have acting as WSP, it was not signed because the WASCO occupied a *WSP* position but because this occupancy makes the loan repayment possible.

Chapter 5

Water utilities' capacities to self-reliantly emit debt

The previous chapter concluded that whereas commercially financing Kenya's water sector has been possible, and made WASCOs potential *debt emitter* candidates, this has remained dependent on external facilitation and de-risking. The OBA and AoD programmes, for instance, kept project sizes comparably small and timelines short, provided guarantees to participating banks, and injected sizeable subsidies to further 'sweeten' transactions (see section 4.3.3). The KPWF, while removing the grant element, has arranged 'serious' technical assistance to prepare transactions and included several credit enhancements (see section 4.3.4). Whereas the OBA and AoD programmes, relying on donors' grants, have ended or will end, the KPWF was set up without subsidies to make it less donor dependent and more durable. However, it has yet to close a transaction – not to mention build a pipeline of creditworthy projects for future repeat issuances. Successful commercial financing transactions, in other words, have relied on technical and financial facilitators to make possible financing relations between water sector entities as debtors and creditors such as commercial banks. Without such facilitation, the widely promoted transition to "alternative financing" has stalled. To be sure, WASCOs have been introduced to commercial banks (and vice versa), which had been a goal of the OBA and AoD programmes.[1] Yet without transaction preparation and de-risking, few (if any) of these relations precipitated follow-up loans at commercial terms and significant sizes (see top part of figure 5.1).

This chapter looks at how donors and the Kenyan government have responded to this. Recognising utilities' insufficient creditworthiness (effectively the inability to *self-reliantly emit*

[1]As will become clear throughout this chapter, the ultimate purpose and effect of OBA and AoD were not to create another source of funding, but to start the transformation of WASCOs into self-reliant debt emitters. The programmes made possible, for instance, the KPWF, which is a next step in this direction (see section 4.3.4).

debt) as the central barrier, the earlier focus on transactions has been increasingly replaced by efforts to "turn around" WASCOs and more fully remake them as effective corporations, effective commercial WSPs, and ultimately effective debt emitters. This is grounded in the idea that professionally run and self-reliant utilities, which are capable of packaging "bankable" projects and gaining lender trust (or "credit"), will sustain commercial financing relations even after external support is reduced or withdrawn. After the corporatisation and commercialisation of water and sanitation service provision (see previous chapter 4), donors' and government's efforts have lately therefore focused on transforming WASCOs' practices accordingly. This has primarily taken the form of replacing existing corporate practices of WASCOs (or other WSPs)[2] with 'sound business' practices, and instilling practices that support providing services commercially and emitting debt. Essentially, this brings a range of functions previously performed by facilitators such as donors or the government into WASCOs, or external contractors whose services are fully priced into transactions. Utilities' newly developed capacity to attain and sustain creditworthiness, prepare and package "bankable" projects, and arrange and close financing transactions, in other words, make debt emission *without external support* possible: they (may) become self-reliant debt emitters (see bottom part of figure 5.1).

The chapter is structured in the following way. First, section 5.1 traces the shift of donors' and the government's focus from facilitating transactions to remaking WASCOs as self-reliant debt emitters, including the associated re-focusing on WASCOs instead of an earlier focus on lenders. The latter have understood the business case for lending to water service providers, but have remained careful and require higher creditworthiness.[3] Second, section 5.2 looks in detail at the adjustment of practices of WASCOs, in order to become capable of self-reliantly emitting debt. The section is split into three subsections that focus on WASCOs as corporations (section 5.2.1 on professionalisation), as commercial WSPs (section 5.2.2 on commercialisation), and as debt emitters (section 5.2.3 on directing investments and section 5.2.4 on cultivating relationships). Finally, section 5.3 follows the various methods of donors and the government to 'instil' these practices in WASCOs in the first place. This also highlights influential donor programmes and government entities, and (transient) collaborations and "practical alliances" with other actors that attempt to improve utility performance and increase sector performance. The chapter concludes with a brief summary, and by drawing attention to the insufficiency of these efforts: even self-reliant WASCOs have remained uncommitted to actually emitting debt – at least in form of *commercial* loans. Chapter 6 will examine the construction of this commitment.

[2]Licenced and regulated publicly owned utilities (WASCOs) have been at the centre of this, however, given their official mandate (and associated perception of state success/failure), existing internal structures and capacities, and related potential to comparatively easily close transactions of several millions.

[3]Consequently, the chapter focuses on the transformation of WASCOs, given that these regulated public utilities have, at least compared to other WSPs, the prerequisites, potential, and scale to meaningfully advance the transition to commercial financing. This was also reflected in the data: empirical work focused on WASCOs, and only included some NGOs (speaking on behalf of smaller or unregulated WSPs).

5.1 Towards WASCOs' self-reliance

Donors have begun to re-evaluate their efforts of introducing commercial financing to Kenya's water sector, and to adjust their approaches accordingly. The OBA and AoD programmes had some success in facilitating transactions and relations between WASCOs and commercial banks. Furthermore, SUWASA, the first USAID programme that explicitly worked on commercial financing relations in Kenya, had made the Development Credit Authority (DCA) guarantee mechanism available to water sector related transactions in Kenya, signed up commercial banks to it, and enticed them to lend to the sector (IntUSAID5). However, relations between WASCOs and commercial banks have not been sustained in ways that would lead to repeated substantial commercial financing transactions. Donors realised that those early SUWASA, OBA, and AoD successes were built on subsidies and extraordinary de-risking by donors – basically fully guaranteeing loans (IntUSAID6) – and were therefore unsustainable. The KPWF's significantly protracted efforts to close their first transaction underline the continued difficulties to commercial financing without subsidies or similar de-risking. Donors have responded and changed their focus. SUWASA's successor programme WASH-FIN, for instance, was designed to employ several expert staff and contractors to provide 'a lot of sustained contact time with utilities' (IntUSAID2) to build their capacities.

USAID's revised programming has been part of a wider change in the financing debate that got more 'realistic about how to deal with commercial finance in the water sector' (IntUSAID6), and a shift towards longer-term thinking that foregrounds governance. While still supporting transactions, WASH-FIN, for instance, has become a critical part of efforts to prepare WASCOs for recurring transactions – efforts that have been considerably more elaborate and comprehensive than the initial approach (IntUSAID6). Part of this has been the realisation that this initial approach was unsustainable, that donors had no exit strategy, and that they therefore needed to change their engagement to include, for instance, 'following up, getting financial information, helping [… WASCOs to] develop some basic models, talking them through things, helping them cultivate relationships with local commercial banks […], the whole process, business planning, etc' (IntUSAID2). Whereas the initial approach had been to technically assist and financially de-risk transactions (in project preparation and through guarantees or subsidies) and to technically assist lenders (in reading and understanding utilities and the water sector), this new approach has turned to utilities' performance issues (IntUSAID6).

This marks two important departures from the earlier understanding of difficulties around commercially financing water entities. First, instead of targeting incapacities of commercial lenders to understand and appreciate the water sector, WASCOs have been put in the centre. This is based on the success of earlier efforts to build these capacities in lenders, and a growing understanding that commercial lenders bring an acute sense of risk and profitab-

ility – which has made them cautious of lending to WASCOs. As a senior WSUP expert put it: ‘we don’t need to focus on bringing commercial financiers to talk to water utilities. We need to focus on improving commercial viability of utilities’ (IntNGO1). This has been the second departure from the earlier approach: utilities’ lack of creditworthiness and incapacity to self-reliantly emit debt has become central. This has included their incapacities to professionally manage themselves, operate commercially, and prepare and package “bankable” projects into debt emissions. In some way, this has been a reversal of the approach, as a KIWASH official noted: instead of ‘[pushing] the commercial finance market into an area that is not natural’ by ‘[sweetening] deals with our own [donor] money’ (IntUSAID6), the new approach has attempted to lift utilities into such commercial finance market by improving their performance and books to become attractive to lenders. And whereas some allegedly still attempted to skip some steps,[4] donors seem to have reached agreement that the sector’s WASCOs long-standing performance issues (cf. WASREB 2021) need to be addressed, and the transition to commercial finance is an ‘opportunity’ to improve utilities’ capacities (IntUNH3).[5]

An initiative that exemplifies this pivot comes from Germany: GIZ and KfW have partnered to establish an “Urban Water Catalyst Fund” (GIZ 2019a,b) that focuses on ‘utility turnaround’ in African and Asian countries (IntKfW1; IntKfW2).[6] The initiative has received support from various experts, including some who advise the KPWF. It attempts to engage with publicly owned urban utilities that have ring-fenced revenues and operate commercially (IntGIZ4), to increase their performance and make them “bankable”. The core idea is simple: the fund would identify ‘dedicated’ and sufficiently independent utilities with committed leadership, test them early for their ‘seriousness’ (IntGIZ3) about changing the utility’s culture to improve performance, and – after proving ‘credible’ and ‘sustained’ change – incrementally offer quickly disbursed subsidised financing to further improve the utility (GIZ 2019b).[7] Central to this are motivation and commitment of utility leadership and staff to change and “turn around” the utility: similar to the World Bank’s and KfW’s results-based

[4]The KIWASH official (implicitly) referred to the KPWF: ‘And before we get too ahead of ourselves and start talking about pension funds and things like that, let’s just try to get these [commercial] banks less dependent on things like the DCA’ (IntUSAID6; cf. IntUSAID5).

[5]While not addressed here, donors also noted that this has been an issue not only of WASCOs but also the local government level, i.e. counties and municipalities (IntUNH1).

[6]According to a long-term consultant to the WSTF and World Bank and other donors active in the water sector, this ‘turn-around’ idea is not new. Speaking about early ideas about the World Bank’s OBA programme, the water financing expert said that ‘the essence of it was that there would be, within a whole frame or the whole set up of a water system, there is an element inside there, which you pick, which would turn around the economy of that utility’ (IntWSTF4).

[7]The initiative is aware that it targets the most committed, best performing, and most commercially viable utilities (IntGIZ3), i.e. a tiny subset of utilities that, arguably, need the least support. Still, utilities considered for the UWCF are not yet achieving positive cash flows, and are supported where needed to create those, including in the areas of corporate governance, and commercial, financial, and technical operations (IntKfW2). The goal is to entice utilities to opt for commercial finance, even when cheaper alternatives may still be accessible, because of the ‘added value’ of such tailored technical assistance. Utilities are always ‘in the driver’s seat’ and deciding where this technical assistance is needed (IntGIZ4).

financing programmes, but incentivising corporate change instead of project-based outputs or outcomes, any (subsidised) financing received through the fund depends on governance improvements (IntGIZ2). At the time of writing, this initiative was still conceptual; yet, whether realised or not, the concept presents a nascent and growing consensus around transforming utilities and positioning them as entities capable of self-financing commercially.

Such "turn-around" ultimately targets utilities' practices. In Kenya, this has received broad support from donors, the government, and experts and technocrats – despite criticism that this would re-direct donor resources from the most vulnerable to those served by well (or best) performing utilities (IntGIZ2; cf. IntGIZ4). As chapter 6 discusses in detail, this broad support is grounded in the different outcomes such change of practices precipitates: while this change of practices attempts to create self-reliant and committed debt emitters, many new practices simply improve general performance and therefore service provision quality or extent.[8] The ultimate goal and key motivation, however, has been to make utilities attractive to commercial lenders, and introducing new and adjusting existing practices, which *inter alia* improve performance, have been the means to achieve this. The difference to earlier approaches of transaction support has been that changing utilities' practices (their 'culture'), if successful, more durably enables commercial financing relations by eliminating risk (WASCOs behave according to lenders' expectations) and pricing risk mitigation into transactions (transferring the cost to consumers instead of donors or the government). In other words, the change of practices integrates de-risking into WASCOs (or contracts it out). Figure 5.1 shows the change in a simplified form.

Turning around WASCOs and the associated change of corporate culture therefore does not simply improve these companies into "better" versions of themselves, or make them operate more effectively and efficiently and score higher across several performance indicators as WSPs. Ultimately, it remakes them into – or, to use the Urban Water Catalyst Fund concept note's phrase, it 'creates' (GIZ 2019a) – a different kind of entity: a water and sanitation company that simultaneously occupies *WSP* and *debt emitter* positions. These two positionings are linked and in many ways support each other: performing the *WSP* position enables the *debt emitter* positioning, and performing the *debt emitter* position supports the *WSP* positioning. This linking, however, is tilted: the planned change of practices primarily enables debt emission, and while many of these practices do improve service provision, they do so *in order to* support debt emission, and *whenever* and *wherever* this is the case. Even comparably uncontroversial practices are subordinated to the purpose of debt emission, and introduced to WASCOs with this intention.[9] Some critiqued this unevenness of the approach, for it fa-

[8]However, any support lent to instilling practices that improve general performance implicitly helps debt emission. Section 5.2 below therefore discusses the change of practices as interconnected.

[9]WASCOs may, in practice, not distinguish between practices that support effective and efficient operation of the utility, those that support commercial operation, and those that support debt emission. A practice that reduces (physical) non-revenue water, for instance, may have different meanings to the technical, commercial, or financial departments, and therefore supported for different reasons. Yet given its introduction with the purpose

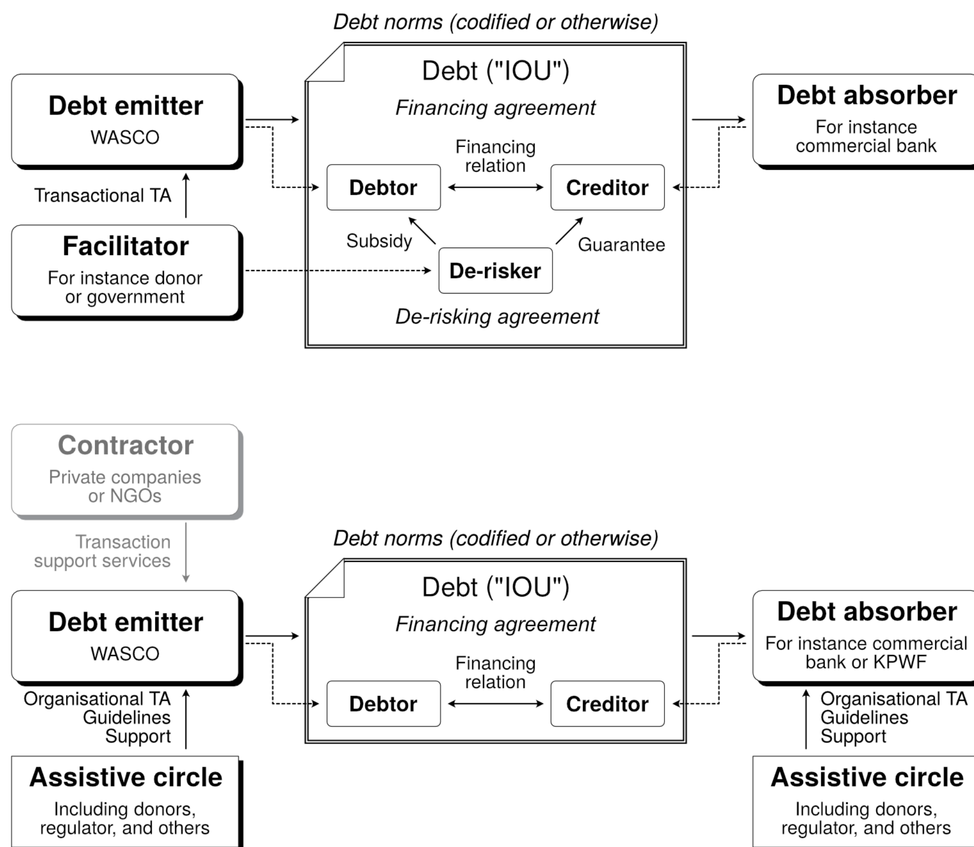

Figure 5.1: From facilitating transactions through technical and financial assistance (top) to developing capacities of WASCOs (bottom).

vours, and further improves, WASCOs in urban (core) areas, entrenches full cost recovery from water users, and might therefore detrimentally affect lower-income or rural water users (cf. IntGIZ2; cf. IntGIZ4).

5.2 Practical adjustment

A two-day workshop by WASREB in early 2020 (facilitated by WASH-FIN) gave a succinct summary of the changes. Several presentations, practical exercises, and plenaries by high profile sector officials and experts, financing consultants, and utility staff themselves underlined the need for a 'change of mindset' (NoteWS1/8) to ready the sector for 'alternative financing'. Instead of remaining passive receivers of grants or waiting for infrastructure to be developed by others (for instance by WWDAs with public funds or aid), WASCOs were pictured as (and supported and encouraged to become) active agents, who are able to understand, seek, and acquire 'non-traditional finance' to maintain, rehabilitate, and develop infrastructure on their own. The training and knowledge exchange forum, which was attended by top

of enabling debt emission (for instance as part of creditworthiness assessments), it may be also understood in this way. Reducing water losses, in other words, becomes a financial matter, too, and possibly one more valued than saving water resources.

management staff of several WASCOs with varying degrees of experience with OBA, AoD, or KPWF, did not stop there, however. To train and prime utilities for this role, the workshop addressed, in a practical way, a range of topics that are exemplary of the new approach to position utilities as debt emitters: discussions and workshops included the importance and development of business plans, project identification and assessment (by technical and financial criteria), debt capacity assessment, available credit enhancements, and loan application and term sheet negotiation. WASCOs, in other words, were re-conceptualised as, and trained to become, entities that effectively, efficiently, and self-reliantly provide an essential service to Kenyans on behalf of the government.

The workshop promoted only a subset of practices that underpin the occupancy and effective performance of the *debt emitter* position, which can be categorised based on lenders' requirements: sound business principles and good corporate governance, sufficient revenue streams, well-prepared and underwritten debt emission, and supportive relationships. Practices that guarantee these four aspects of creditworthiness turn WASCOs into capable agents of resource mobilisation, and furnish utilities with a new level of agency that neither the municipal departments (from which they were formed) possessed, nor the corporatised entities (which they currently are) possess. Assuming this responsibility for resource mobilisation has been singled out as the make-or-break criteria for utilities to contribute to the wider goal of "finance gap filling" (IntConsult3; cf. GIZ 2019a). Given substantial investment backlogs, insufficient government funding, and the actual retreat of donors (IntVEI1), a presenter from WASREB, for instance, urged WASCOs to ask themselves whether waiting for government or donor funding and continuing to talk about the finance gap was the best way forward when commercial financing options were available, and when the only barrier to accessing them was their creditworthiness – which was in their control (NoteWS1). The workshop, programmes like WASH-FIN, and initiatives like the Urban Water Catalyst Fund have therefore assisted WASCOs in building their creditworthiness by instilling in them related practices.[10]

These practices create the capacity of WASCOs to mobilise (commercial) resources in different ways. A first set contributes to efficient and effective management and operation of WASCOs as water and sanitation companies (section 5.2.1). A second set contributes to sufficient revenue streams or cash flows of WASCOs *qua* commercial WSPs (section 5.2.2). Finally, a third and fourth set contribute to effective preparation and packaging of debt emissions through project identification, preparation, and execution, and supportive relationships, respectively. Sections 5.2.3 and 5.2.4 explore these practices of packaging debt and cultivating relationships. The first of these sets of practices is fundamental and generic: these are practices that enable the effective and efficient operation of *any* company. This includes debt emission, which these practices crucially support by improving performance of WASCOs in

[10]This new agency and capacity to mobilise (commercial) resources has appealed to some WASCOs, especially creditworthy or near-creditworthy ones, and has been an important reason to accept becoming debt emitter. See section 6.1.

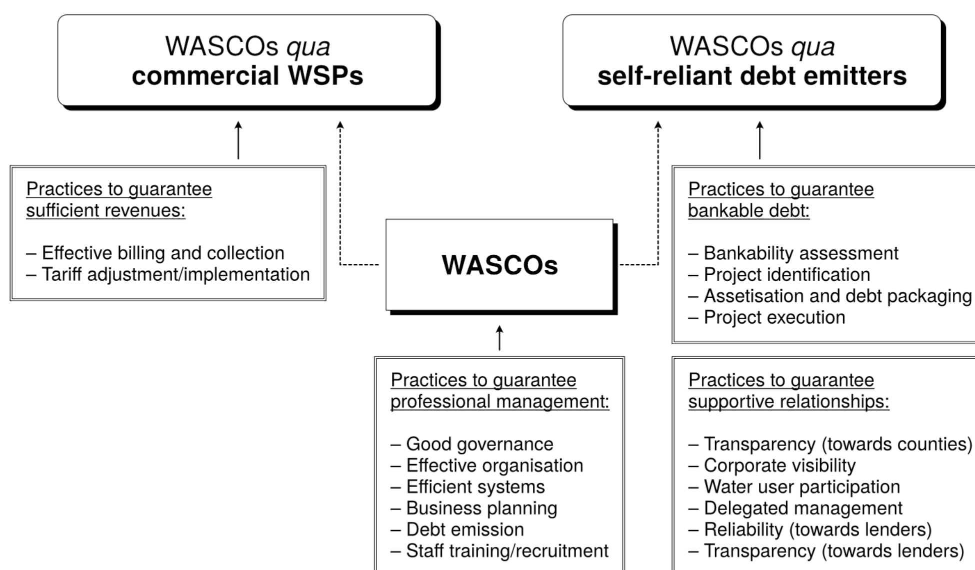

Figure 5.2: The different sets of practices and their contribution to WASCOs, WASCOs *qua* WSPs, and WASCOs *qua* debt emitters.

general, and by making them more readable to lenders. Moreover, this set includes specific practices of debt emission. The other sets of practices then specifically support the two positionings of WASCOs as WSPs and debt emitters. Figure 5.2 summarises this visually.

5.2.1 Professionalising companies: practices of managing utilities

Professional or "sound" business practices have been the foundation of the transformation of WASCOs and the basis of any promises of improved performance from corporatisation. Whereas this includes several practices such as effectively dividing and organising labour, employing efficient systems, planning the business, recruiting viable and further training staff, and emitting debt, the basic aggregate practice is to predictably and reliably operate effectively, efficiently, and self-reliantly. From the perspective of lenders, the management of WASCOs needs to credibly demonstrate that these companies can survive on their own, and that by professionally providing their service they create cash flows that can underwrite commercial borrowing (IntWASCO4; IntWASCO7; IntUSAID6).[11] While these cash flows depend on tariffs and water users' payments, it is the company that generates these cash flows by applying for and implementing the tariff, billing users and collecting their payments, and guaranteeing proper appropriation of collections. The management of the company, in other

[11]This was also described as 'competing in the market' (IntUSAID6). WASCOs, however, enjoy a monopoly on service provision in their area, which is only contested by other (unlicensed) providers because of their inability to provide the service to everyone 24/7. While this has created political economies that sometimes sabotage or obstruct utilities' expansion into areas serviced by vendors or Kenya's water cartels, any real competition (i.e. activities that not merely fill the gap left by WASCOs insufficient supply) has been based on illicit activities: networked water supply and sewerage by one regulated (publicly owned) WASCO has remained the goal, precluding any competition (or market in the first place). While WASREB has licenced some private operators such as in Runda, which is within the mandated supply area of Nairobi's utility, none seems to significantly compete with the respective public utility.

words, crucially determines the company's viability for occupying the *WSP* and *debt emitter* positions and their effective performance. It is therefore primarily these sound business and good corporate governance practices that create the attractiveness of WASCOs for lenders. KWCL, the WASCO in Kiambu near Nairobi (see figure 3.1 for a map of Kenya), for instance, was acutely aware of this and has worked on their 'data' by changing the company, including internal reorganisation, upgrading systems, and recruiting highly educated staff, to become 'attractive' to banks (IntWASCO1).

Sound business practices and good corporate governance have therefore become central to utilities' "turn around" (and ability to access commercial finance). WASREB's corporate governance guidelines clearly state that 'efficient and effective provision of water services and progressive realization of the basic human right to water can only be achieved if the leadership and management in the water sector institutions is guided by the tenets of good governance', and that WASCOs 'are to be run as commercial enterprises following sound business principles' (WASREB 2018b; see also Gakubia et al. 2015). At the centre of the guideline have been company boards, which are the main avenue of political influence by county governments (cf. IntWASCO7), and vital part of the company for implementing tariffs and approving financing agreements. The guideline addresses appointment, composition, function, operations, and performance of company boards, as well as their relationships to company shareholders and management. The importance of this was acknowledged by utilities: staff of NARUWASCO and KIWASCO, for instance, expressed their relief to 'have a stable board' (IntWASCO6) and their concern that this may change with elections (IntWASCO7), and the strategic plan of NYEWASCO highlights 'reinforcing structures of good governance' and 'strengthening the tool of corporate governance' (NYEWASCO 2021:12). To some degree, the guideline is the counterpart to legislation that guarantees autonomy of WASCOs and non-interference from county governments (see section 4.1.2).[12]

Part of good governance have been efforts to revise the internal structure of WASCOs, to have a clear separation of responsibilities and capacities. ELDOWAS, for instance, reorganised the company to have 'clear objectives for every department' and effectively work 'towards achieving our vision and mission', a company official said (IntWASCO8). Such clear internal organisation was welcomed by financiers. The KPWF team, for instance, appreciated WASREB's recommendation of 'technical departments, commercial departments, [and] finance departments' for its provision of clarity 'on what are the job roles [...], what

[12]Like many, a consultant of the Kenya Market Trust, who had worked with WASCOs to prepare projects for KPWF funding, repeatedly stressed the urgency to 'get [the] governance perspective right, reduce interference in the management of water utilities, reduce interference in the composition of the board of directors of water utilities, [and] have competent people who will add value to the board of directors' (IntConsult2). This was echoed by a World Bank official, who has worked in the sector for different organisations for years: 'we do have the guidelines in place. When it comes to the legal structures, those are in place. We do have all these guidelines already in place. It's really, what is the willingness and the commitment of the managers of these utilities to be able to put in those, those structures and to be able to improve the capacity of their staff to be able to properly manage their finances within the water companies. And then that affects their creditworthiness' (IntWB1).

are the functions, and what are the key performance indicators [of] this particular unit'. This, they said, helped to 'compare, across the industry, how one utility is working' (IntKPWF1).[13] Another effort has been to upgrade internal systems (such as billing and collection, network monitoring, or corporation and resources management systems), to operate WASCOs efficiently (cf. IntBank3). RUJWASCO, for instance, has recently completely digitalised and automated their billing system, and moved collection to wire transfers and mobile payments (IntWASCO2).[14] Additionally, they have started to geo-map pipes and 'consumer points', and installed an online monitoring of their water system. Similarly, NARUWASCO, in anticipation of accessing commercial finance, has underlined their new central enterprise resource planning system, to which the company connected various subsystems, including billing, financial management, their monitoring system, and a company-wide chat system (IntWASCO6). This often makes a huge difference in how companies are run, including in accountability and reduction of misuse of resources (IntWASCO1).[15]

The central new practice enabled by and organising these new ways of working together has been business planning, which has been required by WASREB along with strategic and investment plans as part of licence applications and tariff reviews. The regulator has provided guidelines on purpose, content, and preparation of business plans, including a template with main sections and sample formulations to ease and speed up the process for WASCOs (WASREB 2019; cf. IntWASCO3a).[16] Business planning has been presented as crucial tool to plan overall goals, investments, budgets, and financing needs, and to 'communicate with external stakeholders and operational partners such as the Development Partners, local financial institutions […], and private partners (local community and civil society)' (WASREB 2019).[17] MAVWASCO and NARUWASCO, two utilities that had trialled the new guidelines for WASREB with the support of WASH-FIN, described it as a 'tough and long exercise' that needed internal ownership and management endorsement, and coordination and engagement of the whole utility and external stakeholders to collate required information (NoteWS1/8; NoteWS1/5). At the same time, they appreciated how creating the plan 'opened their mind', and how it supported them in assessing their businesses and potential expansions (cf. WASREB 2019:11-2). NYEWASCO, which has an elaborate strategic plan (NYEWASCO 2021),

[13]Part of this are WASREB's efforts of creating performance indicators, benchmarks, and ratings to increase the visibility of WASCOs' performance. See section 6.1.2.2.

[14]Especially mobile payment systems such as M-Pesa have been important in Kenya; moreover, some WASCOs such as ELDOWAS or NYEWASCO have their own Apps (IntWSTF2).

[15]EWASCO, for instance, started with 'only three old computers with a software that was easily manipulated' (IntWASCO4). Only later did the company acquire its first server, additional computers, and better software.

[16]WASREB also encourages county governments, as principal shareholders of utilities, to enforce such plans: by law, 'County Governments are obliged to review the efficiency and commercial viability of their existing licenced water utilities. […] One of the key measures at the disposal of County Governments and specifically for the urban WASCOs is to enforce the use of basic commercially oriented management instruments such as business and investment plans in order to improve their commercial viability to enable them deliver services efficiently and effectively to their customers.' (WASREB 2019:1)

[17]The Kenya Market Trust consultant pointed out, however, that these business plans need to be implemented and followed: 'utilities have to up their game in understanding financial management […] they have a business plan, but unfortunately they don't work to realise that budget and that business plan' (IntConsult2).

stressed the importance of revised business plans for convincing banks (IntWASCO5).

Such use of business and investment plans to facilitate borrowing has relied on debt capacity assessments and financial models. These practices have helped to inform internal decision-making in a neutral and technical way, independent of any financiers that may approach the utility. They have also aided interactions with commercial lenders by demonstrating more comprehensively utilities' viability and maximum debt capacity for different scenarios. Supported by WASH-FIN, NYEWASCO, for instance, assessed the company's debt capacity (IntWASCO5), and THIWASCO developed a financial model based on their past performance, the projected impact on revenues of a proposed project, and the terms of various financing options, to test their ability to repay such financing (IntWASCO3a; IntWASCO3b).[18] In both cases, the utilities gained confidence about their ability or inability to take loans of particular sizes from different sources. This is a common situation utilities face when considering commercial financing. KIWASCO, for instance, was approached by KPWF and needed to review whether they 'have [the] headroom to accommodate more financing' (IntWASCO7).

A related practice has been to prepare attractive books. Many WASCOs 'inherited' old concessional loans to the former WSBs when the sector was reorganised after the devolution,[19] and these often unserviced loans – due to either inability or (their owner's) refusal (IntWWDA2; IntWFF5) – have jeopardised many utilities' creditworthiness.[20] ELDOWAS, for instance, failed to secure OBA financing due to this, and the KPWF dropped NCWSC, Nairobi's WASCO, from their list of considered WASCOs because of their 'serious debt situation' (among other reasons, IntNL1). At the same time, WASCOs have understood that transferring these liabilities (including the physical assets developed through these loans) to their books could actually facilitate commercial financing, by demonstrating to lenders that WASCOs can, and in fact already do, repay loans (NoteWS2/3). This has often required some form of debt restructuring by the National Treasury, which then also creates some room for commercial financing (IntWFF4b; IntKPWF2). ELDOWAS, after these old loans from the end of the 1980s jeopardised their OBA borrowing, approached the National Treasury, and came to an agreement to restructure and change loan terms (lower interest rate). They have since repaid 'several loans', which has established a 'history of servicing debt' (Int-

[18]As a side effect of this exercise, the company also developed their capacity to 'even managing our resources' (IntWASCO3a).

[19]These sovereign guaranteed loans were expected to be repaid by WASCOs through fees to WSBs, but with the 2016 Water Act, WASCOs ceased to be agents of WSBs.

[20]This has been recognised as a sector-wide if not national issue. WASREB, WSTF, and donors have underlined that the lack of clarity in the sector about the amount of unserviced debt, the question of whose liability it ultimately is, and the unresolved actual repayment (or writing off) have slowly grown into a debt recovery issue for the National Treasury that has guaranteed and repaid these loans (IntWSTF4; IntKfW1). Moreover, the issue impedes commercial financing: the misclassification of WWDAs' debt as recurrent costs in WASCOs has held commercial financing back (IntConsult3; WASREB 2020a; NoteWS2/3). WASREB, for instance, notes in their 2020 Impact report that the 'majority of the infrastructure assets acquired through debt are in the books of the WWDAs, thus WSPs account for the loan repayments to WWDAs as recurrent costs, therefore overstating the actual O+M costs of the WSP. There is therefore need for policy to address the issues of transfer of assets and accompanying liabilities' (WASREB 2020a:59).

WASCO8; NoteWS2/3) and improved their negotiation position with banks. KIWASCO, too, was in negotiations with the National Treasury and expected to 'get somewhere this year [i.e. in 2020]' (NoteWS2/3). A WASH-FIN official confirmed that reaching a restructuring agreement with the National Treasury was a possibility, but neither WASH-FIN nor WASCOs did provide further details.

Ultimately, all these practices have required additional skills and staff possessing them. A WSUP official, who has worked in the sector for years, highlighted this as a central issue:

> We still have a big issue with skills. If you look at the way our utilities are formed, they're basically public service entities being turned into commercial entities. So, it's more of, you know, changing the wineskin and not the wine. So, it would take quite some time to transform the management skills, that technical skills within utilities to conform to what you may call a generic utility composition. I think we are making progress, but it's a slow and long process (IntNGO1).

Utilities have responded in two ways, when they not already had 'competent management and staff' like NYEWASCO (IntWASCO5): they have started to build capacities (IntWASCO1; IntWASCO6; cf. IntWWDA1), and, where this has been insufficient or impossible, recruited 'graduates', who are 'more aligned to the operations that we are running' (IntWASCO1; IntWASCO6). In top management, too, a new generation of managing directors with backgrounds in business administration or finance has started to replace the engineers that had led utilities in the beginning.[21] This has supported utilities' borrowing efforts (IntSNV1). Furthermore, utilities have become aware of the need to keep and motivate staff, for instance by increasing salaries and providing better working conditions (IntWASCO1; IntWASCO4).[22] WASCOs, in other words, have slowly aligned their staff composition and capacities to the requirements of professional operation and effective debt emission.[23]

5.2.2 Commercialising operations: practices of generating cash flows

Another adjustment of practices has targeted WASCOs *qua* WSPs. Successful debt emission depends, in the case the sector's revenue-backed lending structure (WASREB 2020a:11; WSP

[21]EWASCO, for instance, had been led by an engineer for many years. The company had started with staff 'in charge of the technical area [who] had only a craft certificate' and a 'person who was supposed to be managing the finances […] with very little knowledge about bookkeeping'. Whereas the former MD could stand in for engineering, he noted that his efforts to turn around the utility required financial management and borrowing, that therefore 'somebody who understands finances' needed to be recruited (IntWASCO4).

[22]NYEWASCO's strategic plan, for instance, underlines the importance to 'strengthen NYEWASCO's brand as employer of choice', 'recruit and retain highly motivated staff', 'review and improve [the] working environment', 'support learning and growth', and plan succession (NYEWASCO 2021:16) to grow and keep knowledge and experience in the company. This is particularly important because WASCOs have competed with donors, for instance, for the few talented experts (IntUNH1).

[23]This has been crucial for any efforts to advance self-reliant commercial borrowing by WASCOs. A World Bank official highlighted the difference that understanding staff makes: 'there could be willingness just because this is someone offering a loan, which you think you need. And there could be willingness because you understand what commercial finance actually means for your company, and you're ready for it' (IntWB1).

2015b,c), on utilities' ability to generate sufficient cash flows. This has relied on two primary measures, which are both strongly encouraged by national policy, the regulatory framework, and donors, especially for urban utilities (WASREB 2021; IntKPWF1; IntUSAID4; IntGIZ4). First, operational efficiency. WASREB has repeatedly stressed the importance of this to achieve national goals and universal coverage (WASREB 2021), and therefore introduced key performance indicators and associated sector benchmarks that underline the importance of reducing non-revenue water (including reducing commercial losses through effective billing and collection), and increasing the metering ratio. Moreover, the regulator's creditworthiness index emphasises operational performance and efficiency (Gakubia et al. 2015; Kimani et al. 2011), since it 'directly affects how much new debt a business can borrow' (NoteWS1/8). In many ways this relies on professional management of WASCOs described above. Second, cost recovery. Ultimately, in the Kenyan policy environment, cash flows rely on recovering costs from water users. WASREB targets therefore an operating cost coverage ratio of 150% (WASREB 2021:29), and an official has accentuated that one 'cannot talk about commercial financing without talking about cost recovery' (IntWASREB1).

Cash flow generation has depended on two key practices: effective metering, billing, and collection; and timely tariff adjustments. The former was seldom mentioned as an issue, except for improving the underlying systems that enabled for instance payments (see section 5.2.1 above) or ensuring to also bill and collect from public institutions such as schools, hospitals, or government bodies (cf. Gakubia et al. 2015). Many WASCOs, for instance, had unpaid bills often from these large consumers; some utilities reported such 'outstanding receivables' beyond five years. WASREB has been aware of this, and has worked with WASCOs on a solution (including possibly writing these off), to make bank negotiations easier (NoteWS2/3). Timely tariff adjustments and implementation of cost-recovering tariffs, however, was foregrounded by many as crucial and problematic. Charging 'justified tariffs' (WASREB 2021, n.d.) was highlighted for sustaining and improving operations by EWASCO staff (IntWASCO4), and for enabling loan servicing by KIWASCO staff (IntWASCO7). Such tariffs explicitly allow for recovering the cost of financing, if WASCOs can demonstrate that borrowing contributes to achieving the goals and targets set out in their business plan (NoteWS1/8; cf. WASREB 2019). As part of the tariff review and licencing process, WASCOs can there apply for tariff adjustments to enable debt emission, and WASREB has approved such tariffs if this condition is met.

Despite WASREBs support of 'justified tariffs', and despite the law (Republic of Kenya 2016) and regulatory framework (WASREB n.d.) encouraging or requiring (as part of the licensing, WASREB 2020b) tariff adjustments, few utilities operate one: only 15 out of over 90 regulated WSPs have a valid tariff as of June 2020 (WASREB 2021). This has slowed down or prevented utilities from borrowing commercially: NYEWASCO, for instance, which was still charging the long-expired tariff from 2013, made the decision for or against KPWF financing dependent on the implementation of an adjusted tariff (IntWASCO5). Generally, NYE-

WASCO staff noted that any negotiations with lenders always refer to actually implemented tariffs, which may not be the one approved by WASREB because it was never implemented (for instance for political reasons, NoteWS2/3). Similarly, ELDOWAS staff said that they were careful and waited for the implementation of a new tariff before assessing any loans (IntWASCO8). Both utilities have demonstrated enough creditworthiness to be considered and approached by KPWF, yet had difficulties implementing a (WASREB approved) tariff that would actually support such financing.[24] This has not always been an issue of political interference, however: THIWASCO staff, for instance, recognised that whereas tariff adjustments were necessary, this had to be done 'progressively' to retain affordability (IntWASCO3a). A KPWF board member therefore remarked that 'as long as [water remains] a social [good], it becomes very, very difficult to have the private sector, because [the] private sector is looking for return, whereas the social aspect of [water] is almost demanding that there shouldn't be a return' (IntKPWF4).[25]

5.2.3 Packaging debt: practices of creating assets

WASCOs positioning as debt emitters has relied on a distinct set of practices. On the one hand, these are practices of cultivating relationships with lenders, WASCO owners, and other relevant organisations, to gain support and credit; these are subject of section 5.2.4 below. On the other hand, these are practices of creating assets that can be used to underwrite debt emissions. Whereas lenders ultimately lend to WASCOs, not specific projects, creating those assets has nevertheless crucially depended on projects that create additional revenues (whether by connecting more users or becoming more efficient).[26] Key practices to emit debt are therefore bankability assessment and identification of bankable projects, project preparation and packaging into debt emissions, and project implementation. While these practices have been, to some extent at least,[27] part of WASCOs before commercial financing, they acquired a new dimension with it: bankability. Project identification, preparation, and implementation therefore has to ensure that revenues generated from this project are sufficient to repay the financing acquired for it. This was a 'tricky affair', according to KIWASCO staff (IntWASCO7). For projects that extend coverage, this has required a care-

[24]See also section 4.2.2. Often the reason has been that utilities' owners, the county governments, have protracted the implementation of adjusted tariffs (IntUSAID5; cf. IntWFF3). WASREB has been well aware of this and has repeatedly appealed to 'County Governments [for being] at the forefront in ensuring that their utilities have justified tariffs' (WASREB 2021:23; cf. WASREB 2020a:and earlier ones). Counties may even make use of the County Government Act to reduce tariffs (NoteWS2/3).

[25]The official urged WASCOs that 'whatever you're doing, at least, you may not be trying to make money, but it must be cost reflective' (IntKPWF4; cf. IntNL1). The justification to charge fully cost-recovering tariffs that include the cost of financing (and investors' expected returns) has involved the argument that whereas water remains a social good, water services cost money (IntWFF1).

[26]Emitted debt also declares the projects financed from proceeds of the sale of debt, which is especially important to ESG (see chapter 1) or impact investors with their investment criteria.

[27]Infrastructure development had been mostly done by WSBs, and their successors (WWDAs) have continued to be important for it.

ful evaluation of water users' ability and willingness to connect.[28] Part of KPWF project proposals are therefore demand assessment surveys, where hundreds of potential customers, including businesses, are asked in 'one-on-one conversations' about this (IntKPWF3).

Consequently, bankability assessments have determined project related decision-making. Financiers have left this decision largely to utilities as long as proposed projects fulfil financing requirements. Essentially, this has resulted in a new way of project selection based on bankability and loan terms criteria: whereas project identification has been based on needs and has preceded financing considerations, WASCOs have made projected revenues part and parcel of project selection. A WASH-FIN expert working with WASCOs to prepare bankable projects was straightforward: 'if you do a project that will not generate enough cash, then how do you repay the commercial loan?' (IntUSAID3). Utilities have understood this and adapted, selecting projects first that promise revenues, e.g. from new connections.[29] NYEWASCO staff noted that projects have typically been in urban areas or areas 'where customers have [the] ability to pay for sewer bills and to pay for connection' (NoteWS2/3), and ELDOWAS staff remarked that projects in other, lower-income areas had to be carefully assessed for their potential to generate revenues (IntWASCO8).[30] Maintaining a pro-poor orientation has therefore been difficult when financing commercially (IntWASCO1), and WASCOs have been aware that they need to be 'very careful' to not 'neglect the low-income areas' and instead focus on areas where one 'can gain more' (IntWASCO3a). Whereas companies may be able to cross-subsidise and still commercially finance projects in lower income areas, based on their overall performance (IntWASCO5), this ability is limited (IntWASCO7) and difficult to sell to commercial lenders.[31]

[28]KIWASCO's situation, for instance, has been particularly 'tricky' given that Kisumu is located in an area with seasonal rainfall: a common practice in the region is therefore rainwater harvesting, which has given people literally free water and made them hesitant to connect: 'So we really have to see how we price, and how flexible we are to beat that competition, which is rainwater' (IntWASCO7). Generally, connections can be difficult and unaffordable to many (IntKWAHO3). The World Bank had therefore developed their 'social connection policy' for the OBA programme, where the cost of connecting would be initially covered by the utility and later repaid, over a longer period, by users through their water bill (IntWB3). KIWASCO has adopted a similar model to facilitate connections (IntWASCO7).

[29]Moreover, water projects tend to be more bankable than sanitation projects. NYEWASCO staff noted that since connecting to the sewer basically doubles bills in Nyeri, this needed careful surveying and preparation of consumers (NoteWS2/3). WASREB, in the meanwhile, has started to create sanitation tariffs based on costs of providing the service.

[30]This is also a question of water consumption, given the tariff structure that subsidises the first cubic metres in an effort to keep water affordable for everyone (IntWASCO3a). This makes it difficult to commercially finance projects in areas that consume only smaller amounts, such as low-income areas, which additionally often lack big and institutional consumers such as businesses that could offset low consumption. Expanding services may even impact the creditworthiness of utilities: 'As WSPs increase coverage, they often start providing services to less commercially viable areas, leading to lower levels of system utilisation (sometimes not even covering the costs)' (Gakubia et al. 2015:19).

[31]The OBA and AoD programmes provided substantial subsidises to retain a pro-poor orientation (IntUSAID3). Moreover, donors and the central and county governments still provide grants to fund low-income areas (one of the core mandates of the publicly funded WSTF). WASCOs attempt to direct these different sources of finance according to projects' bankability levels (IntWASCO1; cf. IntWASCO3a), creating a 'hybrid of interventions' (IntWASCO4; IntWASCO5). WASCOs, in other words, rely on different complexes of practices to finance service extension. Partly, those projects are also developed by WWDAs, which have access to cheaper concessional loans (IntWWDA1).

Selected projects then need to be prepared for, and packaged into debt emissions. This is new to many WASCOs, which have either not prepared projects before (because it was done by WSBs and WWDAs, or donors or lenders on their behalf), or not prepared explicitly bankable projects. The preparation of bankable project proposals, comprehensive documents needed for approaching commercial lenders (to explain the company's technical and financial performance as well as feasibility and preliminary design of the project), has therefore been a demanding task that often required technical assistance and training. But WASCOs have been learning. THIWASCO, for instance, built capacities 'in the technical and the finance department', staff affirmed, which included knowing 'what to look for and how to go about doing the proposals, or packaging a project for financing' (IntWASCO3a). Furthermore, they added, project proposal preparation has ceased to be a 'challenge' after the first one had been completed, also because parts could be reused later. Still, the process that includes technical and financial feasibility studies, debt capacity assessments and financial modelling, and compiling all required company and project data into the proposal, has remained dependent on assistance for many. While such assistance was provided by the OBA and AoD programmes, for instance, and whereas WASH-FIN is still providing it to many WASCOs, initiatives like the KPWF have not included similar support.[32] WASCOs have therefore been faced with the challenge to either develop the capacities themselves, or to contract project preparation out to externals (and paying for this service).[33] In either case, prepared projects need to be packaged into a potential debt emission, that is readable by lenders and credible (or creditworthy) in its explanation of how the proposed project can repay any proceeds from this debt emission.[34] This has also included making WASCOs themselves, and their books and cash flows, readable to lenders, i.e. adapting lenders' requirements in terms of documentations and reporting.

Successful debt emissions need to quickly implement proposed projects to generate the cash flows required for repayment (IntWASCO3b). This has been particularly pronounced for KPWF financing, which immediately disburses in full, charges interest from day one, and

[32] KPWF, recognising that such assistance was needed, later secured funding from other donors to provide it. KPWF contracted the Kenya Markets Trust (KMT) to support project preparation by THIWASCO and EWASCO. This included 'detailed technical design[s] and tender document[s] in preparation for the bond market' (IntConsult2).

[33] The Kenya Markets Trust (KMT) explicitly recommended the latter, to concentrate the skills to prepare projects elsewhere (similar to outsourcing of feasibility studies): 'We need to have firms that are able to provide technical support in preparing bankable proposals. Remember, utilities, by the end of the day, their core function is what, water service provision. So this function of preparing bankable proposals should be with a firm, a consultancy firm, an individual, but currently this space is not well-developed in the sector' (IntConsult2). This, in turn, would require WASCOs to acquire a different practice, namely managing contractors that prepare projects, and the risks associated with this dependency on externals. Moreover, in some sense KPWF, as intermediary between WASCOs and investors, is a contracted servicer that provides assetisation and securitisation services to WASCOs.

[34] This may include assetisation and securitisation, i.e. the creation of special purpose vehicles into which assets are transferred. So far, commercial financing approaches (OBA, AoD, and KPWF) have been loans to WASCOs (in KPWF's case, the KPWF does the assetisation and securitisation). But initiatives like the one of the five biggest Kenyan cities explore approaches where WASCOs (or counties) do the assetisation and securitisation themselves.

offers only a short grace period (see section 4.3.4) – making it particularly challenging for WASCOs. NYEWASCO, for instance, facing problems and delays with a project in a particular area, moved the project to a different area instead to stay within the timeline (NoteWS2/3). On the one hand, this pressure to implement fast is a requirement of commercial financing. Utilities (and WWDAs) have understood that commercially financed projects need to be implemented differently from government projects: they need to achieve results, and need to do so quickly (IntWASCO2; IntWWDA1).[35] On the other hand, commercial financing has also enabled fast implementation. WASCOs not only learned that these projects could be implemented faster (IntWASCO7), they also felt that these projects were *theirs* (IntWASCO1; IntWASCO2) and therefore felt more strongly committed to them. ELDOWAS staff, for instance, said that they had 'more control over' commercially financed projects, instead of fulfilling conditions of donors or the government (IntWASCO8). And staff of Mathira's WASCO were happy to share that they were able to deliver a project in 9 months because they 'were involved in every step' (NoteWS2/3). This has required tighter control and oversight of project execution by WASCOs, for instance to compensate for shoddy work by consultants, who, in one case described by a WSTF expert, used 'Google GIS' and hit hundreds of houses (NoteWS2/3). Furthermore, it has required and flexibility and creativity from WASCOs, for instance to work around delays due to compensation payments (NoteWS2/3).

5.2.4 Cultivating relationships: practices of gaining support and credit

Next to practices that directly enable debt emissions, WASCOs have also acquired supporting practices of cultivating relationships with other entities that are vital to utilities' effective positionings as WSPs and debt emitters. These have included relationships with the water users they service (i.e. their "customers"), with the communities (CBOs) that they either employ in delegated management models or that provide services where WASCOs have remained absent, and with the potential lenders that may purchase their emitted debt. The most important relationships, however, have been those with their principal shareholders, i.e. the county governments that own them. In many instances, these have remained the main sources of unpredictable interference with debt emissions, despite the clear separation of political from technical aspects of water service provision (see section 4.1). However, WASCOs are companies owned by counties,[36] and county governments have been able to influence operations and crucially debt emissions through their substantial control over the companies' boards (apart from illegal interference). As WASCOs increasingly 'delink' from county govern-

[35]The OBA and AoD programmes had trained (participating) WASCOs in precisely this, tying their subsidies to timely completion of works according to plans. WWDAs, who have been used to government funding, mentioned that commercially financed projects were more 'complicated', both in preparation and implementation supervision (IntWWDA1)

[36]County governments 'hold all the shares in trust for the people of the county' (WASREB 2018b:14). Shareholder value was therefore defined by WASREB as 'universal coverage in safe, clean water in adequate quantities and reasonable standards of sanitation' (WASREB 2018b:1).

ments and their political influence by becoming agents of resource mobilisation themselves (IntWASCO4; IntWASCO7),[37] this has become an increasingly crucial way for counties to control WASCOs. Company boards, for instance, may decide not to implement adjusted tariffs, or not to approve any borrowing.[38]

This has been a balancing act for WASCOs. On the one hand, they need to retain the separation, adhere to good corporate governance (see section 5.2.1 above), and not 'get involved in politics' but instead 'think long-term' and not in political cycles (NoteWS1/8). On the other hand, they depend on the support of county governments (in their company boards). Stable and supportive boards, despite possible disagreements with management, for instance, were described as essential to preparing and implementing commercially financed projects (IntWASCO1; IntWASCO3a; IntWASCO3b; IntWASCO8). NYEWASCO staff candidly remarked that without a good relationship with counties, WASCOs had difficulties to acquire the letter of no-objection required by lenders (IntWASCO5). Conversely, donors and WASCOs affirmed that where relationships were good, counties supported WASCOs through approvals or technical assistance, which made commercial financing possible (IntWASCO1; IntUSAID3). WASCOs mentioned two ways to manage this balancing act. First, referring to WASREB's performance indicators and targets were said to be helpful in opposing counties' influence (IntWASCO6). Second, transparently including counties in all major decision-making was highlighted: 'we are very transparent on what we do [… and] if we are transparent they become very very comfortable with the management' (IntWASCO7).[39]

Commercial water service provision, which crucially enables debt emissions, is grounded in an understanding of water users as paying consumers (IntUNH3), whose satisfaction with the product and service is paramount to recovering costs. While this is arguably less an issue for essential or foundational services like water supply and sanitation (where WASCOs moreover enjoy a monopoly), WASCOs have started to engage in customer relations. This has taken two forms. First, WASCOs have clearly communicated the need of water users to pay for services and enforced such payment (if needed by disconnecting them, IntWASCO2). WASCOs, in other words, have engaged in efforts to 'sensitise' (IntWASCO5) water users that whereas water may be free or 'God given' (IntWASCO1), their services, including the cost of finance to extend these services, need to be paid for 'by the consumer' (IntWASCO1; IntWFF1).[40] Second, WASCOs have adopted a 'customer centric' culture (NYE-

[37]As KIWASCO staff put it, 'once you are able to finance your operations, then you delink yourself from any support that may come from the County' (IntWASCO7), which, according to EWASCO staff, has reduced counties' ability to 'dictate' WASCOs (IntWASCO4).

[38]Donors and WASREB have therefore repeatedly reminded county governments of their lawful duties, the importance of non-interference, and that utilities need good governance not political leadership (IntWFF2; IntKPWF1; WASREB 2018b; cf. WSP 2015a). WASCOs described interference by their owners as 'the biggest prohibition' to commercial financing (IntNGO1), and lenders, while acknowledging the laws and regulations, lamented the lacking implementation of and adherence to them by counties (IntWFF2; IntKPWF1).

[39]This has also been KPWF's approach, to inform and involve counties early and often. See also section 4.3.4 about the various letters of no-objection and support that the KPWF has required.

[40]NYEWASCO staff also mentioned another obstacle: the perception 'that any project is done with free money

WASCO 2021:14). Instead of simply providing water services to citizens, utilities have started to service *and* reach out to and engage consumers with revenue growth in mind (IntConsult2).[41] This has included several stakeholder engagement efforts (encouraged by WASREB, IntKPWF1), from '[increasing] corporate visibility', which includes 'visibility materials' and 'appearances in appropriate media' (NYEWASCO 2021:15), to customer days and road shows, during which utilities connect with their consumers and tell them about 'the quality of the water, and all that' (IntKWAHO3).[42] Customer satisfaction has become central (IntWASCO1), and therefore periodically surveyed.[43]

Yet users are not simply customers: they are embedded in communities. With the new 2010 Constitution that made water a right, the relationship between communities and utilities changed: communities have become more proactive (IntWASCO1) and part of stakeholder participation processes (cf. NoteWS1/2). During the latter, utilities' for instance present strategic plans to communities and discuss them together (IntWASCO3a). However, sector observers working more closely with communities have expressed doubts about the openness of these processes, suggesting that WASCOs are able to steer communities towards their preferred outcomes (IntNGO2; IntNGO3). And whereas WASREB has put much effort into engaging communities during tariff reviews and adjustments to ensure affordability (IntKWAHO3) and obtain approval[44] – the former CEO of WASREB would personally join many of these meetings with communities – some contended that few communities have been able to seriously participate in project related decision-making (IntKWAHO3). NGOs such as Oxfam have stepped in and helped communities to organise and build stronger self-governance (IntNGO3), and Umande Trust, an NGO working in low-income areas, has worked to capacitate communities to make their voice heard (IntNGO6). Moreover, UN-Habitat has engaged communities in so-called 'multi-stakeholder forums' to 'galvanise and mobilise communities to participate actively in programmes' (IntUNH3). Ultimately, however, cultivating relationships with communities has been less important than others. Communities have been mostly supportive of WASCOs (IntKewasnet2), also because they urgently need and demand water and sanitation services extended to them (IntNGO2) since regulated (networked) services are almost always safer and cheaper than alternatives (IntNGO5).

(e.g. grants) and if it touches one's land then money can be made' (NoteWS2/3). Resulting compensation disputes have complicated and delayed project implementation.

[41]Conversely, water users have been encouraged to see themselves as engaged consumers: 'On [the] consumer side, the kind of behaviour change we want to see is that – for a long [time] consumers [have] not "owned" [...] the services provided by utilities. So they will see a bust, they will say that is not our role, that is the role of water utility. So they need to change their behaviour and understand that they are also part and parcel of service provision. So some of the behaviour that you need to demonstrate is reporting illegal connection, reporting leaks and bust, prompt payment for water services, viewing local utilities as their own' (IntConsult2).

[42]Willingness to pay for the service has remained dependent on service reliability and quality (IntUNH2).

[43]NYWASCO, for instance, annually reviews customer expectations in addition to tariff satisfaction and has created a full department with necessary skills and tools (NoteWS2/3).

[44]A sector expert noted that 'even WASREB by itself cannot authorise [a tariff] if the public participation has resulted [in] a statement of no' (IntKewasnet2).

In some instances, however, utilities have needed community-based organisations for their knowledge of, and rapport with, water users in a community to penetrate under-serviced areas through non-networked approaches such as kiosks or water ATMs, or even separate small-scale networks operated by these CBOs (IntNGO2; IntNGO5). Delegated management arrangements have helped WASCOs in these situations to formalise water and sanitation services, and provide services even in areas where they have faced access difficulties due to resource limitations or resistance from vendors and cartels (IntNGO3; cf. IntKWAHO3). Given the allegedly widespread issue of corrupt utility staff (IntKWAHO3), who sell overpriced water in (allegedly deliberately) under-serviced areas, some have even expressed the superiority of such models because of CBOs' embeddedness in their respective communities, and therefore their inability to 'go overboard' or 'do something that is expensive for the community, because the people know each other' (IntWB4). Based on formal agreements between utilities and recognised CBOs, the latter may even be able to access financing from commercial banks, effectively standing in for WASCOs also in this regard. Whereas this has been difficult (IntNGO2), some initiatives have attempted to repeat the initial World Bank programme that worked with communities (see section 4.3.2).

Ultimately, WASCOs have needed to build and cultivate relationships of trust with commercial lenders. Existing banking relations have often provided a good foundation for further building these with commercial banks, mainly because banks already knew respective WASCOs (IntSNV1). EWASCO, for instance, was turned down by all commercial banks but Co-operative Bank, which the company had banked with, when seeking commercial finance in the beginning. And even later when the company had already borrowed, EWASCO staff remembered, approaching banks that they had previously engaged with was easier (IntWASCO4). KIWASCO staff referred to this slow development of a relationship between WASCOs and lenders as reliably demonstrating 'good character' (IntWASCO7) so that lenders could begin to trust the company. This 'good character' and resulting relationship of trust, they affirmed, has not only allowed KIWASCO to borrow commercially, but has also opened room for (some) negotiations, for instance to reduce penalty rates (IntWASCO7). Whereas commercial banks have long relied on such rapport with WASCOs, KPWF has provided investors with a trust relationship based on formal creditworthiness ratings. Towards WASCOs, however, the KPWF has sought a similar rapport with WASCOs, and WASCOs have been managing their relationships with KPWF similar to those with banks. WASCOs, for instance, have been aware that reliable 'good character' is also required for KPWF if they want to be part of (potential) further bond issuances. Irrespective of the actual lender, utilities have started to manage these relations through their finance departments and directorates.

5.2.5 The new practices adjusted to debt emission

These new practices – most importantly practices of business planning, staff training and recruitment, billing and collection of adjusted tariffs, project preparation and packaging, and relationship cultivation with counties – enable WASCOs to recover costs and self-reliantly emit debt: in other words, it strengthens their positionings as WSPs and debt emitters. WASCOs occupied these positions before primarily because they had *been* positioned within them, for instance by the reforms that created them and made them the primary WSPs in the sector (see section 4.1). Through adopting these practices, they acquire the capacities to actually perform the functions related to their new positioning. This enables them to become crucial agents of resource mobilisation on behalf of the sector, and furthers their and the sector's operational and financial autonomy and independence from political interference and donor conditions, and external funding from donors or the budget.[45] The latter includes transactional support: de-risking is moved into WASCOs, instead of provided by externals.[46] Whereas this new potential agency of WASCOs has been an important step towards commercially financing Kenya's water sector, it has also transferred financing-related decision-making to WASCOs and therefore away from central entities such as the WSTF or the National Treasury together with WWDAs.[47] Moreover, it has put the Ministry, regulator, and other sector-wide organisations (as well as donors) in a situation where they have needed to instil these practices in WASCOs to develop their capacities, and – importantly – where they need to encourage WASCOs to actually make use of them to finance service improvements and extensions in the sector.[48] The former, the instilling of practices,[49] is the subject of the remainder of this chapter; the latter, the encouragement to perform these practices and make use of associated capacities, is examined in chapter 6.

Whereas many new practices target WASCOs as commercial WSPs and self-reliant debt emitters, some target the underlying organisation, i.e. the WASCO itself. Ultimately, all contribute to the goal of debt emission, but this distinction is important for two reasons. First, different organisations have supported these practices for different reasons, creating

[45]This newly won autonomy and independence has been replaced by a different dependence on lenders and their requirements, however. Chapter 6 looks at this. And while commercial options have allowed utilities to evade donor or government conditions, in practice the commercial options available to WASCOs at the moment still include such conditions given that most credit enhancements come from donors or the government.

[46]Donors and the government, in other words, have attempted to transfer risks from them to WASCOs by replacing their transactional de-risking and sovereign guarantees with utilities' creditworthiness. This has changed risk assessments: instead of rating sovereign guarantees, projects and utilities' ability to prepare and implement them have been rated.

[47]This is not to say that central and county governments as well as donors would not still provide substantial (free and cheap) funding to the sector.

[48]This can be understood as a parallel de-positioning and positioning process, through which some sector entities have been slowly de-positioned from *funder* positions, and, the same or others, positioned as entities that instil practices in WASCOs and encourage their use.

[49]Or entrench existing ones. NYEWASCO, for instance, already had aligned management staff and internal organisation (IntWASCO5), and ELDOWAS also claimed to already have needed capacities (IntWASCO8). Both were also approached by KPWF, which has typically not provided capacity development assistance and therefore selected WASCOs that already have required capacities.

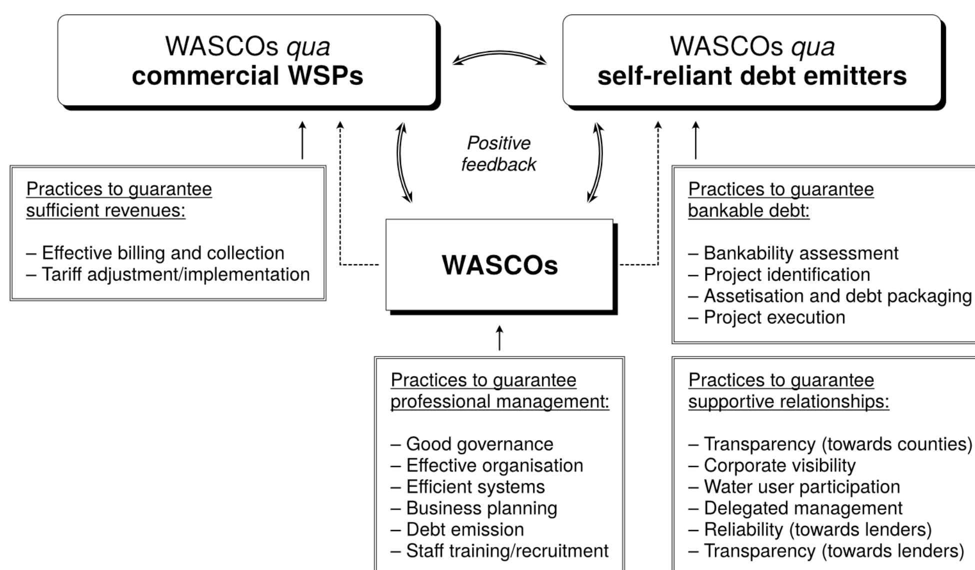

Figure 5.3: The "spiral" or positive feedback between practices that contribute to WASCOs, WASCOs *qua* WSPs, and WASCOs *qua* debt emitters.

(implicit) broad support for utilities' new roles. Virtually everyone in the sector, for instance, endorses performance improvements of WASCOs, which are primarily an outcome of more professional and efficient management and operation. Since this is a precondition for debt emission, any encouragement of these practices implicitly strengthens the debt emitter positioning. Second, the often-made claim that commercial borrowing improves performance seems valid empirically, but not analytically: commercial borrowing depends on performance improvements and therefore enforces them, but these performance increases are grounded in practices that are independent of debt emission. This foregrounds another point, namely that the new practices of WASCOs are interconnected. For instance, business planning is connected to tariff adjusting, and staff recruitment and training critically underpins the *WSP* and *debt emitter* position occupancies. Together, they create complexes of practices that allow particular forms of water service provision or debt emission. The two complexes of practices promoted for WASCOs – commercial provision of water services, and revenue-backed debt emission – have been shown to be accepted and trusted by commercial lenders in Kenya (at least in principle, see section 4.3).[50] They are not the only ones, however: other forms of water service provision or debt emission are imaginable, and these may still bundle the various practices that improve performance (see section 7.4).

Practices, however, are not only interconnected, but their adoption also forms positive feedback loops on the functional and practical levels (see figure 5.3). On the one hand, therefore, they reinforce outcomes. The WSP and debt emitter positionings, for instance, are linked in such way that commercially providing water services underpins debt emission (by

[50]This is critical: self-reliant debt emission depends on the creditworthiness of the transacting utility, not singular de-risked transactions. Lenders therefore assess WASCOs and their capacity (and commitment) to turn the proposed project into cash flows that can repay the loan. Or, in other words, they need to understand and approve of WASCOs' practices that underpin this capacity.

generating the necessary revenues), and debt emission furthers water service provision (by funding infrastructure rehabilitation, replacement, or development). Similarly, performance improvements underpin water service provision and debt emission, and water provision and debt emission allow for further improvements of performance (billing and collection, for instance, may feed back to improving the underlying systems, and proceeds from debt emission may fund efficiency projects). On the other hand, they entrench individual practices, and even complexes of practices. Billing and collection, to use the same example, require underlying systems, project packaging requires skilled staff, and tariff adjusting requires cultivated relationships with counties. At the same time, the complex of practices that forms commercial provision of water services is entrenched by the complex of practices that forms self-reliant debt emission. The different practices adopted by WASCOs therefore form an upwards “spiral” of positive reinforcement that continuously further entrenches both commercial water provision and self-reliant debt emission, and further drives performance improvements.[51] And whereas the latter has been welcomed by virtually everyone, the former has remained less broadly supported for its entrenchment of *commercial* water service provision. Non-commercial models, in other words, have become much more difficult to implement once self-reliant debt emission has been adopted by WASCOs.

5.3 The adjustment process

The new debt emission aligned practices needed to be introduced to WASCOs. Few WASCOs (NYEWASCO and EWASCO are often-cited exceptions) have acquired lender approved practices that underpin debt emission on their own, simply because commercial finance has been increasingly available. In contrast, various organisations working in the sector, whether sector organisations such as the Ministry or regulator, or externals such as donors, have put ‘sustained’ (IntUSAID2) efforts into ‘instilling’ (IntUSAID6) these practices in WASCOs. After transaction facilitation, a second phase of interventions in Kenya’s water sector has turned to the adjustment of utilities’ practices.[52] This section looks into the agents behind these efforts, and the different ways those agents have attempted to occasion change.[53] Section 5.3.1 describes how training has been used to introduce new practices to WASCOs and realign their existing ones with debt emission. Similarly, section 5.3.2 looks at the use of guidelines, templates, and experiential learning to this end. Finally,

[51]This “spiral” is the core idea of any WASCO turn-around. EWASCO has repeatedly been singled out as exemplar of the working of this “spiral”. This is (briefly) covered elsewhere, see https://speri.dept.shef.ac.uk/2020/07/13/the-bootstrapping-race-development-by-commercialisation/ (Heckel 2020). See also appendix A.

[52]An expert who had worked with the World Bank at the time remembered that there had been a debate as early as 2011 about a more strategic approach to move utilities to commercial financing (IntSNV1). SUWASA, one of the first programmes to promote commercial financing and ‘experiment’, had started working with commercial banks from 2009; the programme also prepared first transactions for WASCOs in places like Embu, Kisumu, or Nakuru (IntUSAID4).

[53]The section, as the thesis, focuses on WASCOs. Nevertheless, other organisations such as NGOs or CBOs are similarly targeted (cf. IntWB4).

section 5.3.3 examines how external support – financial, practical, discursive, reputational – and peer exchange have contributed to WASCOs transformation. Different agents have, at different times, used these approaches to develop utilities' capacities to emit debt and their agency in resource mobilisation.

Two of the more dedicated and influential agents have recently been USAID (with its current WASH-FIN and former SUWASA programmes), and the sector regulator WASREB. Various other organisations, however, have been part of this assistance to WASCOs, even they simply worked with them on improving their performance by professionalising their management or operations. Moreover, financiers have played an essential role, although support has often been provided by third parties (as for instance with the KPWF). This has been only loosely coordinated, if at all, by WASREB through their regulations and guidelines.[54] Previously, the World Bank had done of this coordination work through its Water and Sanitation Program,[55] but with the end of this program no other organisation has provided such 'day-to-day engagement that's required to move this agenda forward', as an USAID official put it (IntUSAID2).[56] Yet regardless of this lack of coordination, and regardless of their individual reasons to instil a particular practice, the section conclusion (section 5.3.4) argues that these organisations, with their stated goals of aligning utilities' practices with debt emission, form *assistive circles*. This borrows from the concept of normative circles (see section 2.3) and suggests that the commitment of each and all of these organisations to instil a particular practice, or set of practices, makes these assistive circles more powerful than these organisations on their own.

5.3.1 Training: capacity development

Building capacities of utilities by training them in practices has been a primary goal of many actors working on increasing commercial financing of the sector. The SUWASA and WASH-FIN programmes have aimed at technically assisting WASCOs and the national and sub-national governments of Kenya, and promoting providing such assistance and considering finance and policy to other local USAID projects (IntUSAID1; IntUSAID2). KIWASH, one of these other USAID programmes, while not similarly focused on financing, has joined WASH-FIN in their efforts, and has required from assisted WSPs (both WASCOs and other providers) 'to complete the training syllabus [and] demonstrate that they are implementing the practices that we're teaching' (IntUSAID6). Moreover, staff of Kenya Markets Trust expressed the organisation's interest to 'get into this space of finance [and] build the capacity

[54]Agencies related to the same donor country may, however, collaborate more closely. The Dutch-funded KPWF and technical assistance agency SNV, for instance, have worked with the same WASCOs (IntSNV1).

[55]Together with WASREB, the programme developed the initial creditworthiness rating (Gakubia et al. 2015), and several 'manuals' for commercial financing (WSP 2015b,c,a).

[56]WASH-FIN has lately attempted to take over some of these tasks, but former SUWASA staff noted and regretted that 'the momentum from SUWASA was not maintained' (IntUSAID5) and that too long of a gap had been between the two programmes.

of utilities to have a better understanding on financial management, have better debt management policies, and also enforce those policies' (IntConsult2). The organisation worked with the KPWF before to prepare transactions for the financing initiative, and now attempts to build capacities in WASCOs. This has included the areas of 'operational efficiency […], data management, [and] consumer engagement so that they can become financially sustainable' (IntConsult2). WASH-FIN staff, however, reminded that such capacity development was a complex and overwhelming task (IntUSAID3); this assessment was supported by staff of WASH-FIN's main contractor that works with WASCOs on various debt emission related practices such as deb capacity assessments and financial modelling (IntConsult3). Moreover, WASH-FIN staff added that it was an erratic and unpredictable process that has required flexibility and adaptation (IntUSAID1).

One entry point to structure these efforts has been to rate utilities' creditworthiness. This has allowed WASH-FIN to support WASCOs according to 'where the company is', a programme expert said (IntUSAID1), and subsequently relied on committed leadership of utilities (IntUSAID3; the Urban Water Catalyst Fund's approach has been similarly grounded in the commitment of utilities, GIZ 2019a). Acknowledging, furthermore, that achieving creditworthiness needs assistance tailored to the particular WASCO, WASH-FIN has subsequently supported different areas and related practices in ways specific the particular WASCOs. Given supportive leadership, this has included supporting project preparation, project vetting for technical and financial viability, debt capacity assessments and financial modelling, and 'shopping around' for financing and negotiating with banks by preparing answers to anticipated questions and requirements (IntUSAID1; IntConsult3). Although these steps have been associated with transactions, they have been intended to build the capacities in utilities. This worked better for some, and worse for others: given the technical complexity of debt capacity assessments or financial modelling, one of the experts who did this training questioned whether utilities could actually repeat them without external support (IntConsult3). Nevertheless, they contended, it was a first step, and WASCOs learned something, if only to understand the purpose of these practices, and how to think about debt capacities or financial models. WASCOs, who had been supervised by WSBs previously, welcomed such technical assistance and training, only regretting that it came 'somehow late' (IntWASCO2).

Such capacity building in utilities has therefore often taken the form of working with utilities individually, intensively, and in targeted ways. Several organisations have done so. KMT, for instance, has identified four key target areas (operational inefficiencies, governance, finance, and consumer engagement, IntConsult2), and has worked with WASCOs on respective particular practices. This has included 'helping utilities to come up with consumer engagement strategies', 'to reorganise their customer care office', and 'to move out of their office, to have what we call open day clinics, roadshows, so that consumers can get to know utilities better' (IntConsult2) Furthermore, KMT has provided targeted support to WASCOs to cultivate their relationships with county governments (IntConsult2), and to have effective

and supportive company boards. To this end, KMT has also partnered with WASPA to train board members and senior management, and generally utility staff, to adopt the corporate governance guidelines issued by WASREB [IntConsult2; see also below for a discussion of WASREB's corporate governance guidelines]. KIWASH, too, has worked with WASCOs on this, for instance with KIWASCO to resolve an issue with their board, which included a training of board members of their role and function ('oversight not secretariat', IntWASCO7).

WASH-FIN and its predecessor SUWASA have long been involved in such one-on-one support of utilities to build their capacities to package bankable project proposals. SUWASA, which had initially focused on working with lenders, had soon also provided assistance to WASCOs. This was described by one former staff as 'handholding', underlining the close contact the programme had with WASCOs (IntUSAID4), and another former staff remembered that it had included 'a lot of on the ground work' (IntUSAID5). WSTF has provided a similar support, offering WASCOs to look at their cash flows and books, and helping them to design a 'business model' (IntWSTF2). Finally, UN-Habitat has had 'pre-investment' capacity building support for local governments and WASCOs, which trained them, for instance, in efficient operation of WASCOs; while not explicitly targeting debt emission, UN-Habitat staff remarked that 'the good thing about [this] is [that] it makes them creditworthy' (IntUNH3). Similarly, Oxfam has worked closely with mostly less creditworthy utilities on their systems, especially on automation of processes, and on effective tariff collection (IntNGO3). And GIZ, which had been active in the sector for many years, supported utilities with advisors that helped to reduce non-revenue water, introduce new IT systems for billing and collection, and install water meters (IntGIZ4).

Such direct and targeted support of utilities is complemented by formats that address common issues in workshop-like training. WASPA, for instance, in partnership with other development partners, especially Vitens Evides International (VEI), has regularly invited WASCOs to training across the country on topics such as financial reporting, finance in general, or customer care.[57] WASH-FIN, too, has organised a range of training, often focusing on knowledge sharing (see section 5.3.3 below). Moreover, a WASREB workshop organised and chaired by WASH-FIN, for instance, took utilities through the whole process of acquiring commercial financing (NoteWS1). Invited and attending utilities learned how to identify several projects, based on their strategic goals through business planning, how to select projects based on technical and financial criteria, and how to assess the financial impact of any such project by using WASH-FIN's debt capacity assessment tool. The latter was a very practical exercise during which WASCO staff used their own data and laptops to experiment and create a few possible projects and scenarios. The workshop also included a training on how to negotiate with commercial banks and how to guarantee repayment through, for instance, tariff adjustment applications, operational efficiency improvements,

[57] See their website at https://waspakenya.or.ke/events/ for a recent list of training offered.

or applications for subsidies (USAID 2020). Participating utilities seemed to appreciate the training and associated possibilities: it 'opened up most of our minds now that there are so many options that we can take', ELDOWAS staff said after the workshop (IntWASCO8). Generally, as a result of one-on-one training and such workshops, WASCOs felt they were, as staff of THIWASCO said, able to 'understand how commercial funding can help and how to make a decision' (IntWASCO3b)

5.3.2 Instructing and doing: guidelines, templates, experiential learning

Both WASPA and WASREB have issued various guidelines and templates to support utilities in adopting "best practises" in a range of areas. Together with GIZ, WASPA has provided a technical guideline, for instance, that addresses water meters and their management (WASPA 2015). More important are WASREB's various documents, which include guidelines on corporate governance (WASREB 2018b), business planning (WASREB 2019), consumer engagement (WASREB 2018a), and tariffs (WASREB n.d.). Furthermore, the regulator has provided an (outdated) template on company board member ethics that utilities can use and adjust (WASREB 2010). Whereas WASREB is required by law to provide some of these guidelines (cf. Republic of Kenya 2016:section 72), others have been provided to make general Kenyan legislation and policies accessible to the sector (e.g. corporate governance), or to support financing of infrastructure development (e.g. business planning, WASREB 2019).[58] These guidelines have both created a frame for capacity building efforts, which typically train according to the standards set by the regulator, and contributed to utilities' adoption of new practices or change of existing ones themselves. The guideline on business plans, for instance, whose creation was supported by USAID, minutely lists and explains the minimum content of a business plan, providing clear instructions on what to add where and even samples of how to formulate key sections (WASREB 2019). WASCOs expressed their gratefulness for such step-by-step instructions to manage what they felt was a challenging task (NoteWS1). Similarly, the guideline on consumer engagement clearly lays out a range of practices utilities are asked to adopt to fulfil their duties (WASREB 2018a).

Three guidelines specifically targeted at commercially financing the water and sanitation sector in Kenya are the manuals and tool-kits for lenders (WSP 2015b), county governments (WSP 2015a), and WASCOs (WSP 2015c) developed by WASREB and World Bank's WSP programme. The toolkit for WASCOs (WSP 2015c) is part guideline on how to '[optimise] WSP management and operations for commercial finance', part manual that explains

[58]WASREB's justification for the requirement of business planning comes from the regulator's mandate to 'set rules and enforce standards that guide the sector toward ensuring that consumers are protected and have access to efficient, adequate, affordable and sustainable water and sanitation services', which critically depend on a 'comprehensive sector investment plan backed by adequate and predictable financing in order to achieve the progressive realisation of the right to water and sanitation'. WASREB affirmed that business plans are 'critical tools to achieve this goal and are required documentation to accompany license applications and tariff adjustment proposals forwarded by WSPs to WASREB' (WASREB 2019:1-2).

key concepts of borrowing and associated terminology, and part collection of templates that mainly help ease the commercial financing approval process.[59] The guideline part addresses and guides in detail corporate governance and related practices such as company board appointment and composition, the overall organisational and management structure, and the internal organisation of each department, their duties and responsibilities, and their performance indicators. Moreover, the guideline explains the steps of the borrowing process, from project identification over loan application and acceptance to project implementation and repayment, the particular lending technique available to WASCOs (revenue-backed, given that WASCOs cannot offer collateral), credit rating and the regulator's creditworthiness index, the OBA and AoD programmes, and risk mitigation practices 'to deal with financial stress in good time in order to maintain good standing with [...] lenders' (WSP 2015c:105) and avoid lender 'step-in'. The risk mitigation section also includes lists of what WASCOs should not change 'without lender consent',[60] and a figure that presents positive and negative undertakings such as 'comply with contractual obligations according to project documents', 'give access to the site and records to the lenders', and 'no other debt (or possibly no equal or more senior debt)' (see figure 44 for full list, WSP 2015c:108).

These guidelines and templates have been valuable tools to WASCOs, especially when preparing financing documentation for the first time. First, following these guidelines has assured WASCOs that they have adhered to sector regulations. Second, they have substantially reduced WASCOs workload, sometimes to simply pasting pre-formulated paragraphs. Finally, they have ensured readability for lenders across the sector, especially since lenders, too, have received matching tool-kits. This crucially adds to training. On the one hand, these guidelines are easily available, also to WASCOs and staff that have not been part of any training. On the other hand, they are authoritative manuals that instil new practices simply by following them; WASCOs, in other words, unquestionably perform these new practices, as formulated by the regulator for instance, merely by using these guidelines and templates. An Oxfam official, which has worked with rural water service providers that had been a blind spot of such guidelines, called the new guideline for management of rural water systems and underserved areas for instance a 'game changer' (IntNGO3).

Ultimately, WASCOs have been encouraged to *actually do* debt emissions and go through the whole borrowing process (see figure 31 in WSP 2015c:79). This has been an effective way to motivate change in utilities, and part and parcel of programmes such as OBA or AoD that, according to a KMT expert, 'aimed to trigger some behaviour change amongst water

[59]Templates include a sample 'request for proposals' (of long term funding from commercial banks), a sample 'WSP Memorandum & Articles of Association', a sample 'Memorandum of Understanding' between county government, WSPs, WSTF, and WSB (now WWDA), a sample 'County Government Approval of Borrowing' as well as 'WSB Approval of Borrowing', and a 'financial model and cash flow projection template' (WASREB 2022).

[60]The former includes the 'project plan', 'project contracts', 'capital expenditure program', and 'debt program'; the latter the 'financial status of the WSP', 'legal status of the WSP', 'commercial status of the WSP', and 'construction, operation and performance of the works' (WSP 2015c:108).

utilities to start considering commercial finance'. An USAID official claimed that the high public de-risking requirement was an acceptable price to pay to have WASCOs go through commercial financing transactions and promote aligned practices. At some point, the official noted, there was

> widespread recognition that blending in even small amounts of commercial finance has value in its own right, just in terms of getting utilities to think differently, think from a more financial perspective [...] to really take them through the process of doing cash flow projections and the types of, the other types of things that local commercial banks need in order to feel comfortable before lending. (IntUSAID2)

The substantial subsidies (50-60% of loans) and technical support to lift utilities somewhere near commercial financing was justified, in other words, by what were initially considered secondary effects: supporting the adoption of practices by WASCOs that are aligned with commercial water service provision and debt emission. Moreover, this not only helped to instil new practices, but also helped to demonstrate to WASCOs the benefits of adopting them and inspire making use of related capacities. As the KMT expert explained, 'it also changes the behaviour of [a] utility from the aspect that if I can pay 40% [...], can I not go and borrow 100% from a commercial bank? So it provides that platform and confidence amongst utilities that, oh, this is an opportunity here' (IntConsult2). A temporary positioning of a WASCO as debt emitter, even if dependent on external support, can effectively introduce associated practices through "experiential" learning.

Such learning has also been part of capacity building exercises that have been designed to reflect actual processes, or unsuccessful engagements with lenders that did not result in transactions but nevertheless taught important lessons. THIWASCO staff, for instance, asserted that their purely preparatory and evaluative relationship with KPWF has already changed the company: 'I think through that engagement we have built capacity, internally, to be able to prepare projects for funding, which previously, maybe, the company did not have' (IntWASCO3a). WASH-FIN has therefore staged mock presentations to, and negotiations with, commercial banks for WASCOs. Even if these interactions with banks were described as comparably simple, doing these targeted exercises and actually interacting with banks were described as effective ways of learning (IntConsult3). Possibly more so than capacity building efforts, which were described as 'hand-holding' (IntUSAID4): reflecting on WASREB's workshop, former SUWASA staff felt 'it was a little bit discouraging because I do think that several of the utilities in the room were the same ones that worked with SUWASA on business planning' (IntUSAID5). Being thrown into the water and actually attempting to emit debt – with support nevertheless – may prove more effective. The effectiveness of any exercise or actual engagement with lenders, however, depends on the commitment of utilities' leadership and, crucially, their whole teams (IntConsult3).

Two WASCOs with committed leadership welcomed this approach. NYEWASCO staff, for

instance, said they appreciated the lessons learned through OBA financing, and was confident that the 'next application will be easier' (NoteWS2/3). The utility has gained essential experience by going through it, including about timelines, dependency on the capacity and professionalism of contractors, and practical problems on the ground that can jeopardise project implementation according to plans and designs (as well as workarounds and ways to prevent such situations). Importantly, the company has gained confidence from the confirmation that their internal capacity had been available and sufficient to actually emit debt. Similarly, staff of EWASCO noted that they have become more experienced and confident each time the company utilised 'alternative' financing to improve their services delivery (IntWASCO4). Yet even partially going through the financing process has helped utilities, by building capacities and resources in respective stages: THIWASCO staff mentioned that they could reuse documents later, and found it 'no challenge' to redo a financing application after their initial OBA one fell through (IntWASCO3b). WFF staff highlighted the value of such learning, combined with training and instructions, saying that going through a transaction

> is actually better than any speech or textbook. If they have a real loan, they're subject to the rigour of the market. And that is the best lesson there is. […] just doing it is, I think, the best way of educating. […] if you're gonna teach it to them, for an example, then they're sitting, and you tell them, and they don't have a loan, that doesn't sink in. […] it is like studying a recipe book. Fine, but you don't learn to cook from it. That you do if you cook at the same time with the recipe book (IntWFF1).

5.3.3 Promoting and liaising: external support and internal exchange

Most (larger) commercial financing transactions, however, have remained dependent on financial support in form of credit enhancements and subsidises that de-risk and incentivise them. In addition to OBA's and AoD's subsidies, this has included 'tools and sweeteners' such as USAID's DCA credit guarantee to 'roll out projects that otherwise wouldn't have been possible' (IntUSAID2). This specific mechanism, which provides a 50% guarantee and has proven successful in de-risking transactions, was introduced by SUWASA to Kenya's banking sector[61] for transactions with the water sector (IntUSAID4; IntUSAID5). Two features have made the DCA guarantee mechanism very effective: first, it is negotiated with commercial banks, not as part of specific transactions. This means it covers any applicable project financed by that bank (IntUSAID5). Second, it guarantees '50% of the loan' not any unpaid amount in case of defaults. This means that 'if half the loan is already paid off, then it's fully guaranteed by that point' (IntUSAID6).[62] WASH-FIN has not inter-

[61]In principal, DCA could also work for capital market-based transactions such as KPWF. While SUWASA first attempted to work in such way, they early on changed their approach to work with commercial banks, which was more viable at the time (IntUSAID5).

[62]This explains the KIWASH official's remark that OBA and AoD loans were 100-110% guaranteed and easy business for banks: 50-60% of the loan came as a subsidy, and the DCA guaranteed the other 50% (IntUSAID6).

vened in negotiations between DCA and commercial banks, but has acted as a broker and has encouraged banks to sign up for it and utilise it (IntUSAID1). Nevertheless, such de-risking has been designed to be transitory or replaced by contracted services once WASCOs have reached creditworthiness. The WSTF, for instance, has considered creating a revolving fund to support transactions, which would (similar to KIFFWA's approach) cover the risk of not reaching a transaction, but otherwise recoup costs from supported WASCOs.[63] Importantly, while this support has facilitated transactions, it has also supported training efforts and actually doing transactions, which was said to be the most effective way of instilling and entrenching particular practices (see above). In this way, even transaction facilitation becomes an important part of developing capacities needed for commercial WSP or self-reliant debt emitter positionings.

WASCOs have also benefited from practical support. WASH-FIN has taken the role of a broker and comforter, who '[makes] everybody comfortable, providing the information that facilitates the relationships on the demand side and on the supply side' (IntUSAID1). This has been valuable "behind-the-scenes" support. For instance to get the crucial 'blessing of the governor' by working with county governments and governors through respective county ministries or the caucus of ministers of water: WASH-FIN has answered any questions governors had, and has advised based on the situation of respective WASCOs (IntUSAID1).[64] Such support has also included speaking to commercial banks on behalf of WASCOs in extraordinary situations, for instance when banks demand unreasonable guarantees:

> So the company might come back and may say [...] this bank is asking for a second debenture. Then we will go and talk to the bank and say, but look, you've got DCA already, why are you asking for another debenture, the DCA has already guaranteed your money, so stop being funny and just give them the loan (IntUSAID1)

Many donor programmes as well as WASREB have routinely spoken with lenders, lending their reputation and trustworthiness to potential transactions. WASREB has also been approached by banks during their due diligence process (IntWASCO1). And the World Bank was said to have been talking to banks to assure them of OBA related credit enhancements and subsidises and vouch for WASCOs: 'of course the World Bank would go behind and tell the bank, we secure 50 per cent, we will even give these people a subsidy, if they achieve certain targets, [and] even tell [the bank] they can pay' (IntWASCO4).

Such practical support has included discourse. Donors, and increasingly sector organisations such as WASREB or WASPA, have supported, implicitly or explicitly, speaking of "alternative finance" as the "way to go", of WASCOs having "no choice" but to go this direction, and

[63] Additionally, the Ministry of Water has considered setting up their own subsidy programme for transactions [similar to OBA; IntGov2b; IntGov2a].

[64] Moreover, checking in with county governments before formally engaging with WASCOs has long been established practice within WASH-FIN, 'just to know whether the county is supporting the WSP' (IntUSAID3).

of commercial financing as inevitably "picking up" (cf. IntUSAID1). Especially the World Bank, which has long been in a 'leadership position on this agenda' has advanced the "gap filling" narrative, based on 'doing the maths' and recognising that available money was not sufficient to 'fill the gap' (IntWWDA2; IntKewasnet2; IntUSAID2). After the World Bank and UNSGAB (and others) had convinced the Ministry to approve the first larger transactions by WASCOs about ten years ago (cf. IntWASCO4),[65] the Ministry, too, has supported such discourse. Donors have taken this discourse directly to WASCOs. The KPWF, for instance, was very active initially to approach WASCOs and promote a capital market-based approach and commercial financing generally (IntWFF4b). ELDOWAS staff remembered one such encounter and the effect it had. Whereas the company was initially 'hesitant' because of KPWF's high interest rate, the company's board was more interested after the KPWF gave a presentation to them: 'they've done a presentation to [...] the company board of directors. And, of course, now [...] the board was actually interested in that loan' (IntWASCO8). This has given WASCOs not only the language to speak with anyone more hesitant (such as their owners), but also a broad discursive backing and active support when approaching them. County governments, for instance, have been more difficult to convince – 'just because it's a loan and it's water' and the 'two things should [not] go together', a USAID official noted (IntUSAID1) – but WASH-FIN has repeatedly supported WASCOs by assuring counties that 'their companies are doing the right thing' (IntUSAID1).

Finally, development partners and WASREB have used their reputation and position to convene different entities to facilitate meetings and dialogues between WASCOs and lenders. This has been especially important to overcome lenders' distrust of the government and any associated entities – which WASCOs have still been understood as by commercial banks and even more so investors (cf. IntWFF1). WASH-FIN, for instance, has organised 'knowledge sharing forums', first with commercial banks and later with WASCOs and commercial banks (IntUSAID3; cf. IntConsult3).[66] This has also included the facilitation of meetings between interested banks, WASREB, and WASH-FIN. In one of these meetings, WASH-FIN also invited NYEWASCO, the sector's top-performer with experience in commercial financing (NoteWS3). The purpose of this rather informal meeting was to comfort the bank by having a WASCO share their experience with commercial financing and especially repayment of a commercial loan, and WASREB explaining the historical origins of the sector's problems, the sector's regulatory framework, and the support they have been providing to the sector to minimise risks. The meeting included a lengthy Q&A part during which the bank could

[65]Various other donor programmes have since worked with the Ministry to sustain or expand the Ministry's support of private sector participation generally and commercial financing more specifically: SNV, for instance, supported the Ministry in understanding the private sector more generally, and commercial financing more specifically. This was described as effective in gaining government support (IntSNV1).

[66]This has been an important part of WASH-FIN: to engage banks and explains the sector to them, dealing 'with those issues that make it difficult for them to enter the space', which is mostly sharing knowledge, referring to sector entities if WASH-FIN cannot provide answers, and also supporting 'getting [banks] on the DCA' (IntUSAID1).

clarify some points about performance indicators of the sector, the overall governance of the sector, and debt recovery; conversely, WASH-FIN queried the bank about the reasons for their past hesitancy to engage with the water sector. Such meetings and knowledge sharing forums have helped WASCOs to understand lenders' perspectives and requirements, and the need for adopting particular practices.

As more and more utilities have adopted such aligned practises, development partners and sector organisations have also used exchange among WASCOs to further promote these practices. The Ministry of Water highlighted the importance of such workshops, noting that such a 'knowledge sharing platform is crucial' (NoteWS1/3). Next to workshops by WASREB and WASH-FIN, WASPA's member meetings have facilitated peer-to-peer exchange. These meetings are also open to lenders, and KPWF, for instance, presented there once (IntWASPA1). WASPA has also partnered with VEI to facilitate a voluntary benchmark since 2011, which has been 'about sharing knowledge and expertise, because we very much believe that Kenyan water companies can learn from each other' (IntVEI1). Different from WASREB's Impact report, this benchmark has focused not on performance but on WASCOs activities in regard to non-revenue water, cost-recovery, customer care, and pro-poor services. The basic idea has been peer-to-peer exchange of related practices and mutual learning. The process, which is aligned to WASCOs budget planning cycle to ease adoption of new practices,[67] involves creating a report, discussing the report in a 'classroom setting', a 'field training based on one of those best practises', and a final task group meeting (IntVEI1). The World Bank has similarly promoted exchange regarding best practises between WASCOs by bringing them together and through mentoring partnerships between them. Such formats have been effective in establishing particular practices, especially since WASCOs learned them from other WASCOs in practical ways, being shown not only the practice itself but also how it supported a WASCO in, for instance, improving performance or emitting debt.

5.3.4 The assistive circles transforming utilities

Donors and sector organisations such as WASREB or WASPA have shifted their support of commercial financing from transaction de-risking to developing the capacities of WASCOs to emit debt without any external support (i.e. transaction facilitation, see figure 5.1). They have done so through several approaches, including training WASCOs, instructing them (with the help of guidelines, templates, and crucially while actually borrowing), and promoting commercial financing and liaising between essential organisations. The purpose of all these activities has been to instil and entrench practices in WASCOs that align with three goals: improving the performance of WASCOs, commercially providing water services by WASCOs *qua* WSPs, and self-reliantly emitting debt by WASCOs *qua* debt emitters (see

[67] 'The ideal cycle is: from the benchmark you learn something, you pick something up, so you put that in your performance improvement plan' (IntVEI1).

figure 5.2 and section 5.2 above). The approach that was singled out as crucial has been actually doing debt emissions, either in "realistic" exercises or, better, by actually engaging with lenders and acquiring loans – even if these have remained facilitated by donors in programmes such as OBA or AoD, or even KPWF.[68] Whereas such facilitation has still been provided, donors have started to see this not as transaction facilitation (or de-risking), but as another way or tool of instilling and entrenching practices by helping WASCOs to go through debt emissions. First signs have indicated that this has been working. One bank, for instance, noted that the sector is heading towards borrowing without any subsidies (Int-Bank3). WASCOs, in other words, have slowly gained the capacities, through adopting several practices accepted by lenders, to emit debt without external facilitation or de-risking: WASCOs themselves have become the de-riskers.

Among the many organisations that assist WASCOs in adopting these practices have been WASCOs themselves, especially after they have gone through first debt emissions. In peer-to-peer learning platforms they have joined donors and other sector organisations in disseminating particular "best practices". Although these activities of instilling and entrenching particular practices by various organisations has at best been loosely coordinated, some coordination is achieved. This can be understood through the concept of *assistive circles*, which can be thought of as specialised sub-circles of Dave Elder-Vass' *normative circles* (see section 2.3), that bring together organisations based on their intent and goal of instilling a particular practice or set of practices (in this case practices aligned with debt emission). Any organisation, including WASCOs themselves, that disseminate, instil, and entrench a particular practice, in other words, are members of such assistive circles. Their shared commitment to instil or entrench a practice makes these assistive circles powerful: wherever WASCOs turn for technical assistance, they are faced with assistive circle members that instil or entrench in them a particular practice. This is strongly tied to associated normative circles that endorse this particular practice. Yet whereas normative circles endorse or enforce particular norms by creating or strengthening normative beliefs in members, these assistive circles work on their members whether they believe in associated norms or not: in some way, they bypass norms and instil or entrench practices regardless of recipients' normative beliefs about them. This has a crucial consequence: recipients of such assistance may or may not actually perform the practice,[69] and chapter 6 therefore looks at related normative circles.[70]

[68]Again, the stated goals of OBA and AoD had been to do precisely this: walk WASCOs through actual debt emissions. At the time, that required substantial subsidies and credit enhancements. (The continued non-success of KPWF suggests that more credit enhancements may still be necessary.)

[69]It also raises the question of why any recipient agrees to the instilment or entrenchment of particular practices, i.e. why does any organisation agree to such assistance when their normative beliefs do not actually make them adopt or perform the practice. The answer may be twofold. First, such assistance comes at no cost, yet sometimes with welcomed benefits secondary to the actual assistance, often on the personal not organisational level. WASCO staff, for instance, may be able to travel or stay in luxurious hotels for assistance related activities. Second, the power of (dominant) assistive circles in disseminating *one* particular practice may simply make this the only assistance available, and WASCOs may simply choose to engage because this is what they can get.

[70]In Kenya's case, the normative environment established by the Ministry and WASREB has created a strong normative pressure to adopt the aggregate practices of *commercially* providing water services and *self-reliantly*

And whereas normative circles underpin social relations in terms of advocating a particular practice, these assistive circles assist in the adoption and performance of a particular practice.

5.4 The alignment of WASCOs' practices with *debt emitter* performance

Organisations invested in the transition of Kenya's water sector financing towards commercial financing have changed their course. While previously focused on creating a permissive and enabling environment, explaining the water sector to lenders, and on transactional de-risking, they have lately concentrated on actually transforming WASCOs into the commercial and self-reliant companies that the 1999 policy document (Ministry of Water Resources 1999) and subsequent legislation and regulation (Republic of Kenya 2002, 2016; cf. WASREB 2018b) have stipulated. At the centre of this transformation has been instilling and entrenching practices in WASCOs that are aligned with self-reliant debt emission by WASCOs. These include practices that have improved the overall performance of WASCOs, their effectiveness to commercially provide water services *qua* commercial WSPs, and their ability to emit debt *qua* self-reliant debt emitters. Specific practices disseminated and instilled or entrenched by assistive circles (see section 5.3.4 above) have included business planning and good corporate governance, billing and collecting adjusted tariffs, and preparing and packaging projects for debt emissions (see section 5.2 and figure 5.2). Assistive circle members have utilised different approaches to instil or entrench particular practices, including training, instructing (which includes supporting actually going through debt emissions), and promoting and liaising (see section 5.3). As a function of the gradual adoption of these lender accepted practices, WASCOs have gradually achieved (near) creditworthiness, which is to say that they have increasingly effectively occupied and performed a *commercial WSP* position, and become viable candidates for also occupying and performing a *self-reliant debt emitter* position. Whereas chapter 4 looked at the environment and initial approach to bring lenders and utilities together and de-risk transactions, this chapter 5 examined the shift towards making utilities attractive to lenders and therefore potential self-reliant debt emitters.

These efforts, then, have moved de-risking from external facilitators into WASCOs themselves: transactional de-risking has been gradually replaced by actual creditworthiness of WASCOs based on the adoption of lender accepted practices. Whereas lenders' acceptance of practices is crucial, such acceptance is not exclusive. Lenders have shown that they accept any complex of practices that is readable to and understandable by them, and that guarantee proper underwriting of debt emissions. The (over-guaranteed) OBA and AoD programmes have been accepted by lenders, as well as (potentially) the KPWF initiative that relies *inter*

emitting debt. Subscribing to the dominant assistive circles formed by *inter alia* donors has been a simple way to acquire these aggregate practices, leaving the choice of specific practices to these assistive circles.

alia on full cost-recovery and committed management. Given that donor grants have become less likely and the government has continued to struggle to fund the sector to the level required, the preferred complexes of practices to be adopted by WASCOs have been the *commercial* provision of water services and *self-reliant* emission of debt. Lenders have accepted the associated revenue-backed lending structure, and the KPWF has been confident that investors will accept the bond issuances based in assetisation and securitisation of WASCO revenues. The idea has therefore been to increase the creditworthiness of utilities to make possible and sustain commercial financing relations without (or with minimal) external support. This positioning of WASCOs as self-reliant debt emitters has required developing the capacities of WASCOs to make such positioning viable and durable. Facilitators may still be part of this, albeit as contractors. The KPWF, for instance, provides crucial services to attract capital from investors, but does so (eventually) by charging a premium to cover costs. Similarly, WASCOs may contract out project preparation tasks, but will ultimately have to pay for them.

The assistive circles behind particular practices have been dominated by donors. WASREB, however, has increasingly become central to them, and other sector organisations such as WASPA and WASCOs themselves have joined them. Not only has transaction facilitation been moved into WASCOs, but also the necessary capacity development has increasingly moved from donors to local sector organisations. Transactions have been made less and less dependent on external support, in other words, but so too has the whole process of achieving this. This is part of the "spiral" or positive feedback loop of debt emission, where the adoption of practices aligned with debt emission continuously reinforces further adoption of aligned practices. Any WASCO on such a path – as EWASCO was early on for instance – becomes a powerful and authoritative member of assistive circles that can effectively further disseminate "best practices" to their peers. Yet even these WASCOs have lacked the commitment to self-reliantly emit debt and follow through on their interest in KPWF loans. This has largely been an issue of associated costs and the (believed) continued availability of cheaper alternatives (especially to well-performing WASCOs). As the sector moves more and more to "gap filling", it is therefore important to understand which gaps can be filled. Whereas an aggregate overview of the sector would suggest that there is a quantifiable potential for debt emission based on the known number of (near) creditworthy WASCOs, these WASCOs have remained careful to actually commit. Even viable candidates of a *self-reliant debt emitter* position, then, employ different forms (different complexes of practices) of resource mobilisation, including traditional forms of funding, externally supported debt emission, or, potentially, self-reliant debt emission.

Moreover, actual need is often in areas serviced by least creditworthy utilities. The actually fillable gap, in other words, is a subset of the often-cited finance gap. It is also the one that, arguably, needs filling last if the UN's '[...] and reaching those furthest behind first' is to be taken seriously. Instead, funding is needed in areas where self-reliant debt emissions

remain unlikely: this is not necessarily only due to a lack of capacities of their respective WASCOs, but also because of the difficulty to recover costs from water users in these areas. The defence has been that even if the fillable gap is not the most urgent one to fill, it will reduce competition for traditional sources, which could then be targeted towards the gap that urgently needs filling. Paradoxically, however, the adoption of practices aligned with debt emission has also increased the availability of traditional sources, i.e. cheaper funding, to those potential self-reliant debt emitters: donors, like lenders, have been interested in well-performing WASCOs. Choosing more costly commercial finance over such cheaper alternatives and freeing up those cheaper funds for the areas that need them most would therefore require from WASCOs an eye for the well-being of the whole sector, not just their own company. This has been difficult to ask from managing directors (or company boards), whose first and foremost commitment has been required to be maximising value for *their* shareholder (i.e. the county government on behalf of water users in the mandated area), not the whole sector (i.e. water users in other areas). The next chapter therefore looks at the normative efforts by donors and local organisations to construct such commitment: how norms and normative circles have been used to encourage or obligate WASCOs to actually adopt these practices, and actually self-reliantly emit debt.

Chapter 6

Constructing the commitment to reliably emit debt

Actually and effectively performing the various practices that enable debt emission by WASCOs have required more than the capacity to do so. The previous chapter concluded that whereas WASCOs have been assisted to adopt debt emission aligned practices, few have actually emitted debt – and done so self-reliantly. Given the presence and activity of assistive circles that have continued to provide assistance to WASCOs, the limited number of transactions, especially on more or fully commercial terms, has been less an issue of (the potential to acquire) capacities, but of actually doing so and making use of them to self-reliantly emit debt. This reluctance has primarily shown in three ways. First, WASCOs, through their boards or owners, may decide that they should not, in principle, emit debt; rather it should be someone else, or nobody at all. Second, WASCOs, through their management, boards, or owners, may decide that they should not adopt or perform (some or all) debt emission aligned practices. The most common case of this has been political interference in attempts to retain political control over water supply and sanitation services, which has instantaneously jeopardised utilities' creditworthiness. Third, WASCOs may seek and possibly find cheaper options, for instance from donors or the WSTF, and therefore decide that, in practice, they should choose those over commercial loans, or decide, for any other reason, that self-reliant debt emission is, at this time, not in their best interest.[1] This has often been a decision made with the utility's "shareholder value" and its maximisation in mind. As WASREB notes, in the case of WASCOs, the shareholder is the

[1]A well performing WASCO that would qualify for loans on commercial terms may, for instance, not see any need to invest, be able to fund the (smaller) projects from their cash flows, or, due to their customer structure, sit on large sums of cash from customer deposits that can be, given board approval, used to finance projects. A WASCO that could borrow, in other words, may not necessarily want to for reasons other than the cost of commercial loans.

sub-national government on behalf of the communities served by this particular corporation, and shareholder value is universal coverage (WASREB 2018b). Maximising shareholder value therefore requires reaching universal coverage, and cheaper financing may allow a WASCO to do so faster.

To a great extent, getting WASCOs to self-reliantly emit debt has therefore been a normative issue. On the one hand, political interference has largely been an issue of enforcing existing (codified) norms. A WASREB official, however, was confident that the sector has made much progress in terms of governance (IntWASREB1). Moreover, recent cases of unlawful interference such as the attempted merger of WASCOs in Kiambu county (see section 4.1.2) showed that legal and political action can stop such interference. On the other hand, however, a more complicated issue has been to persuade WASCOs to make use of their permission and capacities to self-reliantly emit debt. To this end, the normative environment has lately been both amended and more endorsed or even enforced. The chapter looks at this in three main sections. First, section 6.1 explores the most important norms that have been introduced, and the reasons for WASCOs to accept them. Section 6.2 then examines the normative circles that undertake the associated dissemination, and endorsement or enforcement work. Finally, section 6.3 looks into the durability of these normative circles and the reasons for the effectiveness for the time being. The chapter concludes (in section 6.4) by highlighting the continued reluctance of WASCOs to follow through on their initial expression of interest (despite developed capacities), and therefore the continued challenging of the normative environment that so far has only been endorsed, not enforced.

6.1 Normative adjustment

Bringing WASCOs to self-reliantly emit debt has relied on three crucial norms and utilities' acceptance of them. First, that WASCOs should be the water sector's debt emitters. Second, that they should accept the specific rights and obligations package of the *debt emitter* position, and that they should perform aligned practices that allow exercising and fulfilling these rights and obligations. Third, that they should self-reliantly emit debt, i.e. occupy the sector's *debt emitter* position on their own initiative. These norms form a new normative environment in Kenya's water sector that promotes, and possibly obligates, (some) WASCOs to finance their projects commercially through debt emissions. The key step here is to take professionalised WASCOs, which already effectively occupy and perform a *commercial WSP* position, to also effectively occupy and perform a *self-reliant debt emitter* position, to mobilise commercial resources on behalf of the water sector. This aims to complete the change of approach to debt emissions discussed in chapter 5 that has attempted to replace transactional de-risking with utilities' capacity to emit debt without such external facilitation, and their *conformity* with actually doing so. WASCO, in other words, traditionally the recipients of transfers, grants, or funding from debt emitted by others (such as the National Treasury

in the case of concessional loans), are being turned, or attempted to be turned, into organisations responsible for financing their investment needs on their own, by performing newly acquired debt emission aligned practices of running their company, providing water services, and ultimately emitting debt.

6.1.1 Accepting the *debt emitter* position

Traditionally, water service providers, typically the publicly owned WASCOs, had neither developed nor financed infrastructure. Other organisations such as the WSBs and later WWDAs had been responsible for financing and developing infrastructure, relying on loans from development banks guaranteed by the National Treasury. Given this separation and the traditional reliance on fully guaranteed concessional loans, many WASCOs have had little experience with borrowing beyond overdrafts, let alone financing from non-banks such as the KPWF. But after the sector reform of 2002 and especially 2016, WASCOs have been identified as the central organisations in the transition to (more) commercially finance the water sector. This has rested mainly in their legal permission as corporatised entities to borrow, and their financial means to underwrite borrowing as owners of collected user fees (see section 4.1 and 4.2). Whereas this made WASCOs virtually the only organisations to emit debt underwritten by collections, this has not necessarily meant that everyone accepts that they also should emit debt. To begin with, not everybody has accepted that *anyone* in the sector should borrow commercially; moreover, not all WASCOs have accepted that *they* should borrow commercially. This section therefore examines how the water sector and WASCOs themselves have started to accept both: that someone in the water sector should be positioned as debt emitter (and therefore a *debt emitter* position part of the sector), and that WASCOs should be the entities occupying such position.

Two explanations have been given for these norms that someone in the sector should emit debt, and that WASCOs specifically should be the ones. The first explanation is functional. It was given by the Ministry, WASREB, WASCO board and management members, and financing experts. This explanation suggests that utilities can (see previous chapter) and *should* make use of their permission to borrow because of international or national agendas and goals for the sector, the substantial lack of funds (or "finance gap") to reach these goals, and the (assumed) availability of private commercial finance and its ability to "fill" this gap. In short: someone should borrow from commercial lenders, WASCOs can, and therefore they should. These two norms – someone should borrow, and WASCOs should – are different kinds of norms: the former is a normatively indexed norm, and the latter is the norm that indexes the former. Whereas the functional explanation grounded in a financing gap has convinced many to accept the norm that someone should borrow, it has been less successful in convincing especially WASCOs to accept the norm that they should borrow. This has not necessarily been outright rejection of the norm, but rather silent not-going-along. The

functional explanation, in other words, has worked for the normative circles that endorse the norm that someone should borrow, but less well for the normative circles that index, or single out, WASCOs as the debt emitters.

Moreover, the sector regulator, while implicitly endorsing the norm, has evaded doing so clearly and explicitly. Speaking in front of management staff of several creditworthy or near-creditworthy utilities, a WASREB official pronounced that

> Nobody tells you go and get commercial finance. But we cannot continue talking about a finance gap when commercial finance is available, and the only barrier is creditworthiness, which is in control of [WASCOs] (NoteWS1/2).

Such statements not only present commercial finance as an uncomplicated and feasible solution to the investment needs of WASCOs (stressing that creditworthiness was the 'only barrier'), but also conceal the norm, and indeed the normative circle backing the norm ('nobody tells you'), that WASCOs should borrow. Moreover, by doing so, they also conceal alternatives. The Dutch Waterbank NWB, for instance, uses its public backing and excellent credit rating to raise capital at (international) capital markets on behalf of Dutch water operators. The development bank is cited as an alternative model to finance water supply and sanitation services by scholars (McDonald et al. 2021) and indeed was, as "MajiBank", the initial idea behind the Dutch effort to establish what has now become the KPWF.[2] This change from a MajiBank to the KPWF points to other barriers than only utilities' creditworthiness, and to another explanation of why WASCOs should emit debt: the inflexibility or refusal of investors to work with a public organisation such as a public MajiBank (WSTF had been considered as the parent organisation), and the unpreparedness or unwillingness of donors and the government to find ways to overcome this. The statement above, however, omits such alternatives, and instead implicitly indexes WASCOs as debt emitters.[3]

6.1.1.1 The gap: (ambitious and) underfunded agenda setting

The functional explanation starts with the "financing gap", a gap that WASCOs have known well for years. This has been the daily struggle to provide quality water to as many communities in their area for as many hours a day as possible, and to do so under conditions of chronic under-funding that has meant under-paid staff, insufficient or inadequate equipment,

[2]The Dutch Waterbank is in many ways very similar to the KPWF, but differs from it in one crucial way: it is a public development bank, with (sub-)sovereign guarantees. While Dutch water operators still recover costs from water users to pay for their loans with the Waterbank, ultimate debt emission is done by the Waterbank. Lenders, in other words, lend against the Waterbank (with its guarantees), not water operators. The KPWF as private entity without such guarantees instead is rather a facilitator that assetises and securitises WASCOs' revenue streams.

[3]The statement was made during a workshop targeted at and attended by WASCOs, not the wider sector; pointing out alternatives was not an objective and the omission of alternatives was likely due to the purpose and audience of the workshop. Still, the message to WASCOs was clear: "filling" the "finance gap" is a matter of their creditworthiness, and instead of 'continuing to talk' about the "gap", WASCOs, it was suggested, should get active and "fill" that "gap" themselves by working on their creditworthiness.

and unmaintained or simply inexistent infrastructure. The former MD of EWASCO, for instance, remembered how he and other staff had to rely on his private car (including petrol) for field visits in the beginning as the company had no vehicles (IntWASCO4), and KWCL staff mentioned that they had been able 'to get motorcycles' just recently (IntWASCO1). Such day-to-day difficulties in providing high-quality services to everyone 24 hours a day are behind the performance issues reported yearly by WASREB (cf. WASREB 2021). At the same time, they have strikingly shown the chasm between the situation on the ground and the ambitious goals of national and international agendas (United Nations 2015; Republic of Kenya 2013; Government of Kenya 2007). SDG-based goals, for instance, have been, according to KIWASH staff, 'too ambitious' and 'unrealistic' (IntUSAID6). This was 'not necessarily a bad thing', the official added, especially since they were designed as ambitious political goals (cf. IntUSAID2). Rather, a WASH-FIN official remarked, the problem has been that 'the MDGs and the SDGs were processes that weren't driven by considering how to pay for things' (IntUSAID2). A GIZ advisor, who had been advising the Kenyan government for years, therefore called the challenges 'unthinkable' and the finance gap 'massive' – especially in contexts of rapid population growth like Kenya (IntGIZ2).

But resource mobilisation has been an increasingly important part of these agendas (cf. UN 2015). This has included traditional sources but also blended and commercial finance, and, noting the 'decline in infrastructure lending from commercial banks', also the encouragement of 'long-term institutional investors, such as pension funds and sovereign wealth funds, which manage large pools of capital, to allocate a greater percentage to infrastructure, particularly in developing countries' (UN 2015:24; cf. Development Committee 2015). This internationally widely endorsed norm to mobilise more resources, also from commercial sources (see also chapter 1), has been "grounded" by development partners through specific "innovative" mechanisms. One such mechanism has been the KPWF, attempting to build an entity that is able to bridge between utilities and the institutional investors mentioned by the UN (IntNL2). Staff of Sida's loans & guarantees section in Stockholm (Sida has also supported the KPWF), who had supported the Swedish Embassy in Nairobi in blended finance arrangements, mentioned another one:

> there has always been this discussion about how to finance the water sector, because everybody knows that the water sector, the utility sector needs a lot of investments to be able to provide water to the people. And everybody knows also that everything cannot come from the state budget or from donors. So then the question has been how to, how to do it. And, we wanted to try different mechanisms for providing this (IntSida1).

Importantly, however, the Kenyan government and WASCOs have accepted the need to mobilise commercial resources. A research analyst of the National Treasury, for instance, affirmed that WSTF funding (the official government grant and concessional loan instrument) 'alone cannot address the water challenges in the country'; instead, 'other initiatives' (from

the National Treasury, such as sovereign bond issuances) were necessary (IntGov5). And USAID staff working closely with WASCOs observed that 'everybody's on board': 'I was even surprised to see, like, down to […] the plumber for the water company, right, they all think that commercial finance is key' (IntUSAID6). From the UN down to plumbers of WASCOs, in other words, the "finance gap" has been accepted, as well as its alleged "filling" through mobilisation of commercial resources.

6.1.1.2 The filling: availability, and interest, of commercial finance

Such "filling" from commercial sources, however, needed nurturing: commercial banks had reduced infrastructure lending and capital markets were far from "unlocked" (UN 2015). Kenya has been no exception. Few commercial banks have lent to utilities beyond overdrafts or highly de-risked transactions, and the country's capital market, and its regulator CMA, have only very recently opened up the possibility of infrastructure bonds (which is, *inter alia*, the result of KPWF efforts). Whereas a financing expert contracted by WASH-FIN described the banking sector as well-developed, the expert also acknowledged the banks' scepticism (IntConsult3) or, as staff of an NGO working with WASCOs said, 'most banks were hesitant' (IntNGO2). However, both saw this as changing, and noted that banks have become interested (IntNGO2), as they have gradually adapted to the new situation (IntConsult3). Indeed, Kenya's commercial banks have seen themselves in a competition now for customers from the water sector. Sidian Bank, for instance, actively seeks water sector (water, sanitation, and hygiene, short WASH) customers WASCOs), utilising the sector's meetings and development partner contacts to reach out to them. Bank staff explained:

> Nowadays, you really [do] not get customers coming to the bank to ask for, you have to look for them. So, I normally attend so many WASH meetings. We are working with USAID, […] I work closely with WASH-FIN. So, I work quite a lot with so many other partners who are in the space of WASH. And out of working closely with them, I get to in touch with these WSPs. Then out of that, because the moment you go to these meetings, you hear what are their problems. After that just interacting with them, you can just, hey, I have a solution for you people, I think you can book a meeting, then you come, then we see how we can work together. Exactly. […] I work with so many partners, who are in the space of WASH, we go […] door to door […] because we have branches all over the country, door to door, telling them about our WASH product, then out of that […] we get them to finance them (IntBank1).

All other major banks have followed. Acknowledging that WASH has become a "lucrative sector" that stoked competition among commercial banks, Family Bank staff said it was the bank that approaches WASCOs in most cases (IntBank2). Co-operative Bank, which had an 'incredible' experience with WASH customers, is 'keen on this sector' for its 'impact on society': bank staff, too, explained that the bank would approach WASCOs and introduce themselves and their facilities for utilities, and even suggest to WASCOs they have already

financed further projects (IntBank3). Similarly, staff of Equity Bank stated that the bank got into contact with WASCOs both by being approached, but also by approaching them (IntBank4). Moreover, Absa, a South African commercial bank, recently expressed their interest in Kenya's water sector and reached out to the regulator and USAID, to scope out the market, and has started to approach WASCOs directly (IntBank5). This growing competition for financing WASCOs has so far been limited to commercial banks, and often based on credit enhancements such as DCA guarantees. But advances like the KPWF or a housing bond issued lately in Kenya point to a growing interest also of investors in the water sector (and infrastructure or housing more generally).[4]

This growing interest in the water sector among commercial banks and investors has been constructed through considerable government and particularly donor support. Similar to convincing WASCOs of the usefulness of borrowing, the cascade of trials (see section 4.3) has convinced lenders to take the profitability of the sector seriously. SUWASA, which had run from 2009-2015, had talked 'to quite a number of banks', as a former staff member remembered (IntUSAID4), to introduce commercial financing to Kenya's water sector. Learning from these conversations about the barriers that prevented commercial banks from lending, the programme then provided tailored capacity building to the banks that explained to them, *inter alia*, the institutional and organisational setup of the water sector, WASCOs product (water and water services), the sector's metrics and performance indicators to evaluate the performance of WASCOs, and tariffs. Three banks in particular were open to lend to the sector; moreover, these banks were 'surprised to see that these water companies actually sit on money' (IntUSAID4). SUWASA then worked to sign these banks up to DCA. As another former employee of SUWASA summed it up:

> a key part of the SUWASA programme was to deploy the DCA guarantee to reduce the risk, and then as companion to that deployment of the guarantee, it was also to socialise with the commercial banking sector the appeal of the sector, trying [… to] raise the awareness of what the opportunities were, make it less scary, help people understand how to identify and assess risks (IntUSAID5).

Similarly, the OBA and AoD programmes provided assistance to banks to understand the water sector (IntSNV1). Both programmes increased the interest of banks in the sector, especially after the first transactions demonstrated that it was possible, under these programmes, to commercially finance utilities. But WSTF staff underlined the difficulty to persuade banks, even with all credit enhancements of the programmes in place:

> I remember, how many times we went to the banks, talking to the banks. And

[4]Whereas such bonds have not competed with banks so far (mainly because few, or none for water, have been issued yet), banks seemed confident in their share of WASH financing, highlighting their existing financing relationships, their better flexibility regarding terms, and their lower cost of loans (IntBank2). Yet even if bonds may be issued and become more competitive than banks, they could still participate in WASH financing through investing in those bonds (IntBank3).

> how hard it was to convince them at the beginning. […] I know, we went to Equity, and they would look like they understand, and then they would back out at the last minute. So, but really, after the first bank gave the loan, it's like the others just started falling over themselves now to come in and give the loans (IntWSTF2).

This was echoed by staff of KfW, which has funded the AoD credit enhancements, noting how the first successful transaction demonstrated the viability to other banks and spurred wider interest (IntKfW1). In short: both WASCOs and lenders have slowly warmed up to becoming the sector's debt emitters and lenders to "fill the gap". In both cases, this is the result of endorsement by, and assistance from, the Ministry, sector regulator, and donors.[5] Yet whereas WASCOs have been (attempted to be) convinced by the need in the sector ("gap"), banks have started to engage once they saw a business case in it.

6.1.1.3 The prospect: self-financing and performant utilities

With the growing acceptance of the *debt emitter* position by WASCOs, and of the related *debt absorber* position by commercial lenders (mostly banks, possibly investors), commercial financing of WASCOs has become a possibility. This has not only appealed to WASCOs (whose investment planning is no longer dependent on scarce government or donor funding), or commercial banks and investors (who started to see the business case), but also to the Ministry (who welcomes any padding to their limited budget) and the National Treasury (who has difficulties recovering water sector debts and struggles to provide more guarantees given external debt limitations). Furthermore, WSTF and WASREB have become instrumental supporters of debt emission by WASCOs (or, in other words, authoritative members of related normative circles, see section 6.2 below). The motivations of these two organisations to support commercial financing have had another reason still: the prospect of performance increases. World Bank staff, involved *inter alia* in the OBA programme, explained:

> I think WASREB looks at commercial finance as a solution to improving operational efficiencies. Because with grants and aid there is a tendency to be complacent. But with commercial finance, which you've got to pay back and pay back at higher rate, then there's a reason to improve your operational efficiencies. […] So it's really, WASREB understands it at that level, and sees the benefit of it (IntWB1).

Similarly, a WSTF employee said that the WSTF was 'hoping that this [OBA and AoD] would be a continuous programme, because, we really wanted to introduce business models that are efficient and that help the utilities to become professional' (IntWSTF2). At the same time, it would allow the organisation to reduce their grants. Debt emission by WASCOs, then, serves two purposes: resource mobilisation, and performance improvements. Accord-

[5]Especially the regulator was singled out for its role 'to give comfort to the financing bank' (IntWASCO5) by explaining tariff fixing, monitoring and reporting, and governance guidance to licenced WASCOs.

ingly, the acceptance of the norm that WASCOs should borrow on behalf of the water sector (by various sector entities and beyond) is grounded not only in "gap filling", but also other objectives such as performance improvements.

Water users have allegedly gone along with, or even supported, debt emission by WASCOs, too, given the promise of wider or better provision of water services. Taking willingness to pay as a proxy for their support – "gap filling" through commercial financing, after all, has increased water tariffs – even under-served lower-income communities back debt emission by WASCOs. An employee of Umande Trust, an NGO that works with low-income urban communities to gain access to improved water supply and especially sanitation, described the willingness to pay of such communities:

> They'd be willing to, because what they pay for right now is, I mean, it is documented to be way higher than what other people pay elsewhere. So if they were sure that the water is going to come and it's going to be consistent, then they would not have a problem. [...] If you get to hear the stories of when the water, there is water shortage, they can even be charged 50 Ksh for the 20 litre jerrycan (IntNGO6).

For the same reason, the regulator claimed broad willingness to pay, as well as donors such as GIZ (IntGIZ3) or World Bank staff: 'There is willingness to pay. People understand the importance of water. People need water. People need reliable water, and they will pay for it' (IntWB1). One issue, however, has been that tariff increases, which water users accepted or welcomed given promises of improved services, have not always translated into 'reliable water'. A WASREB official affirmed that the cost of water (i.e. the tariff) has never been the number one issue, but 'at best number three, number four, mostly four or five'; instead, reliable water availability was most important to people (IntWASREB1). To some degree, service extension and improvement have been more important than the associated costs. The Umande staff quoted above, when asked whether the communities they work with would accept or prefer utilities to extend services to them, said that 'that would be an option because I don't really see, I don't think they see the utility as their number one enemy, but they just find them to be unresponsive' (IntNGO6).[6]

6.1.1.4 Localising norms and building normative circles

The global "gap filling" narrative advanced by international organisations (UN 2015; Development Committee 2015; World Bank 2018c; see also promotional videos such as World

[6]Donors, too, after privatisations and working with NGOs and communities, have rediscovered public utilities. A GIZ water expert, for instance, clearly expressed the organisation's preference for and focus on regulated and if possible networked service provision, being careful about or rejecting hybrid or heterogeneous services delivery. Relatedly, the donor organisation also rejected the 'cost argument', asserting not only willingness to pay by lower-income communities but also stressing that if the provider cannot sustain operations, it were usually the poor who suffered from disconnections, intermittent or no supply, and associated higher costs and lower quality of alternative water sources (IntGIZ3).

Bank 2018b) has been echoed by donor programmes in Kenya, the Ministry, WASREB and other sector organisations, and even WASCOs themselves. Given that donor programmes on the ground are shaped by, or created based on, headquarter policies and narratives, this is hardly surprising for the various donor organisations financing or working with Kenyan utilities. But sector organisations, for their own different reasons, too, have shown a high level of acceptance of the norm that someone should borrow commercially, and that this should be WASCOs. Effectively, then, the globally existing norm has been localised, or made into a local one. At the same time, local normative circles that back this norm (or underlying norms such as WASCOs should provide water services commercially, or WASCOs should adopt particular practices) have gradually been built, enrolling various sector organisations for different reasons in them (see section 6.2 below). This had started early during the upscaling of the OBA programme (see section 4.3.2 and 4.3.3), when the World Bank was able to overcome Ministry resistance and obtain their no-objection (which increasingly became actual support) with the support of EWASCO, and has continued since by (self-)aligning other organisations such as WASREB, WSTF, WASPA, and several WASCOs. The functional explanation of "gap filling" – the need to urgently mobilise additional resources through debt emission, ideally by self-reliant WASCOs – has been *one* crucial motivation for many to join these normative circles; another has been the prospect of increasing utilities' performance.

"Gap filling", understood this way, rests on two norms, however: that *someone* should borrow, and that *WASCOs* should be the ones. The explanation that (only) WASCOs can, because they own the sector's revenues, has attempted to hide the second norm behind an alleged fact. WASCOs may be the owners of revenues, but they have not been the only potential borrowers. The Dutch model of the Waterbank, for instance, involves a special development bank to do the borrowing, which is backed by (sub-)sovereign guarantees. And in Kenya, a recent example of how the state has considered new avenues of borrowing on behalf of the sector has been the initiative of the National Treasury to work towards issuing infrastructure bonds. The success of indexing WASCOs as debt emitters, in other words, has rested on the neglect or rejection of such alternative models. The KPWF started as an idea of a Kenyan "MajiBank", modelled after the Dutch Waterbank, yet under pressure to deliver, the initiative gave in to early concerns by financing experts that investors would not work with a public organisation (IntWFF1).[7] The critical difference between a "MajiBank" model and the KPWF is who takes the risk and emits debt: whereas the NWB is government-backed, the KPWF attempts to ultimately forward all risk to WASCOs and water users.[8]

[7]WFF, the parent organisation setting up the KPWF, has remained optimistic that KPWF will become a public organisation one day: 'Now, of course, you could say, that we'd rather have it a public organisation, like the Dutch Water Board Bank, the shareholders are the provinces and the water boards. Now, in the end this is what you want. But you can only do that, if there is proper governance. So that, hopefully that transition can take place in 10 or 20 years, or whatever years' (IntWFF1).

[8]Given that water service provision is a mandated duty of county governments, risk ultimately lies with them. WASCOs, providing an essential or foundational service, cannot be dissolved. Implicitly, then, there is a sovereign guarantee. Nevertheless, given that such guarantee has remained implicit, the effects on WASCOs has been similar to when no such implicit guarantee existed: in case of slow repayment or non-repayment,

6.1.2 Accepting debt emission practices

Once WASCOs started to go along with becoming the sector's debt emitter (at least in principle), new practices aligned with debt emission had to be accepted as well. Whereas chapter 5 looked at these practices and the assistive circles that instil and entrench them, this section examines the reasons for normative circles to endorse or enforce norms that stipulate particular practices, and for WASCOs to accept them (and their "correct" and effective performance). These norms include general norms about practices associated with debt (see section 2.5), and more specific norms about practices associated with the particular financing relation adopted in the water sector (lending structure based on WASCOs revenues). Two key means of achieving utilities' acceptance of these norms stand out. First, lenders' power to dictate terms and conditions by means of withholding finance, combined with globally and almost universally endorsed and enforced norms about debt, has left WASCOs few options but to accept them and align their practices. Second, the supportive and promotive stance of the regulator, combined with its structural power over WASCOs that depend on WASREB-sanctioned licences and tariff adjustments, has furthermore increased utilities' (enforced) acceptance. Objection or opposition to WASREB's conditions by the owners of WASCOs has been largely dismissed as political interference and, if anything, strengthened the role of the regulator vis-à-vis county governments. Once WASCOs accepted their indexing as the sector's debt emitters, in other words, WASCOs have had little room to shape the (normatively indexed) norms that underpin particular practices associated with the *debt emitter* position, and have been part of powerful normative circles that have endorsed and even enforced them.[9]

6.1.2.1 Financing terms and conditions: bankability and creditworthiness

Actual commercial financing relations between creditors and debtors have come with terms and conditions. These have included the contractual agreements that are part of the transaction, and general *debtor* obligations such as repayment of principal, interest, and fees (see Fig. 5.1). The former have been negotiated and clearly laid out between creditors and debtors at the point of borrowing, including requirements such as opening an account with the lending bank, banking with them (at least for collections of the financed project), and notifying the lending bank of any other borrowing (IntBank3; IntBank5). Additionally, as one bank stated, this may include checking and possibly influencing project implementation, for instance 'making sure that we have the right developers' (IntBank5). The latter are part of the wider normative environment, and have been brought into actual transactions as more specific statements in the financing agreement. Particular practices have been part of these

the pressure on WASCOs, *inter alia* from WASREB, has been enormous. This included the possibility of an enforced change of management.

[9]These norms and normative circles also underpin the respective assistive circles that assist WASCOs in adopting the particular practices stipulated and endorsed or enforced by these norms and normative circles.

norms (terms and conditions) mainly by making WASCOs readable to lenders, and therefore helping to build trust with lenders that these terms and conditions can be, and will be adhered to. Practices, in other words, have been a crucial part of transaction underwriting: the various practices discussed in chapter 5 crucially also matter in terms of their effect of assuring lenders.

Given the familiarity of many lenders with particular practices and their established effectiveness in terms of assuring repayment, these practices have enabled lenders to assess risks and creditworthiness of WASCOs. Lenders' influence on practices, however, has been less positive (requiring specific practices such as tariff adjustments) than negative (rejecting specific practices such as political interference). Whereas the practice of tariff adjustment and implementation may comfort lenders and ultimately convince them of utilities' ability to repay, other practices may similarly convince them of repayment. The particular set of practices, or complex of practices, has therefore been determined not only by lenders, but also others. Ultimately, lenders, especially commercial banks that are more flexible in understanding individual customers (WASCOs), are interested in "bankability". An employee of Absa Bank, scoping the water sector for possible financing transactions, summed it up: 'we've always been keen to participate in that sector [...] we've always had interest, it's just that we've never really, [...] it's never been, it's never been bankable' (IntBank5).

Such "bankability" has included specific projects and the organisations behind them. Lenders, after all, lend to WASCOs that implement the project and repay the loan from this project. "Bankability" has therefore been a composite assessment, based on lenders' assessment of the project (e.g. its profitability) and the organisation implementing it (e.g. its creditworthiness). Staff of Equity Bank, for instance, when asked about their loan conditions, stressed that projects needed to achieve a certain level of profitability and revenue collections, and that after projects were finished, the bank expected additional cash flows from for instance new connections that allow repayment (IntBank3). The Absa Bank employee quoted above explained that their lending decisions depend on the ability of projects to 'demonstrate debt service ability', and on WASREB's creditworthiness rating of WASCOs (IntBank5). But banks have been somewhat flexible as to how the ability to service debt is established. The Absa Bank employee explained:

> our preference obviously is to ring-fence it, so that the revenues from the particular project that we are financing can actually service our debt. To the extent that is not sufficient, then we will actually look to the entity to cross-subsidise, find out other revenue sources to fill in the gaps (IntBank5).

Banks, in other words, have not necessarily required fully cost-recovering tariffs, but assurances that cash flows are sufficient to repay loans. Ultimately, this may include for instance the subsidies paid by OBA and AoD. And even for cost-recovering tariffs, it may include (partial) risk guarantees from governments or donors to offset some risk.

Whereas practices are therefore not fully determined by lenders, lenders have been able to reject particular practices that made them “uncomfortable”, and have generally been able to suspend transaction negotiations until they felt “comfortable” with the potential transaction and associated practices of WASCOs. This became noticeably apparent when the Government of Kenya introduced an interest rate cap, which effectively stopped lending to the sector. Sidian Bank, one of the very first banks to lend to the water sector and one with a tradition of doing so, significantly reduced their portfolio during the period when the cap was in place because the bank could not sustain lending at the capped rate (IntBank1).[10] The power of lenders to define when, or at which terms, they lend has also been demonstrated by the reliance on ‘enhancements’ such as the OBA and AoD programmes. Early on, the SUWASA programme, flagged this from the donors’ perspective:

> We tried to keep making the point that commercial finance was only leveraged because there was some donor financing, concessional finance, that helped leverage it. You know, you needed that TA [technical assistance], you needed the DCA, it was a combination that worked, it wasn’t just about commercial finance solving the problem. It was very much about blended finance (IntUSAID5).

Successful removal of this “blending” element (i.e. the government or donor support in form of technical assistance and guarantees) presupposes reaching “bankability” as defined by lenders in other ways, or otherwise transaction will not happen.

Whereas banks have accepted several ways to achieve “bankability”, donors and water sector organisations have increasingly favoured a particular one and understood bankability in a specific way: self-reliant debt emission, i.e. bankability and creditworthiness without external support, has become the central sector norm about commercial financing. A special unit of the National Treasury focuses on mobilising resources for climate projects (including WASH) through issuing sovereign bonds or targeting the donor funded Green Climate Fund (GCF) or the World Bank. An expert working with this unit explained that their work on (sovereign guaranteed) green bonds or GCF funding has been a gradual transition to commercial financing:

> This is the new transition, because we want, projects must be bankable. And that is something we are very passionate about here at this unit. Because we believe financiers are attracted through proposals. And we emphasise on bankability such that, even if this proposal [for government or GCF funding], [even if] you take it [to] a commercial bank, they will give you a loan. So, that is the principle. We are, we are also moving away from grants. It’s more about commercial, more innovative instruments. […] it is no longer business-as-usual (IntGov5).

This has even made practices aligned with self-reliant debt emission a requirement whether a financing transaction is actually commercial or not. Self-reliant debt emission (and aligned

[10] This changed again once the interest rate cap was lifted.

practices), in other words, have become norms that WASCOs have to accept if they seek any source of finance, increasingly even when such funding comes through the National Treasury with sovereign guarantees.

6.1.2.2 Creditworthiness rating, performance reporting, and licence conditions

WASREB has been at the centre of endorsing or enforcing a range of norms associated with the dissemination of practices aligned with self-reliant debt emission. Mandated with consumer protection and primarily concerned with utilities' performance in providing safe and reliable services to everyone, WASREB's support of commercial finance stems partly from the usefulness of promoting debt emission aligned practices for advancing WASREB's goal of sector performance improvement. WASREB, in other words, has found in lenders (and their norms) powerful allies to disseminate especially practices of professional management and operation of WASCOs. Conversely, any adoption of such practices has translated in better bankability and creditworthiness, making WASREB's efforts very welcomed by lenders. One cornerstone of these efforts has been WASREB's continuous performance monitoring and yearly reporting (cf. WASREB 2021), which has made public utilities' weaknesses, and ranked them according to their performance – relative to others, which has created an incentive to improve. Moreover, these reports have mapped out the sector in regard to investment requirements and given an approximation of the capacity of utilities to borrow commercially. This has made the sector more readable to creditors, and, intendedly, utilities themselves: WASCOs therefore can, possibly supported in various ways by assistive circles, address performance issues in a more targeted fashion. WASREB's practice to monitor and report utilities' performance, in other words, has facilitated the adoption of certain (corporate) practices and, importantly, harmonised them across the sector by standardising performance indicators and their measurement. Moreover, it has effectively compared the different ways of improving performance with each other and therefore provided feedback on what "works" – the basis for peer learning and adoption of "best practices".

WASCOs reported that these techniques – defining performance indicators, assessing utilities against them, and comparing utilities with each other – had an effect on them, especially the competition that has been created by them. NYEWASCO, for instance, stressed in their strategic plan that they 'maintained the number 1 ranking in performance for the 12th year running by WASREB' (NYEWASCO 2021:7). Later in the document, the organisation pledges to further increase 'business competitiveness' and states that 'as a priority, in order to set NYEWASCO further apart from her "peers" in the sector in performance, it is expected that the company will continue supporting and maintaining sound corporate governance' (NYEWASCO 2021:12).[11] Management staff of THIWASCO, too, affirmed the profound

[11] It is important to note that such competition is constructed; water supply and sanitation services provision needs a licence from the regulator and each WASCO has, effectively, a monopoly in their mandated area.

effect performance indicators, monitoring, and reporting has had on the company, noting 'great influence', target and goal setting, and the 'competition through impact reporting' (IntWASCO3a). NYEWASCO's management underlined the significance of the regulator's activities not only in improving performance, but also in terms of facilitating commercial financing by making the sector and individual WASCOs readable to lenders:

> Our regulator publishes [a] performance report every year. And […] that performance report is very clear in terms of the achievement of the water utility against the standards that have been set by the regulator. And over and above that, the regulator […] also does shadow credit rating. And therefore, for the financier, they are able to see the performance and also gain assurance in terms of the company's capacity to be able to absorb any debt. There is also an evaluation on governance, so that also gives an assurance to the financiers [that] the company is well managed (IntWASCO5).

This (shadow) credit rating had been initially done jointly by WASREB and World Bank in 2011 (Gakubia et al. 2015; Kimani et al. 2011). The expensive quantitative and qualitative rating of WASCOs was the first glimpse at the sector's creditworthiness, paving the way for other programmes that work with utilities to increase their commercial borrowing (see also section 4.3.3).[12] The SUWASA programme team, for instance, clearly remembered the criticality of this rating, for SUWASA itself but more generally for any efforts around commercial financing:

> […] one of the precedent activities had been that shadow rating that had been done. And that was something that we used to try to identify candidates to work with. So the shadow rating was actually, I would say, another kind of critical step in the path that created a transparency and a ranking and something for everybody to work with, and to understand where utilities stood in relation to each other (IntUSAID5).

An SNV water and financing expert, formerly working with the World Bank, noted that the rating was critical given that they found that banks had difficulties understanding the ownership of utilities, their performance, and financial strength. The rating helped donors and WASREB to explain WASCOs to banks, and created a ranking based on their creditworthiness (IntSNV1). These, however, were not only critical for donors to target their efforts, or WASREB in 'sounding out or testing how financiers might evaluate a company's credit standing' (Kimani et al. 2011:7). More importantly, it has given clear orientation to WASCOs how to seek a 'positive credit rating', as a KWCL employee put it (IntWASCO1), by providing 'an opportunity to focus on areas to improve their rating' (Kimani et al. 2011:7). The

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Competition is less about customers and market share but more about reputation and status – as measured by WASREB's reporting.

[12]The self-stated purpose was 'to provide borrowers and lenders with an overview of WSPs' creditworthiness, with the objective of determining their ability to raise debt in the domestic financial market. It gives an overview of the credit capacity of the water utilities, provides utilities with a diagnostic to identify areas for improvement, and exposes financial institutions to potential lending opportunities in the water sector' (Kimani et al. 2011:6).

rating (and associated ranking) has reduced various performance metrics (and, in the initial shadow rating, 'qualitative parameters') to a double-digit score, which has since become central to lenders' decision-making power to offer or decline financing. In other words, whereas lenders have typically complemented WASREB's rating and index with their own evaluation,[13] these efforts have become key tools in lenders' decision-making process. Management staff of KWCL highlighted this when asked about how great of an impact the creditworthiness rating had on the company:

> It has a great impact, because for the [lenders], [...] one of their first stops even before they engage with us, is at WASREB. Because that's where they will be able to get objective performance appraisal data, without even talking to us. [...] So you find that that report is key, because the financiers would be interested in companies who have a positive credit rating, or who are moving towards that. So it has a very very big bearing, on who comes even to talk to us. And even as we go to talk to them, they would still make reference to those reports (IntWASCO1).[14]

Similar to the performance rating and ranking based on performance indicators, the creditworthiness index has therefore been a crucial mechanism behind the adoption of particular practices, and complemented and further specified lenders' requirements of particular practices. WASCOs, dependent on WASREB-issued licences and increasingly dependent on lenders for resource mobilisation, have had to accept these practices. Above quoted staff of KWCL, which ranked in the least creditworthy quartile in the 2019-20 creditworthiness index (WASREB 2021:66) and struggled to improve their score, for instance said that they 'are now trying to align [themselves] within the [WASREB] guidelines', because 'if we are too off the guidelines, then you tend to disqualify, or you look like you are not performing' (IntWASCO1).

6.1.2.3 Endorsement and enforcement alliances

Whereas lenders and WASREB have, within respective normative circles, strongly endorsed and in some ways even enforced (by withholding finance) different norms about particular practices, they have mutually supported each other. WASREB has therefore similarly joined the endorsement of practices endorsed by lenders (or similarly opposed practices that lenders opposed), as lenders have joined the endorsement of practices endorsed by WASREB. Behind the membership of both WASREB and lenders in respective normative circles has been

[13] As capital market financing is increasingly targeted, formal ratings become more important given that investors, unlike commercial banks, seldom evaluate creditworthiness on their own but instead solely rely on credit ratings and evaluations and preparation by others (such as KPWF).

[14] The initial shadow credit rating included a qualitative analysis based on interviews with WASCO managers. This additional analysis targeted 'qualitative parameters' such as 'management capacity, orientation, experience and qualification', 'human resources attitude orientation and performance', 'stakeholder support and relations', and 'governance issues' (Gakubia et al. 2015:3). Although these interviews are no longer conducted to produce the creditworthiness index, they had taken norms about how to achieve creditworthiness directly to WASCOs. The creditworthiness index has retained this effect, although it has solely relied on automated data collection.

their goal of positioning WASCOs as debt emitters: lenders because they have developed an interest in debt emitted by WASCOs, and WASREB because they have aimed to improve the performance of WASCOs and make them self-reliant. Whereas lenders have joined related normative circles to endorse or enforce norms about practices aligned with debt emission, WASREB has assumed a more dominant role in normative circles that not only endorse or enforce norms about practices aligned with debt emission, but also with *self-reliant* debt emission. The normative pressure on WASCOs has therefore come from two sides: from the sector regulator, which directly regulates their positioning *qua* (commercial) WSPs, and from lenders that significantly shape their positioning *qua* (self-reliant) debt emitters.

6.1.3 Accepting self-positioning as *debt emitters*

Ultimately, as WASREB's statement that 'nobody tells [WASCOs to] go and get commercial finance' shows, the decision to commercially finance has remained with WASCOs, their boards (which represent mainly their owners, the county governments), and their leadership or management. The sector, including WASCOs, may accept that someone should borrow commercially, and that WASCOs should be the ones borrowing, and that WASCOs should adopt particular practices, but individual utilities may still decide against borrowing. Indeed, management of several WASCOs expressed their hesitancy and, for the time being, attempts to still acquire cheaper funding through more traditional channels. Regardless how heavy the lift to generally go along with commercial financing has been, the real breaking point, in other words, has been the commitment of individual WASCOs and their leadership to actually emit debt, and align their companies accordingly. A World Bank financing expert, who had previously also worked for other financing initiatives, explained that self-reliant debt emission by WASCOs has been dependent on 'the willingness and the commitment of the managers of these utilities' to adopt aligned practices (IntWB1). A set of norms have targeted this 'willingness and commitment' to fully align WASCOs with debt emission, and ultimately emit debt. These norms have, in other words, suggested that WASCOs should primarily engage a particular complex of practices (the one that enables self-reliant debt emission), and replace others with it (such as the ones that enable grant funding).

6.1.3.1 Self-positioning: the new generation of governors, directors, and managers

The commitment of WASCO boards and management was highlighted by virtually everyone when asked about the remaining obstacles to scaling up financing transactions. Similarly, GIZ's proposal of the Urban Water Catalyst Fund explains that at the beginning of an upwards spiral out of crisis stands a 'motivated' or 'enlightened' leader, who 'sees opportunity for change' and has the 'support of a secure political leader' (GIZ 2019a:2-4). In Kenya's WASCOs, such leadership has allegedly been rare. A financing consultant even suggested that a new generation of managing directors may be needed to substantially alter utilities'

commitment to commercial financing (IntConsult3). To some extent, such change of leadership has already been happening: EWASCO, for instance, has recently replaced their retiring MD, who was, as was common for the first generation of managers, an engineer. Similarly, the MD of ELDOWAS, who has been open to commercial financing, joined the utility in 2018 and started to reorganise the company:

> I think I came in in 2018. Yeah. [...] I talked [... to] the board [...] we looked at all the challenges that we had, we looked at the, what we needed to do to improve the company in terms of governance, board evaluations, what are the weaknesses, what are strengths, which are the quick wins that we wanted to do as we move forward (IntWASCO8).[15]

At the same time, more and more managers seem to accept that borrowing is necessary or even good for their company. Staff of KWCL, for instance, stressed that 'commercial financing is a good opportunity' and that, compared to waiting for grants, commercial financing allows implementing projects faster (IntWASCO1). Similarly, management of RUJWASCO found commercial finance was a 'good challenge' and would increase the company's efficiency and independence, additionally drawing attention to the scarcity of funds in the sector and noting that 'there is no free money for all' (IntWASCO2). NYEWASCO, however, has also demonstrated that some of the most proactive and motivated leaders – the company has a track record as borrower – may make deliberate decisions *against* commercial financing while, at the same time, acknowledging that 'commercial financing is good for the sector' (IntWASCO5). The company's managing director explained this reasoning by making a reference to one of their peer competitors:

> [...] if I can get a grant, even if I'm doing so well, I will commit [to such grant or concessional funding] so long as it has an impact to improve service delivery. [...] the project that was financed in our company for 1.2 billion, a similar project was financed in Embu for 2 billion plus, free from JICA. The company is performing. I wish that money came to me, and I get a free grant. Today, the over 70 million shillings, almost USD 700,000, that we are paying annually, that would have helped me to improve my coverage. I will not be struggling, whatever I get, how do I manage prudence and more so that I can save money to be able to pay this loan (IntWASCO5).[16]

The self-positioning of WASCOs as *debt emitters*, in other words, still competes with traditional funding options, both from the national and sub-national level. Moreover, even where MDs were to commit, the sub-national level has sometimes remained unsupportive (see also section 5.2.4). An advisor to the WSTF with deep knowledge of the Kenyan water sector, speaking about the idea of utility turn-around connected to borrowing, noted that whereas

[15] Between conducting interviews and writing this thesis, several WASCOs seem to have changed, sometimes seemingly multiple times, their MDs, suggesting both political influence of and dynamism in WASCOs to appoint leadership.

[16] See also EWASCO's history, the utility referred to by the manager, in appendix A.

management of WASCOs and WASREB may agree, 'the political class does not necessarily agree' because there was 'political expediency' (IntWSTF4). An employee of WSTF added that county governments are critical, and that some would understand, 'kind of click', and support the utilities. But others did not, and 'if the county government does not seem to understand that, no matter how much you try, then they will not support the utilities, and they cannot get that loan' (IntWSTF2). WASH-FIN has therefore attempted to change this, by working on the 'governance challenges related to devolution' and on '[unblocking], you know, some of those things, which are causing this mistrust between the centre and the periphery' (IntUSAID1). This has aimed, ultimately, at gaining county government support for commercial borrowing by creating peer pressure:

> [...] the moment you remove those [blocks], then you have enough critical mass of counties that are moving in the same direction. The outliers will not have a choice but to start following the others (IntUSAID1).

The most powerful accelerator of the transition to commercial finance, however, has been the gradual decline of donor and government funds. The Dutch, for instance, have been preparing their exit from grant or concessional funding by setting up the KPWF as an alternative. And GIZ's exit from the sector[17] a few years ago was described by a VEI export working closely with WASCOs at the time, as a 'wake-up call' that reverberated through the sector:

> If I look at the WSPs in 2016 versus the WSPs end of 2019, then the whole mindset of approaching banks, taking loans with a partial grant, changed, right. [...] For the longest time the WSPs didn't believe [GIZ] would actually leave, right. It was only somewhere halfway 2018 that people, that I really heard the sentiment of the managing directors change, and they really went like, oh, so they're actually leaving? Yeah, they've been telling you this for a few years, but nobody believed it, right. So it's, it's something that I think really changed the, how the management of water companies is looking at, is looking at trying to utilise other opportunities than donor money, because they've suddenly, I mean, GIZ leaving was a good wake-up call in that sense (IntVEI1).

Management of Nanyuki's utility further explained that the company had 'no option' but to 'go the commercial way' if they had to actualise their business plan (NoteWS1).

But some utilities, especially the creditworthy or near creditworthy ones, have also started to discover the advantages of "alternative finance" and the agency that comes with it. Management staff of RUJWASCO was optimistic about commercial financing because 'it would mean now that we don't have to wait for donors and government agencies to come and fund; we should be able now to extend services, generate money, and repay those loans' (IntWASCO2). Generally, frustration with investment backlogs and funding delays has

[17]The organisation had been a long-term technical partner of the Ministry, sponsoring *inter alia* the re-drafting of sector legislation (Republic of Kenya 2016); the exit was part of regular programming cycles of the German Ministry and unrelated to any financing agenda (IntGIZ2).

been an important motivation for utilities to consider alternatives. Management staff of NARUWASCO was similarly hopeful that commercial financing would help to fill their gap more quickly: 'let's say, County Government, their programmes, their plans, take three years, four years. So they delay. And at the company level there are some projects, which we would wish to be done like yesterday. […] We are looking at commercial financing to […] grow faster [and] achieve our targets faster' (IntWASCO6). Moreover, debt emission has promised more independence and autonomy: Yet commercial sources not only promise speed but also independence: management staff of KWCL explained that whereas for grants they have been dependent on WWDAs or the WSTF, with commercial finance 'we are able to approach banks directly' (IntWASCO1). Whereas this has not guaranteed actual financing, they added that at least it would be '[up to] us now to make the initiative of crafting the proposals [and] approaching the bank': importantly, financing would be determined by their ability to 'implement and also to service the loan', not 'the person giving the grant' (IntWASCO1).[18]

WASCOs have realised, in other words, that emitting debt can support their main mandate of providing water services: occupying the *debt emitter* position, in other words, may be useful, even if ultimately not a goal of utilities. The consequence has been that WASCOs' motivation to self-position as debt emitters has depended on the availability of any financing options, and waging the advantages and disadvantages of them. Their positioning as debt emitters has therefore remained unstable, or dormant for longer periods. Utilities have consistently chosen funding and financing options that seemed best to *them* in *their* particular situation. Improved performance has helped in two ways in this regard. On the one hand, it supported negotiations, given that commercial banks compete for well-performing WASCOs. On the other hand, and paradoxically, it has increased access to cheaper funding, given that donors, too, compete for well-performing WASCOs. This has made for instance KPWF's efforts more difficult to finance WASCOs; NYEWASCO, for instance, has been reluctant to borrow from the KPWF, despite its excellent ratings (IntGIZ4).

6.1.3.2 Market segmentation: removing other options

Lately, donors have therefore begun to debate a "financing strategy" or "financing policy", which would remove the availability of traditional sources for top-performing utilities. The idea has been to create, by way of official policy or law, a much stricter enforcement of the

[18]WASCOs have therefore started to 'go out and shop around for financing', as one utility put it during a plenary of the WASREB workshop (NoteWS1/5). In other words, once WASCOs reach (near) creditworthiness, a "financing landscape" opens up to them, and they find themselves in a situation where they are able to choose, negotiate, or "mix and match" different sources. A financing expert of THIWASCO, for instance, enjoyed the new opportunity: 'it's us, we decide. […] I think we are a bit, how to put it, we are marketable. […] So, every bank wanted to give us the loan' (IntWASCO3b). Sometimes, this agency to mobilise resources has also taken unconventional forms. RUJWASCO, for instance, has been able to mostly use 'internally generated funds' but has also 'internally borrowed' from their customer deposits. One of the early innovators of "alternative financing" has been EWASCO, see appendix A.

norm that WASCOs that are able to borrow, *should* or *must* borrow instead of continuing to rely on cheaper options. This would cut, for instance, utilities like NYEWASCO from WSTF grants or subsidies or, generally, from any funding other than commercial finance. Such sector-wide policy grounded in a segmentation of the water sector based on creditworthiness would then reserve subsidies for those utilities that still need them – or, at least, need them most.[19] KMT staff summed up this situation:

> [...] there is still belief that the conventional financing, through taxes and donor funding, is still viable and more attractive. So as long as you have donors, who are putting money into infrastructure development, they will, many utilities will prefer to go for that (IntConsult2).

This was the case for EWASCO, which stopped considering KfW financing (which already was subsidised) when a JICA grant became available to them (see also appendix A). Generally, financing advisors noted that it has been difficult to convince utilities to borrow commercially as long as cheaper alternatives (such as OBA and AoD) have been available (IntConsult3). NYEWASCO management pointed out that, from their perspective of working towards universal coverage and improved service quality, passing over cheaper alternatives was irresponsible, while also recognising that other WASCOs may need those cheaper sources more. Yet without clear regulation which utility can access which financing, the company would continue to acquire financing that was best for the company (IntWASCO5). A GIZ water expert, who worked long in the Kenyan sector, acknowledged that working on a sector-wide investment strategy, which would address sector-wide allocation based on needs (instead of leaving this completely to individual WASCOs and their different creditworthiness), had been too long neglected by the organisation and the Ministry.

Such policy has been driven by donors. Especially the KPWF (and related donors such as SNV or Sida) have picked it up lately given the difficulties the initiative has faced in terms of WASCOs' commitment to actually taking up their loans (IntWFF1; IntKPWF1; IntSNV1; IntSida1). But others, too, have joined the support of such policy, for instance GIZ and KfW (IntGIZ2; IntGIZ4; IntKfW1), USAID (IntUSAID1; IntUSAID2), KMT (IntConsult2). Ultimately, this support has been grounded in donors' inability to coordinate themselves and allocate their grants and subsidies only to those WASCOs that depend on them.[20] WASH-FIN staff for instance affirmed that donor coordination was 'one of the weakest things at the moment' (IntUSAID1), and a different WASH-FIN employee spoke of 'perverse incentives' of donors to 'spend money', which was '[inhibiting] any more investment than we're currently

[19]As NYEWASCO stressed, the company still has investment needs and any interest payments reduces the amount invested (IntWASCO5).

[20]GIZ acknowledges the problem, citing in the Urban Water Catalyst Fund proposal Global Water Intelligence data that suggests that 'around 80% of ODA finance to the sub-Saharan urban water sector goes to the top 3% of utilities' (GIZ 2019a:2). A GIZ employee familiar with the UWCF recognised the consensus and coordination among donors in principle, but conceded that 'innovative approaches compete with traditional approaches' and that unless this changed, the transition to commercial finance would fail (IntGIZ4).

seeing' (IntUSAID2).[21] Donors, in other words, if left to themselves, prefer disbursing to well-performing utilities given the faster, more efficient, and more effective implementation of their funds. Ultimately, this has been a twofold issue of out-competing: on the one hand, it has meant that the very utilities that depend on cheaper funding have been out-competed by their better performing peers (questioning the seriousness of development partners to actually support the ones who need it most). On the other hand, new donor initiatives such as the KPWF have found themselves in a situation where they are out-competed by *their* own peers: other donors, sometimes even the same donor but a different programme, 'queuing up' (IntGIZ4) to finance utilities.

A finance policy by the government would therefore fill another gap: donors' coordination gap. This would free up resources for less performing utilities, and save their own commercial financing initiatives such as the KPWF.[22] More importantly, it would shield the whole approach of facilitating commercial financing from criticism. The central justification of this has been that donor resources would be freed up for those WASCOs (and more generally WSPs) that still need it. A clear segmentation of the sector would help to guarantee such needs-based allocation of donors funding. KIWASH staff explained that this would ideally include four segments with WASCOs that i) already access finance, ii) recover costs but are not creditworthy for other issues, iii) almost break even with some justified optimism, and iv) 'everything after that' (IntUSAID6). This segmentation would probably be spatially visible: cities, especially bigger towns, urban cores, and their middle class neighbourhoods, have been most creditworthy, while urban lower-income areas and especially the countryside have remained dependent on grants (IntWWDA2; IntUSAID4).[23] Notwithstanding the adoption of practices that increase utilities' performance, debt emission has been dependent on commercial water service provision and associated cost recovery and generation of cash flows. These cash flows depend on the tariff, the composition of water users, and their water use and associated payments. There is a limit to cross-subsidisation from industrial or middle-class water users, in other words, and even the bigger towns may need subsidised financing to extend their networks to lower-income or peri-urban areas where the projected additional cash flow from financed projects is less than project costs.[24]

[21] Seeing the criticality of the ability to 'effectively segment the market between kind of those rapidly growing middle class areas, you know, emerging middle class areas, and low-income slum areas' to advance commercial financing, and the current absence of government action in that regard, WASH-FIN has attempted to work 'behind the scenes' on coordinating donors. Ultimately, however, to get 'all of the development partners at the table to have a common approach to dealing with this' needs someone in a position to do so – ideally the government (IntUSAID2).

[22] Staff of Sida had proposed a 'financing strategy' for a while, to avoid competing for 'good' utilities and 'shooting each other in our foot' (IntSida1). Moreover, the Dutch have long signalled to 'support the Ministry in doing this work', i.e. developing the financing policy (IntSE1; cf. IntWFF1). Staff of KPWF's parent organisation WFF noted that 'it all starts with that' financing policy, and that to have and act upon such policy would be 'normal' and 'like a government here [in Europe] would do it' (IntWFF1).

[23] Mandated areas of mainly urban utilities, and the tariffs associated with it, may span multiple creditworthiness groups, however: urban cores, low-income settlements, and peri-urban areas. Moreover, mandated areas may expand to include more and more of the urban hinterland, as happened in Embu (IntWASCO4).

[24] This is expressed in the 'per capita cost of the project': KWCL staff was clear that 'the lower the per capita

6.1.3.3 Rewarding self-positioning, and enforcing it

Two reasons then have made WASCOs to increasingly go along with self-positioning themselves as debt emitters. First, WASCO leadership, their boards and management, have started to see the advantages of emitting debt. These advantages have been organisational, that is associated with the respective company or WASCO, through increasing their agency to finance and therefore implement projects according to their plans and timelines (leaving aside any conditions from commercial lenders, which, however, have typically been limited to project profitability). Moreover, these advantages have been personal: "turning around" a WASCO by emitting debt may advance the career of involved MDs and finance managers. A GIZ water advisor familiar with the Urban Water Catalyst Fund proposal and with extensive experience in African water sectors and utilities described for instance how career opportunities may act as a 'carrot' to consider UWCF financing. Utility managers and 'turn-around teams' would, so the idea goes, build reputation and line up for higher jobs in the utility or even sector. Moreover, the 'schools' of successful management formed by such managers would train a new generation of managers with a record and reputation of sound management of utilities. These managers, such as directors of finance or engineering, would then have better chances of becoming 'the next CEO of a small utility than someone coming from a lousy business':

> That is the idea, to more and more produce a crowd of good managers, through such mechanism, with whom one can later populate other not well performing utilities. To lift up the sector as a whole (IntGIZ3:author's translation).[25]

Second, WASCOs would be forced to emit debt through a financing policy that clearly segmented the sector based on utilities' performance and capacity to emit debt. Such policy does not yet exist, but the writing has been on the wall for some time. So far, the Ministry and regulator have relied on norm endorsement, but donors, especially those related to the KPWF, have been encouraging enforcement of the norm that WASCOs that *can* borrow, *should* borrow.

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the better. That means that we are able to recover the cost of the project within a shorter time'. This would, however, '[disadvantage] needy beneficiaries, because [… in such] areas […] the cost of the project is very high when you compare it with the beneficiaries. But then still the need is there. But then the commercial financing is not able to come in and bridge the gap, because the commercial financier, their key interest, prime interest, is to ensure that their money is safe and that they will get paid back their money. So the areas where we have problems, but due to the very high per capita costs, you find that commercial financing will not be able to help' (IntWASCO1).

[25]The GIZ advisor spoke about Zambia, and it was not clear to what extent this was a driver in the Kenyan water sector. However, WASREB's ranking certainly has had an effect: NYEWASCO's strategic plan frequently references their past successes and top ranking in consecutive years (NYEWASCO 2021), and managing directors have often hung certificates on their office's walls, or prominently shown trophies or cups on their offices (seen *inter alia* in Embu, NoteEWASCO).

6.1.4 The new norms adjusted to debt emission

Three overall norms or norm sets have been established in Kenya's water sector to promote the commitment of WASCOs to self-reliantly emit debt. First, the norm that there should sector-internal debt emitters, i.e. self-reliant debt emitters in the water sector. This has marked a change from the previous normative environment in two ways: on the one hand, that the sector should rely (more) on the mobilisation of commercial resources, and on the other hand, that such resource mobilisation should be performed by WASCOs based on their collection and ownership of sector revenues. Second, the norm set that WASCOs should adopt particular practices to acquire the capacity to effectively emit debt self-reliantly. Third, the norm that WASCOs should indeed *durably* occupy the *debt emitter* position and emit debt to finance their investment needs. All of these norms have largely relied on utilities' acceptance or conformity based on reasons, rather than for instance punishments for non-conformity. The reasons given have been the urgency to "fill the finance gap" that prevents universal coverage, WASCOs ability and indeed viability (in principle and practice) to be the "gap fillers", the general availability of the "filling" (i.e. commercial finance), the requirements of lenders, the necessity to improve effectiveness and efficiency of WASCOs, the prospect of greater autonomy and control over investments, and the most efficient use of free or cheaper funding (potentially enforced through a sector-wide financing policy).

While these norms and associated reasons are widely apprehended, their endorsement (and more so enforcement) has remained patchy. This is especially the case in terms of utilities' conformity. Few in the sector, for instance, have not accepted the urgency of "filling the finance gap", and few have remained sceptical of *someone* emitting debt to this end. However, by their mere non-conformity with actually emitting debt, few WASCOs have accepted the norm that indexes them as the (primary) debt emitters, or the norm that they should durably and self-reliantly emit debt. Their positioning as the sector's debt emitters has therefore remained unstable, or unreliably performed: WASCOs have chosen to emit debt only on *their terms*. A more norm more accepted by WASCOs has therefore been that WASCOs should maximise their shareholder value. Shareholder value is understood as universal coverage, given that the sole shareholder are the county governments on behalf of Kenyans. Yet using the terminology of shareholder value indicates that this norm of shareholder maximisation is not simply an ethical or political one, but also a corporate one: the corporate leadership is evaluated based on their maximisation of shareholder value, i.e. reaching universal coverage. And whereas WASREB has strongly endorsed this norm (the regulator's powers to regulate the sector are indeed grounded in the mandate to ensure "consumer satisfaction", i.e. universal coverage and high-quality services), WASCOs have not always shared the belief that self-reliant debt emission is the best way to do so.

The difference in their understanding has rested in different perspectives. Whereas shareholders have been all Kenyans in their mandated area for WASCOs, consumers have been

all Kenyans across the whole country for WASREB. Whereas, in other words, seeking the cheapest way to finance investments has been the most responsible approach for WASCOs, WASREB (and the Ministry and donors) have sought to maximise available funding by removing those WASCOs that can self-reliantly emit debt from their funding.[26] The result has been that WASCOs have only self-reliantly emitted debt when they have had no other choice, or, more precisely, when they have no longer believed to have another choice. As long as WASCOs have believed to be able to access cheaper funding, they have not followed through with actual debt emission, despite in some instances already having fully prepared projects. Instead, they have competed with other WASCOs, including weaker ones in more need of cheap funding. Moreover, in instance where the reluctance has come from county governments, for instance by delaying tariff adjustments or implementation, WASCOs may have actually been unable to borrow. Even the norms about particular practices (such as timely tariff adjustments and implementation) have thus been contested. With the more recent "financing policy" debate, mainly donors have acknowledged this situation, and proposed to segment the sector. This would put the sector-wide perspective over the perspective of individual WASCOs, and install a norm about funding allocation that is stronger than utilities' norm about shareholder maximisation.[27]

6.2 Discipline beyond donor exit: handing over to local normative circles

The failure to durably position WASCOs as self-reliant debt emitters has remained a largely normative issue, more precisely of norm endorsement and enforcement. WASCOs have been permitted to borrow for years (see chapter 4), and some have already acquired the capacities to do so (see chapter 5). But few, if any, have accepted durable *debt emitter* position occupancy and performance. The normative circles that have endorsed or enforced respective norms, in other words, have remained weaker than other norm circles that have endorsed or enforced norms that contradict and undermine debt emission norms. One such undermining norm that was repeatedly lamented by virtually everyone in the sector (but county governments) has been the norm that suggested that the owners of WASCOs, the county governments, should make investment decision-making or generally operation of "their" WASCOs part of the political process.[28] Another norm that has prevented debt emissions has been the shareholder value maximisation norm. Building on earlier normative efforts (sector related

[26] Although, in practice, donors have undermined these efforts by actually preferably funding precisely those WASCOs.

[27] This would upscale resource allocation or appropriation, to some degree, from WASCOs back to the national level, after resource mobilisation has been downscaled from the national level to WASCOs. The alternative would be that WASCOs, on their own, put the sector well-being over their company well-being. This has not worked so far. It has also not worked for donors, who allegedly have the sector well-being in mind.

[28] At the same time, county governments' "interference" has been an issue of weak endorsement or slow enforcement of (codified) norms that prohibit such interference. This has less and less been an issue, however.

legislation and policies, especially the 2002 and 2016 reforms), and next to assistive one (to build utilities' capacities), a new round of normative work has been an essential part of the transition to commercial finance. Donors, especially the World Bank and the USAID programmes SUWASA and WASH-FIN, the state, especially the sector regulator, WASCOs and related associations such as WASPA, and lenders have formed more or less effective *local* normative circles that have done this work in Kenya's water sector. This section looks at them in this order.

6.2.1 Initiating donors

The transition to commercially finance Kenya's water sector has been to a large part grounded in international norms of Development. These had shaped both the earlier 1999 policy and 2002 reform that had advanced corporatisation and commercialisation of the sector, and have more recently shaped the norms about self-reliant debt emission by WASCOs. The "finance gap" narrative, World Bank's Maximizing Finance for Development programme, and the UN's call for mobilisation of also commercial financing (for instance as part of the SDG agenda), have directed donor policies. Virtually all donors have accepted and acted upon the widely endorsed norm that their funds should be blended with commercial finance to scale resource mobilisation (see chapter 1). This, then, has "trickled down" to countries and specific programmes, and donors have been at the forefront of advancing commercial financing of WASCOs in Kenya. Early and ongoing influential programmes have been the community lending by the World Bank (and others, such as Water.org), the OBA and AoD programmes, and the KPWF (see section 4.3). Next to developing capacities, establishing first relations between WASCOs and lenders, and gaining valuable experiences, these programmes have started to build local normative circles that would locally endorse and enforce these international norms of private sector participation and commercial financing.

One critical moment in this process was when the World Bank attempted to upscale from their community lending programme to working with WASCOs. WSTF, WASREB, and EWASCO staff (IntWASREB2; IntWSTF1; IntWASCO4) all remembered this moment (see section 4.3.2 and 4.3.3), and stressed that it was the World Bank that introduced the idea to the Ministry. Leveraging their existing "proof of concept" (the community lending programme), the demand from communities (including communities that were not eligible), and crucially the demand from utilities such as EWASCO for commercial financing given the lack of traditional sources, the World Bank was able to convince the Ministry to at least implicitly endorse commercial financing by letting it happen (cf. IntWB3).[29] The World Bank's effort in this regard, which included several meetings, was supported by the UNSGAB mission (cf. IntWASCO4; IntWFF3) that scoped Kenya's potential for capital market-based financing

[29] Earlier, EWASCO's respective WSB had already similarly implicitly endorsed EWASCO's attempts to borrow commercially (see appendix A).

(see section 4.3.4). KfW, too, joined this effort by creating the AoD programme parallel to the World Bank's establishment of the OBA programme. Together, this created the initial local normative circle that endorsed (even if only implicitly in the beginning) commercial financing in the country.

The OBA and AoD programmes, and later the KPWF have joined the first utilities, first lenders (by now all major commercial banks in Kenya), and crucially the Ministry and WASREB to this growing local normative circle that endorsed the norms that someone should borrow, and that WASCOs should be the ones. Moreover, from 2009-2015, the SUWASA programme had worked with banks and WASCOs to encourage them to lend and borrow, respectively; WASH-FIN has since continued this work. Many other donors have joined in: Water.org, which had worked with microfinance to finance small community water projects, has trained lenders, mobilised communities, and worked with WASCOs to advance commercial financing (IntKWAHO3). More recently, the KPWF and its parents KIFFWA and WFF (and various supporting donors or NGOs such as SNV, Sida, or KMT) have integrated yet more WASCOs and organisations (such as KMT) into the local normative circle. SNV staff, for instance, said that they have been 'encouraging utilities that are able to apply for this kind of financing to go for it', especially promoting the capital market-based financing options such as the KPWF (IntSNV1). The most influential donor, many affirmed, has remained the World Bank, however, and World Bank staff explained that more work has yet to be done (even though the OBA programme ended):

> it requires that we put more pressure on the sector to move towards commercial finance. So we have to put more emphasis on getting them to be creditworthy and viable, to get them to tap into this available pot. Because I see this pot of commercial finance growing, but I don't see this other pot [grants or concessional loans] growing, it's becoming smaller and smaller (IntWB1).[30]

Donors, through their programmes or by funding NGOs to support their agenda, have been the link between international norms of Development (such as private sector participation or "gap filling") and their adoption and dissemination by a growing circles of local organisations. These circles have since endorsed the norm set that suggests that WASCOs should durably occupy and perform the sector's *debt emitter* position. Their methods have been mostly persuasion, encouragement, and incentives, relying on reasons, in some instances requirements, and their funding and associated conditions (see also section 6.1 above). Moreover, these normative circles have "partnered" with assistive circles to instil and entrench particular practices, which have enabled WASCOs to emit debt. But one of the key reasons donors have been so active in this regard has been their projected exit from grant or concessional

[30]Whereas virtually all donors have endorsed commercial financing (yet paradoxically not enforced given their concessional lending to even top-performing WASCOs), some were more critical, expressing doubts whether the approach would actually substantially fill any gap, and whether using scarce donor funds to advance it was the right thing to do (cf. IntGIZ2; IntSE1).

funding in Kenya. Building initiatives like the KPWF, and the local normative circles that can sustain the endorsement or enforcement of norms about debt emission by WASCOs has been preparatory work to "soften" their exit.

6.2.2 Supportive state

Crucial members of these normative circles have therefore been organisations of the Kenyan state, both national and sub-national. Since the initial (implicit and careful) endorsement of the OBA programme more than ten years ago, the Ministry has, according to staff of the Department of Water Services, fully supported the norm that the sector should access more commercial finance; this has recently even included initial support of a financing policy (IntGov2a; IntGov2b; NoteWS1/3). The most pronounced endorsement (and in some aspects enforcement) of commercial financing, however, has come from WASREB. The regulator has repeatedly stressed the important contribution of commercial finance to financing the sector (*inter alia* in its annual reports, WASREB 2021), has encouraged fully cost-recovering tariffs to enable borrowing if a proper business plan is in place (IntWASREB1; WASREB n.d.), and generally supported any donor in their efforts to advance commercial financing in the sector, including jointly organised workshops for instance with WASH-FIN (NoteWS1; NoteWS2). The importance of WASREB and its leadership were repeatedly underlined, especially by commercial financing initiatives such as KPWF (IntWFF1), but also other donors such as GIZ (IntGIZ2) or NGOs considering utilising commercial finance to develop decentralised sanitation systems (such as Sanergy, IntNGO7). Yet another key organisation has been WSTF: with the OBA and AoD programmes, which were housed at the WSTF, the organisation has begun to encourage commercial financing, and has lately considered setting up their own commercial financing programme based on a revolving fund. Additionally, more and more county governments have – albeit slowly – joined the circles.[31]

The three organisations – Ministry, WASREB, WSTF – have relied on different approaches to endorse *debt emission* norms. Generally, all three have similarly to donors relied on persuasion and encouragement. Additionally, however, the Ministry has considered, and WASREB has committed to more enforce commercial financing through a financing policy, licencing conditions, or reforms. WASREB, for instance, adjusted tariffs country-wide in 2009 to increase cost recovery. Moreover, WASREB has leveraged the regulator position to create benchmarks, monitor and report on the sector, and calculate a creditworthiness index.[32] This has been used to rate and rank utilities (cf. WASREB 2021), stoking competition between, and endorsement of *debt emission* norms among them. WASREB, through its position as regulator, has therefore assumed a central and authoritative position in the new

[31]The has much depended on donor encouragement, for instance by affirming to them that 'their companies are doing the right thing' when they borrow commercially (IntUSAID1).

[32]WASREB's monitoring and borrowing have supported each other: monitoring has enabled borrowing, but debt has also enabled easier monitoring of performance (see also section 2.6.3).

local normative circles. Finally, WSTF, similar to donors, has used or considered using its funding to endorse or enforce these norms.

Two other important organisations to join the circles have been the National Treasury and CMA, Kenya's capital market regulator. The Treasury's letters of no objection and openness to restructuring legacy debt have enabled WASCOs to borrow, and the recently established unit that aims to issue green bonds on behalf of water sector projects has shown the organisation's support of commercial financing and "bankability". As mentioned above, an employee of this unit declared that even projects financed by concessional finance are checked for bankability, enforcing a key criterion of commercial financing (IntGov5). Additionally, the National Treasury has started to recover concessional loans from WASCOs, which has further endorsed or enforced the norm that sector financing has to be repaid, by WASCOs, even if debt was initially emitted by the Treasury. Furthermore, the CMA has lately worked on developing regulation and guidance regarding securitisation, asset backed lending structures, and issuance of sub-national debt (IntCMA1; IntCMA2). The CMA's support and flexibility to work out a solution was highlighted by the WFF team that has implemented the KPWF, stressing that the organisation's support was critical for KPWF's setup (IntWFF3). Staff of CMA mentioned that the regulator wants to establish Kenya as a leading capital market in East Africa (or beyond, IntCMA1), and therefore endorsed securitisation and related techniques and approaches, including the KPWF and (more so) sub-national bond issuance.[33] The local normative circles endorsing debt emission, in other words, have lately been joined by two important financing related organisations: the National Treasury and the capital market regulator CMA.

6.2.3 Acquiescent WASCOs

Many WASCOs have joined the normative circles, endorsing debt emission norms. Paradoxically, they have done so while remaining reluctant to actually emit debt. While they have therefore joined some (crucial) normative circles, they have not joined the one that endorses actual debt emission by them, or self-positioning as debt emitters. To some extent, their endorsement has been a passive "going along" with it, in other instances it has included a more active adoption of associated practices or internalising WASREB's norms; KWCL staff, for instance, noted that these 'also become our rules' (IntWASCO1). Few utilities have substantially refuted the "gap" narrative, and the little non-conformity that has occurred has mostly been practical political manoeuvres by their owners (county governments) to secure votes, or pragmatic and commonsensical financial decisions by WASCO managers (putting endorsement of the shareholder value maximisation norm first), rather than outright criticism of the

[33]The CMA and the initiative of Kenya's five biggest cities to issue municipal bonds, for instance, have started to build a framework for securitisation by municipalities or county governments (IntGov6).

approach. WASCOs and even their owners[34] have, by and large, acknowledged that commercial financing is "the way to go", notwithstanding their use of cheaper sources whenever still accessible. In yet other cases, however, WASCOs have endorsed norms and also disseminated them: through peer-to-peer exchange, WASCOs have demonstrated "best practices", for instance, to other WASCOs. This has occurred formally, in various peer-to-peer learning activities across the whole country (often facilitated by donors or for instance WASPA), and informally within their respective regions (MDs or other staff, for instance, "know each other" and exchange). WASPA, the association of WASCOs, has been an important member of the local normative circles itself. The association has promoted commercial financing among its members, and has provided a platform to lenders for advocacy and marketing of commercial financing facilities (IntWASPA1; WASPA 2018).[35] Moreover, staff of WASPA affirmed that utilities 'would be willing' to adopt commercial financing (once they reach creditworthiness, IntWASPA1).

6.2.4 Enforcing lenders

Lenders, by way of their increasing interest in the sector and tailored facilities offered to WASCOs, have demonstrated their support commercial financing water sector entities. Staff of major Kenyan banks such as Absa (IntBank5), Co-operative Bank (IntBank3), Equity Bank (IntBank4), Family Bank (IntBank2), or Sidian (IntBank1) affirmed not only their respective bank's interest in the water sector, but also acknowledged increased competition among banks for financing transactions. All of them have actively sought customers from the water sector by reaching out to WASCOs for instance through their branch offices or events organised by WASPA. Moreover, initiatives such as KPWF are explicitly set up to increase commercial financing of the water sector, knowing that, if packaged rightly, investors are interested (IntKPWF4). Lenders, after they had been made aware of the profitability of the sector, have had no problem to join the local normative circle that endorses WASCOs (or more generally WSPs, including for instance CBOs) as debt emitters. But lenders have been most central to other normative circles. Motivated by guaranteeing repayment of their loans, commercial banks and initiatives such as KPWF (as proxies of investors) have become important members of circles that have endorsed and enforced general and specific debt norms ('surely one has to pay one's debts', one should manage one's finances 'prudently',

[34]Speak to county governments directly was not possible, multiple attempts to meet sub-national Ministers ultimately failed (see section 3.5). The statement that county governments increasingly go along with commercial financing is therefore based solely on third party accounts of their communication with county governments, and on third party assessments. A USAID official, for instance, said that some counties would 'just [understand that] this is the way to go, there is no other way' (IntUSAID1). As part of KPWF requirements, some counties have also explicitly issued "no-objections" and even letters of support.

[35]WASPA (2018:19) lists as functions of WASPA to, *inter alia*, 'foster responsive commercialization of water and sanitation services delivery in Kenya' and 'stimulate and promote best practices and standards in development, management and delivery of water and sanitation services in Kenya'. The organisation has also assisted WASCOs to access commercial finance. See also section 5.3.

one should adhere to financing agreements and loan terms). Moreover, lenders have joined normative circles that endorse or enforce several "best practices" (about water service provision, or running WASCOs). As an employee of KEWASNET put it: the 'rules are set by financiers' (IntKewasnet2).[36]

Lenders have thus stepped in for donors (and regulator), replacing their conditionality or efforts with their own disciplining terms and conditions, and debtor oversight. Donors have become fully aware of this lately, underlining the financial discipline that lenders have brought to the sector (cf. IntUSAID2). A water and finance expert with GIZ for instance explained that commercial financing would introduce a third party, the lender, who would check utilities' books and their operations, and assume some 'control function' (IntGIZ4).[37] Others agreed: staff of WSUP stated with commercial financing WASCOs would 'start operating as it is desired' (IntNGO2), a UN-Habitat expert with the Urban Basic Services Branch believed that 'commercial financing will bring into the sector a lot of [...] financial discipline' and 'order into the governance system' (IntUNH3), and an official with the WSTF pointed out that it 'instils financial [... and] business discipline into the utility' (IntWSTF2). Indeed, donors have become so convinced of this side effect that they mimic the "market" and adopt associated practices. Sida, for instance, offers guarantees for commercial financing transactions, but charges a premium for it:

> [...] of course, we charge for the guarantee. Which is important, because I think a guarantee that you get for free doesn't really make sense. I mean it can always be nice to have, but it doesn't, you know, change the behaviour very well. So, we charge a premium for the guarantee (IntSida1).

Lenders, and the "market", have not only become the reasons given to WASCOs for adopting particular practices, but have also become key endorsers and enforcers. This disciplining of WASCOs has occurred in primarily two ways. First, within the *creditor-debtor* relation by enforcing norms of debt and finance. Second, more broadly by enforcing practices that are supposed to guarantee repayment. The latter has happened in normative circles that have included other water sector organisations as well, even if they have endorsed or enforced these practices for the different reasons and goals (such as increasing performance).[38] Managers of WASCOs in Embu and Thika for instance mentioned that resources needed to be used 'in a more prudent manner' (IntWASCO3a) and that 'prudence [became] a practice' (IntWASCO4) once financing commercially.

[36]Adding that 'government is less influential, in my opinion, and does not really have the stick to be able to call the shots on that' (IntKewasnet2).

[37]The expert continued, stating that during the World Water Week in Stockholm, regulators from Zambia and Rwanda, for instance, mentioned they would welcome more commercial finance because of this effect. Regulators more generally, just like the World Bank and OECD, would be aware of these 'side effects' (IntGIZ4).

[38]From the perspective of lenders, performance increases have been an intermediary goal, which typically supports repayment of loans. The usefulness of commercial financing for WASREB, for instance, stems from sharing this (intermediary) goal: WASREB, in other words, has found in lenders helpful co-members of the normative circles that endorses or enforces particular practices.

Enforcement by lenders has taken the form of withholding finance until requirements are met, or withdrawing prospective finance once requirements are no longer met. The KPWF, for instance, has wanted to be 'assured of good governance', and projects have been dropped by KPWF before financial close if governance issues of the applying WASCO became apparent (IntKPWF4). Generally, a board member of the fund declared that the KPWF was 'quite stringent in terms of how they [WASCOs] would be managed', noting that this would also '[help] in terms of the governance of the water sector' (IntKPWF4). Moreover, staff of the KPWF and its parent organisation WFF affirmed that KPWF financing was using the 'rigour of the market' and that 'that whole rigour makes people understand, hey, wow, if you want to borrow, this is the way it goes, and [...] everything has to be in order' (IntWFF1). They also made it clear that any defaulting WASCO would be excluded from future rounds of bond issuances (IntWFF2).[39] This was also acknowledged by an USAID official, who noted that

> utilities wouldn't have, wouldn't be able to easily default, because they would have too much pressure on them from county governments that see commercial finance is actually a good option for a lot of things (IntUSAID6).

The increasing dependence on commercial finance, which could even become a norm through the debated financing policy for some WASCOs, has made withholding or withdrawing finance an effective mechanism of norm enforcement. Contrary to other approaches that rely on persuasion, encouragement, or incentives, this would punish WASCOs for non-conformity. An important aspect of this punishment is that it not only occurs after non-conformity, but crucially also before. An official at the Dutch Embassy noted that only the 'strongest' are applicable for KPWF financing, the WASCOs 'that have already proven that they can [repay]' (IntNL1). WASCOs, in other words, have had to conform with respective norms, and repeatedly demonstrate this conformity to remain eligible.

Commercial banks have also made use of closer relationships with their customers to enforce compliance. Asked about their debt recovery procedures, staff of Absa (IntBank5), Co-op Bank (IntBank3), Equity Bank (IntBank4), Family Bank (IntBank2), and Sidian (IntBank1) all stated that they will engage utilities' top management through 'their relationship managers or branch managers' (IntBank4), talk with them about the cause of delayed payments to find a solution, and, if such solution cannot be found, send a demand, sue, or take over management (which, in principle, is supported by WASREB, although WASREB first attempts to join the solution finding process, cf. IntWASREB1; IntBank2). Finding a solution may include, as Co-operative Bank staff noted for cases of mismanagement (IntBank3), a recommendation to change utilities' management. The water sector financing expert of Sidian Bank explained that, in the three cases of non-payment the bank had experienced before, they

[39] The KPWF was set up with annual issuances in mind, offering WASCOs repeated financing and a full replacement of traditional sources for future investment needs.

> had several meetings between us, WASREB, and the [respective WASCOs]. And you sit with them, and we were very clear and categorical to them, if you are not going to make a payment, we may take up, put them on a receivership, we put our managers, everything, so that they can manage the Water Service Providers. Then from there we get back our money. So it reached at that level (IntBank1).

The bank employee further explained that these had been issues of 'mismanagement',

> Because to us [...] the WSPs performed very well, good returns, they have good money. [...] we knew very well that it is not an issue of cash flow, the issue is mismanagement. So to us, we were like, if they are not willing to pay the loan, then we will put these WSPs into like a receivership: we appoint our own management as a bank, who are going to manage the WSPs, so that we can recover our [debts]. [...] We [agreed] on the way forward and they accepted the terms and condition, promised they are going to change their management and ensure that the loans are paid. And exactly that is what was done (IntBank1).

To avoid such scenarios, Sidian Bank has conducted 'customer visits' and has prepared reports every three months, inspecting works and evaluating progress according to the financing agreement. Moreover, the 'exit tranche' has only been paid if implementation assessments come back positive, and the employee explained that the bank has been engaged in 'full relationship management with these WSPs' (IntBank1).[40] A KIWASH expert believed that such 'stronger relationship between utilities and banks will [...] serve to force utilities to [...] operate more professionally' (IntUSAID6). Or, in the words of KPWF staff: 'if you borrow commercially, it hurts' (IntKPWF2), and that puts pressure on management to perform and adopt recommended practices.

WASCOs have retained some agency, however. First, debt emission has remained grounded in utilities' *self-positioning* as debt emitters. Until any financing policy requires (some) WASCOs to emit debt, this has given them some negotiation room (although lenders have never compromised profitability, and not shown much flexibility in terms of risk). Conformity with norms has therefore often remained *self-disciplinary*, although, as mentioned above, donors and sector organisations have steadily increased the 'pressure'. Moreover, conformity has remained patchy, and even contested. Staff of KEWASNET, which represents civil society actors in the sector, noted that 'there is still a general struggle within the sector, between enforcing commercial financing against understanding of water as a social good' (IntKewasnet2). Second, even if WASCOs conform – because of (strong) endorsement or potentially enforcement – they have been able to negotiate with lenders. Given the growing competition between lenders, creditworthy WASCOs that repeatedly demonstrated 'good character' (see section 5.2.4 about cultivating relationships with lenders) have been able to get better terms

[40] This relationship management has extended even beyond repayment, which has been related to the bank's interest in winning WASCOs not only for lending to them, but also for banking with the bank. The financier continued: 'Because even us as a bank, we need deposits. Most of them, in water, there is a lot of money. So they collect quite a lot of money. So even if they clear their loans, we still need them' (IntBank1).

and conditions from banks. Moreover, as discussed above, lenders have typically not minded how precisely repayments are guaranteed, only that they are guaranteed, and that they understood how they are guaranteed. Overall, however, WASCOs have understood that projects have to 'make financial sense, not only social sense' (IntWFF4b), and that achieving 'financial sense' has required substantial conformity with lenders' requirements. Lenders have become effective members of the circles that enforce this 'financial sense', which includes the adoption of several practices (see chapter 5).[41]

6.2.5 Localised norm endorsement and enforcement

Gradually, the international norms of "finance gap filling" and mobilising commercial resources to do so have been localised to Kenya's water sector (and internalised by its organisations). This has included building local normative circles that have since endorsed and enforced these localised norms about self-reliant debt emission by WASCOs on behalf of the sector by adopting particular practices. These circles have been steadily enlarged and reorganised next to the cascade of trials by donors (see section 4.3), and have more and more included local organisations (instead of country-specific donor programmes).[42] Figure 6.1 schematically summarises this localisation process and associated development of local normative circles that have since endorsed and enforced debt emission norms in Kenya's water sector. Each "round" of localisation has enabled the next one, making this a phased process. Community lending norms and their endorsement and enforcement have enabled (even crucially enabled, given the proof-of-concept and demand by communities and WASCOs it created) the norm that WASCOs should borrow (even if facilitated, such as through OBA or AoD). Endorsement and enforcement of this norm have then enabled the norm that WASCOs should borrow *self-reliantly* by adopting particular practices. This has made possible, and has been made possible by, the KPWF. At the same time, this has made possible the gradual retreat of donors in these local normative circles, or least removed the dependence of these circles on donors. This has had two consequences: donors have been more and more able to leave the sector without jeopardising the normative environment related to debt emission, and donors have been able to more and more "hide" behind lenders or other members.

This has increased the effectiveness of associated disciplining efforts, mostly because of lenders' membership in these circles, in two ways. First, lenders have brought in a non-negotiable enforcement of certain norms, most of all repayment and associated (corporate) practices. This has substantially increased the adoption of these practices by debt emitters, much different from the slow adoption by grantees, aid recipients, or concessional borrowers.

[41]This has included enforcement of utilities' autonomy: neither commercial banks nor the KPWF has financed WASCOs whose owners have not stated in writing that they supported the loan and its requirements.

[42]Donor initiatives themselves have been become more local. KPWF and WFF repeatedly underlined that the KPWF is a local, Kenyan organisation, that can function (in principle) independently from Dutch aid.

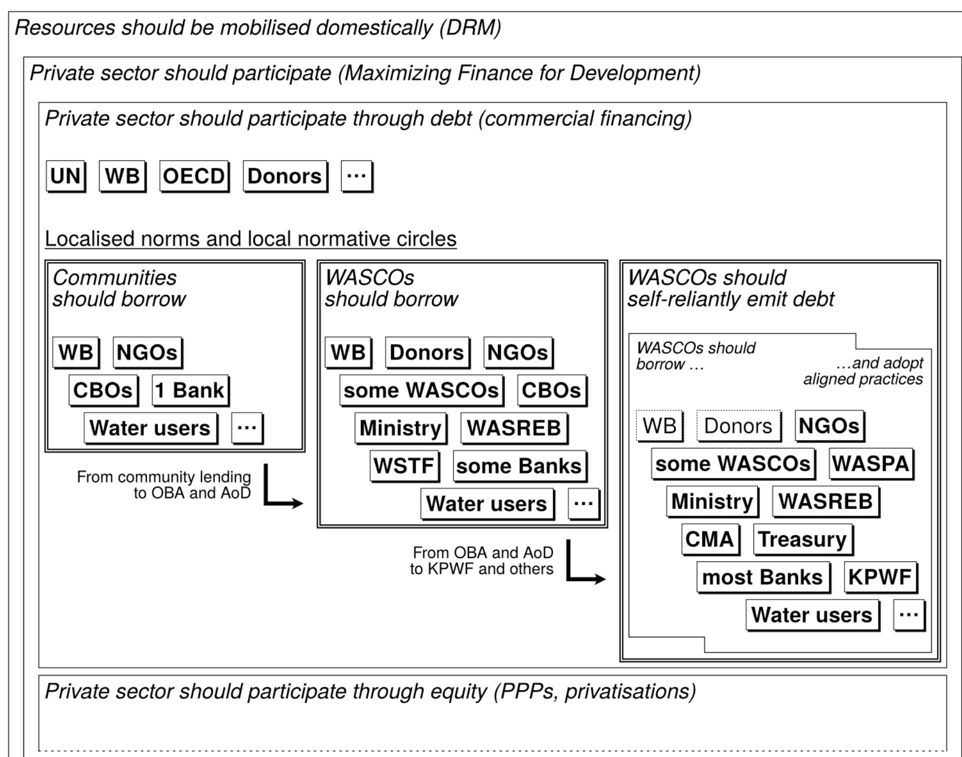

Figure 6.1: Schematic localisation and development of normative circles endorsing or enforcing debt emission norms.

The financing relation between WASCOs as debtors and commercial lenders such as commercial banks as creditors, in other words, has enforced *debtor* position obligations more powerfully than any other funding relation has been able to *endorse* for instance *grantee* position obligations: debts, after all, need to be repaid, and lenders can withhold finance if *they* feel "uncomfortable".[43] Whereas most normative circle members have only been able to endorse (appealing to WASCOs understanding and conformity), lenders have actually been able to enforce (by punishing non-conformity with non-financing).[44] Second, virtually everyone else has been able to point to lenders (or even "the market") as the "bad cops". Put differently, they have been able to explain the disciplining in allegedly technical non-negotiable requirements, instead of normative choices. The approach by WASREB and donors to increase WASCOs agency has therefore been to strengthen their negotiation position through conformity: through capacity building and creditworthiness improvements, to make WASCOs more appealing to lenders, and lenders compete for them. This has worked for a few WASCOs for now, given that few WASCOs have been creditworthy and lender competition therefore high.

[43]The National Treasury has more and more demanded repayment of sovereign guaranteed loans. Ironically, this has been a consequence of commercial financing, given that WASCOs have needed to tidy their books (see section 5.2.1), and have generally become more creditworthy, i.e. able to repay.

[44]The Ministry, possibly also the regulator, could similarly enforce certain norms through legislation or regulation. So far, neither has enforce debt emission, however, not even for a subset of WASCOs through a financing policy.

6.3 A tentative normative environment

This effectiveness increase given lenders' membership in these local normative circles has largely remained a potential, however: as "traditional" sources of funding have remained available to WASCOs, lenders have not been able to enforce debt emission. This has not only been due to the lack of actual financing relations between WASCOs *qua* debtors and, say, commercial banks *qua* creditors, but also because WASCOs have been able to, or have remained committed to, rather wait for cheaper options. Local normative circles have remained inconclusive, and especially incomplete in terms of utilities' own endorsement of their *debt emitter* occupancy. Section 6.3.1 below looks at this. Yet composition of these circles may have also been less stable than it seems. Many members have endorsed other norms, in parallel, that may undermine debt emission, or may even cease to endorse debt emission norms. For instance, donors have endorsed the norm that they should leave the sector. While this has, for the time being, strengthened debt emission, many sector experts including WFF and KPWF staff mentioned that if the KPWF fails (and it has been supported much longer than planned already), donors may not attempt commercial financing again in Kenya for many years.[45] Moreover, whereas the Ministry has endorsed commercial financing in workshops or speeches, and signalled considering a financing policy, such policy may never be developed. And WASREB may continue to focus on performance improvements and building utilities' capacities, and only secondarily endorse debt emission; so far, the regulator has spoken of "alternative financing", not commercial financing, and made clear that debt emission remained a choice for and by WASCOs. Others, too, may be less committed to endorsing debt emission than it seems.[46] WASCOs, in other words, have found themselves, and may find themselves even more, in a normative environment that has also endorsed norms that contradict or undermine debt emission by them. Section 6.3.2 looks at the reasons why normative circles members have nevertheless remained committed – for the time being, as section 6.3.3 concludes.

6.3.1 Inconclusive and incomplete norm circles

Political, technical, and ethical considerations have been behind weak commitment of local normative circles' members to more effectively endorse or enforce debt emission norms.

[45]Indeed, donors have been carefully watching the KPWF and, while many support it, holding back full endorsement. An employee of the Netherlands Embassy in Nairobi, overseeing their support of the KPWF, warned about this: 'people talk about it, but they're waiting and seeing what's happening with this one. That's why we see everyone wants it, but they want to see a success before they actually take the next step. Which is also going to be a huge loss if it fails for Kenya. Because then I don't think no one is going to try it for the coming five years at least. Then you have new people and new chances maybe' (IntNL1).

[46]The WSTF, for instance, may still become a MajiBank of sorts, the Treasury has started work on sovereign bond issuances, and CMA has favoured such sovereign or sub-sovereign bond issuances over private funds like the KPWF. This would make the national and sub-national governments the debt emitters. And NGOs, many of which endorse debt emission, have generally been less influential, and may support any agenda that guarantees their further operation.

First, hard won independence of newly created county governments from the national government has made some county governments careful not to lose their newly gained control over water service provision (and WASCOs) to lenders' (and WASREB's) requirement of autonomy and independence. While more and more county governments have joined the local normative circles of debt emission (by WASCOs), some still (attempt to) exercise significant influence, especially around elections: access to water and sanitation wins votes.[47] According to a National Treasury official, the two levels of government (but also national ministries and the National Treasury) have attempted to carefully maintain control over their mandates: 'There is that feeling of, how can I call it, protecting territory. You might find some stakeholders feel like, this is our space, [...] they don't want a lot of players' (IntGov5). A national financing policy that enforces debt emission by some WASCOs would clearly work across the division of mandates and labour between national and sub-national levels in the water sector.[48]

Second, norm endorsement has been challenged by technical assessments. Several water and finance experts with GIZ and KfW, for instance, were careful and thought that notions of commercial financing significantly contributing to solving the sector's problems were too optimistic or unrealistic. A GIZ employee expressed disbelief about achieving SDG 6 (about water and sanitation) through commercial financing, given doubts about investors' ability to contribute substantially (IntGIZ3). Another GIZ employee shared these doubts about the significance of the contribution of commercial finance,[49] citing financiers, who had joined a GIZ/OECD conference about water sector financing, and who stated that water sectors, especially in developing countries, were much less attractive and much more complex than other infrastructure sectors. According to these financiers, commercial financing would remain 'marginal', dependent on blending approaches, and restricted to local capital markets (IntGIZ2).[50] A financier with KfW in Kenya, while acknowledging a limited role of commercial finance for medium-sized infrastructure and strong utilities, echoed this sentiment:

> I keep on telling them, remember, commercial financing is not just, is not going to solve the problem in the water sector when it comes to infrastructure. It's just going to solve maybe 1%. [...] I tell people, who are really pushing for

[47]Paradoxically, this has also been a key reason for county governments to join the circles and endorse borrowing: commercial finance promises improved performance and service delivery.

[48]Moreover, forcing some WASCOs to emit debt, on behalf of the wider sector well-being, without sharing the costs may raise justified questions: why should lower-income communities in areas serviced by debt emitting WASCOs pay for associated financing costs, when others receive grants and cheaper financing, especially when such financing has remained ring-fenced to these communities and financing costs are not even shared by other (higher-income) areas serviced by the same WASCO?

[49]Indeed, the interviewee said that he had 'yet to find someone who would seriously believe' that commercial finance would significantly contribute in developing countries (IntGIZ2:author's translation).

[50]Moreover, the GIZ expert saw commercial financing, similar to privatisations and budget funding earlier, as yet another 'fashion', noting that it was a mistake to see any of these as *the* solution for water sectors. Instead, the water sector should be looked at 'holistically' to determine where and how commercial finance can contribute, hoping that such debate would then start a larger debate about financing and national investment planning (IntGIZ2).

> commercial financing, like, it's the solution for the sector, [this] is totally wrong. Because we should not forget that we still need the concessional loans to do the big investments (IntKfW1)

In fact, a KfW financier in Germany added, commercial financing, especially pooled funds, may create new problems by increasing the complexity, which may make it difficult for utilities to understand financing and put them in a weaker position (IntKfW2). At the same time, the National Treasury, for instance, has argued that the alternative of sovereign guaranteed financing would be increasingly available and, importantly, cheaper. An official therefore explained that borrowing through or by the government would be better (IntGov4). A Ministry of Water official noted that the government had issued, and was about to issue, more sovereign green bonds that would also benefit the water sector, either WWDAs or even WASCOs (IntGov3; cf. IntGov5).

Finally, ethical considerations, especially regarding extending services to lower income areas and the poor, have weakened the endorsement of debt emission. UN-Habitat basic services experts, for instance, expressed their concern about a shifting focus, away from the poor, which had a long history in the water sector:

> And this is a problem we even had with grants initially, yeah. Because grants, you know, were given to utilities, they were more interested in improving their performance but not necessarily dealing with the intricacies of working with the poor (IntUNH3)

And although the poor may indeed pay more now (the so-called "poverty penalty"), the expert added, they may still struggle to pay monthly bills from public utilities. Generally, given the dependence on ability and willingness of end users to pay but also to consume enough water so that collections actually support commercially financed network extensions, a second UN-Habitat expert noted that commercial lenders picked those areas where repayment is most guaranteed (IntUNH2). The poor, the concern was, would be only considered once they were a market, or as donor conditions (KPWF, being substantially donor supported, for instance, has pro-poor conditions in place; similarly, OBA and AoD programmes carried pro-poor conditions).[51] The GIZ expert quoted above agreed that a pro-poor orientation had to some extent been neglected by utilities (although laws and regulations and guidances were 'very good'), and he feared that commercial finance could provide an incentive for further neglect: there was a 'not unrealistic scenario' in which commercially financing projects in middle- or high-income residential areas (which still need investments, too) became more attractive than increasing pro-poor efforts (IntGIZ2).[52] A different GIZ expert (at the headquarters) disagreed, noting that some experts involved in water financing believed that

[51] GIZ's Urban Water Catalyst Fund proposal, too, requires at least 10% of financing received to be earmarked for pro-poor efforts (IntGIZ4).

[52] A central demand mentioned by him this was that commercial finance was additional and would not replace of 'crowd out' pro-poor oriented funding and financing (IntGIZ2).

lower-income areas were in fact the biggest opportunities, because the people living there lacked good water services and were willing to pay for them. But a KfW financier (in Kenya) affirmed that pro-poor development would require cross-subsidisation, which was possible for strong WASCOs:

> if a utility is strong and they are able to borrow a loan from the bank, they are able to reorganise their operations to subsidise the poor [...] The high-income areas can actually subsidise and repay that loan. So, ideally, it should work, in a properly, well run, organised utility, it should work (IntKfW1).[53]

Concerns have also been voiced by critical organisations such as eurodad. They, too, highlight the risk that people and countries could be left behind. One of the organisation's briefing papers takes a macro perspective and notes that reaching the populations that are most restricted in the 'enjoyment of the right to safe drinking water and sanitation' are the ones least attractive to private sector participation or financing (eurodad 2018:1; cf. Meeks 2018; Griffiths and Romero 2018). While this evaluation may not be immediately applicable to Kenya, the organisation and their reports have had an impact also on the local normative circles that have endorsed debt emission in Kenya. Both GIZ (IntGIZ4) and Netherlands Embassy (IntNL2) staff were well aware of the criticism; the latter also seemed defensive when asked about it. This has added to the more general concern that many involved in commercially financing WASCOs expressed: the continued support, by some politicians or critical organisations, of water as a social good, or even "God given".

6.3.2 Undeterred support

Nevertheless, debt emission has been endorsed. One of the key reasons has been the prospect to put debt emitting WASCOs on an upwards trajectory of gradual improvement or "turn around" (see section 5.2.5). This includes the link between the two positions (*WSP* and *debt emitter*) occupied by WASCOs, and the "side effect" of adopting practices that promise improved performance. A financier with KfW in Kenya stressed this 'double effect': 'you are getting money for infrastructure and at the same time you are strengthening [the utility]' (IntKfW1). Debt emission endorsement, in other words, has been helpful to improve the performance of WASCOs, and of WASCOs *qua* WSPs and debt emitters. This has been a "spiral", where one improvement leads to others: EWASCO staff, for instance, highlighted that 'borrowing shields the company from interference' (IntWASCO4), which

[53] Thus, the KfW financier added, 'commercial financing will not work, it cannot work in rural areas; it has to be in urban areas and big urban areas' (IntKfW1). Virtually everybody agreed with this assessment, but some also noted that moving those urban areas to commercial financing would free up cheaper money for rural areas. This, generally, has been the argument for commercial financing: only well-performing utilities would benefit the poor, and commercial financing contributed to the improvement of effectiveness and efficiency of utilities (IntGIZ4). Still, others maintained that there was a danger that these improvements would benefit the rich first. So far, cross-subsidisation has not been attempted, and KPWF projects, for instance, have had to be "bankable" on their own. Lower-income areas, also in bigger towns, have not been able to rely on cross-subsidisation from higher-income areas.

makes supports borrowing, and KEWASNET staff said that ‘the moment you have a good credit rating you will […] be able to increasingly have your own ability to engage the financiers’ (IntKewasnet2).[54] A WASH strategist with Oxfam noted that commercial financing can achieve easy wins through non-revenue water reduction investments (IntNGO3), which supports revenue generation and therefore potential further borrowing. Importantly, staff of WSTF affirmed that once WASCOs ‘taste the result of good business models, they wouldn't go back […]; plus, it kind of just boosts their revenue collection’ (IntWSTF2). Staff of KIWASCO therefore said that ‘commercial financing has really boosted our outreach in areas that initially we thought we would not go into […] we are able to dream big’ (IntWASCO7). Regardless of whether other utilities can repeat these early successes, they have shown to the local normative circles that their continued endorsement and enforcement of related norms has merit: debt emission can start an “upwards spiral” of self-sustained improvement of WASCOs and their *WSP* and *debt emitter* position occupancies.

Even if such spiral is left at some point and debt emission remains temporary, WASCOs have been changed through it. From a donors’ perspective, this alone has been a welcomed success: any debt emitting WASCO, even if temporary or just prepared for occupying the position, has undergone changes that also help any funding relation WASCOs have with donors. Donors, in other words, benefit either way: every WASCO switched to commercial finance frees up donor funds, and every WASCO switching back to donor funding is typically better able to implement donor funding. However, while this has given donors another reason to commit to endorsing debt emission, it has also contributed to slower adoption of commercial finance. As WASH-FIN staff explained, progress is especially protracted and ‘difficult’ in larger urban areas such as Nairobi or Kiambu, because ‘there is a lot of interest from the donors, there is a lot of interest from central government, there's a lot of interest from everybody’ (IntUSAID1). Generally, by pointing to debt emission and associated requirements (i.e. by using the local normative circles endorsing debt emission, including lenders as their powerful members), donors have been able to more easily endorse practices that have benefited grant or concessional funding implementation.

Finally, moving towards capital market-based approaches may introduce strong reasons to endorse or even enforce particular practices. While loans are small and systemic risk of defaults therefore low, donors and WASCOs are fully aware of (and in case of donors, make use of) debtors’ responsibility in front of ultimate creditors, i.e. savers or pensioners. WFF staff, when asked about debt recovery, mentioned that loans would be repaid because ‘local pensions funds would be implicated in defaults’ (IntWFF2). Similarly, former MD of EWASCO noted that borrowing through KPWF ‘is sensitive because we are talking [about …] pensioners’ money; so if the money was lost, it means the pensioner will not get any money’

[54]EWASCO had demonstrated that even borrowing small amounts can help finance crucial projects to increase outputs, revenues, and productivity (IntWASCO4). The company's former MD stated that ‘more than about 50% of our infrastructure development has resulted from commercial sources’ (IntWASCO4). See appendix A.

(IntWASCO4).[55] This has increased the pressure on WASCOs to reduce risks (by adopting aligned practices), to even become eligible. The team implementing the KPWF explained the tension between investors' interest in and the risk of water projects:

> If you structure in the right way, [institutional investors] invest. Because they like to invest in things like water, because it has a very social angle. But of course the risk profile has to fit. And that is good that they look at it that way, because they should get their money back and get the interest, because they have to give the pensions to their people (IntWFF1).

Sida staff responsible for commercial financing guarantees explained how local investors become powerful members of the new local normative circles:

> if, let's say, the utilities wouldn't pay, suddenly you can't just say, well, you know, it's the donors, you have to just, you know, let it go. Now suddenly you will have someone local who is there to [say …] "now you have to pay" (IntSida1).

This linking of socially relevant lenders (e.g. pension funds) with WASCOs *qua* debt emitters does not support the self-positioning; in fact, WASCOs may be more careful to commit. It does, however, contribute to the enforcement of repayment and associated adoption of practices and disciplining of WASCOs: the financial (for society) and moral (for WASCOs) cost of defaults increases conformity with whatever is required to avoid them.

6.3.3 Endorsement for the time being

Despite issues of commitment to fully endorsing or enforcing debt emission by local normative circles' members, they have done so for the time being. This has been mainly for two reasons: even if endorsement or enforcement is ineffective and ultimately unsuccessful, it has already contributed to a change in WASCOs, and it has therefore already had a benefit for donors in terms of project implementation. Given that donors and sector organisation that primarily seek performance improvements have been the most powerful members of circles, this has retained strong endorsement of debt emission. The KPWF has become a litmus test of donors' commitment, however: an end of the initiative without actual transactions, or even an end without repeated transactions, may substantially reduce donors' commitment to debt emission in Kenya. More broadly, it would achieve the opposite of earlier trials such as OBA and AoD: it would deter support. The local normative circles about debt emission may then be replaced by others that, for instance, endorse or enforce traditional funding approaches, or debt emission by others. KPWF staff was very clear about this: if the Ministry was serious about commercial finance, 'then they must also be willing to give up donor money' (IntKPWF1). At the same time, a non-successful yet non-closed initiative such as the KPWF

[55] It was unclear whether this was a consideration of the utility, or whether the utility was made aware of the consequences of a default by KPWF.

has still value in terms of disciplining WASCOs, and has therefore remained useful for some. More generally: retaining local normative circles about debt emission has remained useful, for the time being, because it has allowed pointing to lenders' requirements and the "market". It has allowed donors and sector organisations to rely on norm endorsement (or enforcement) by others (e.g. lenders). This has been, and will be, even the case when commercial financing remains "marginal" and facilitated through blending. The disciplinary function of debt, in other words, has been a powerful reason for many to endorse debt emission, even if such endorsement has not led to any debt emitted by WASCOs.

6.4 The commitment of WASCOs to *debt emitter* occupancy

The transition to commercial finance of Kenya's water sector has relied on several norms about debt emission. These norms have stated that someone should commercially borrow, have indexed WASCOs as the one who should do that borrowing, have stated particular practices should be adopted by WASCOs to this end (and therefore guided associated assistive circles, see chapter 5), and have stated that those capacitated WASCOs should position themselves and actually occupy a *debt emitter* position on behalf of the sector. The effectiveness of these norms in constructing WASCOs' commitment to *reliable* and *self-reliant* debt emission has largely rested on persuasion, encouragement, and incentives. This, in turn, has been grounded in different explanations, including the "finance gap" and urgency of mobilising commercial resources, the ownership of the sector's revenues that can back such commercial resources mobilisation by WASCOs, and the benefit of adopting aligned practices, and actually emitting debt, for both WASCOs and their managers. But is has also relied on performance benchmarks, and ratings and rankings, which have created peer competition and pressure on adopting particular practices. Moreover, it has rested on appeals to performant WASCOs to borrow on behalf of the sector and free up funding for less-performant ones (this may still become a sector policy). Overall, then, these norms have largely been endorsed, rather than enforced.

This endorsement has been gradually built by forming local normative circles. Starting with donors that have localised international norms of Development (private sector participation, "gap filling" from commercial sources) through their specific programmes, local sector organisations more and more have joined the circles. Connected to the three (major) donor initiatives to introduce commercial financing (see section 4.3), this localisation and enlargement process has occurred in three waves: first communities and a bank; then the Ministry, WASREB, WASCOs, and more banks; and ultimately virtually the whole water sector, all major banks and (in principle) some investors, plus the National Treasury and the CMA. Water users themselves have been members of these circles, directly in consultation or participation processes, or indirectly by demanding and paying for service extension by the respective WASCO (see figure 6.1 for a simplified visual summary). This localisation and

enlargement has increased the effectiveness of normative circles in endorsing the various debt emission norms, primarily through the integration of lenders. On the one hand, lenders have been able to actually enforce certain norms once WASCOs transacted with them. On the other hand, other members of these circles have been able to point to them, to support their endorsement efforts. In other words, even if lenders have not been part of the *proximal* normative circles for many WASCOs, they have been part of the *imagined* and *actual* ones (see section 2.3.1), and proximal normative circles have become more effective by the presence of lenders in the imagined and actual one.

Nevertheless, endorsement has lacked in effectiveness. Commitment of members of these local normative circles to endorse (or enforce) debt emission norms has remained uneven or erratic. Few WASCOs have ultimately committed to the latest normative circle and endorsed *self-reliant* debt emission: the KPWF has struggled to get any transactions closed, despite still providing some initially not planned assistance, and commercial banks have seldom lent to WASCOs without the OBA and AoD subsidies. Yet other organisations, too, have less committed than required to actually transition the sector, or at least parts of it, to commercial financing. This has primarily included the national and sub-national governments, which have either not committed to enforcing commercial financing (for instance through a national financing policy, or through WASCOs' boards), or committed to endorsing other norms that have undermined debt emission (such as political steering of WASCOs, or seeking cheaper funding). However, even if these local normative circles have only inconclusively or ineffectively endorsed debt emission norms – and reliable and self-reliant debt emission by WASCOs has therefore remained largely absent in Kenya's water sector – such endorsement has been maintained for the time being. This has been largely the case because even if ultimately unsuccessful, this endorsement has changed WASCOs, and donors and many organisations in the sector have "won" much already from the associated performance improvements of WASCOs. Even if WASCOs have not reliably occupied, or not at all occupied, the *debt emitter* position, they have become better occupants of the *water service provider* position. Or, more precisely, better occupants of the *commercial WSP* position.[56] The endorsement of debt emission norms has therefore had merit regardless of its ultimate effectiveness in reliable self-positioning of WASCOs as debt emitters – as long as WASCOs have adopted (some) aligned practices.

[56]Later, thesis conclusions raise the question whether (better) occupancy of the *commercial WSP* position does indeed also make a better occupancy of the *WSP* position (see section 7.4).

Chapter 7

Conclusions

Water is essential to life – yet globally billions of humans suffer from an insufficient provision of safe water and sanitation services. Addressing this has proven more protracted than various international agendas suggested. Recent efforts in Kenya to further develop the country's water and sanitation sector have attempted to follow the internationally promoted idea of "gap filling": to "unlock" commercial finance to fill (or rather bridge)[1] the gap in government and donor funding of basic services and infrastructure. This chapter brings to conclusion the research presented here, which looked into the systematic (i.e. methodical) and systemic (i.e. organisational) change of Kenya's water and sanitation sector as it has (attempted to) move from "traditional" funding to "alternative" resource mobilisation – which often refers to commercialised forms of development funding. The first section briefly recaps the research's starting point, theoretical framing, and study design. Following this, two sections succinctly present the main arguments advanced in chapters 4-6: section 7.2 summarises the concrete claims about the Kenyan case, and section 7.3 draws some wider conceptual and theoretical conclusions. Finally, the last section (7.4) raises questions left open by the research, most importantly about possible other forms of debt emission; an outlook, so to speak, of what might be useful to know.

7.1 The starting point: how has commercial financing changed Kenya's water sector?

The research had as its starting point a simple puzzle: how has providing safe and adequate water and sanitation services by "gap filling" worked in Kenya, both in terms of the historical

[1]Debt does not fill any "finance gap" but rather bridges it; the filling comes, in the Kenyan case, from future user fees (see section 2.5.4).

development and the emergent efficacy of an (additionally) commercially financed water and sanitation sector? The key question was therefore how such "gap filling" has changed the sector, motivated by the question about what are the reasons to believe that amending the funding architecture of Kenya's water and sanitation sector will indeed sufficiently mobilise additional resources, and ultimately reduce backlogs and extend services to currently underserved areas. The assumption of "gap filling" has been, after all, that a key issue blocking the actualisation of universal coverage has been a "financing gap", and that private commercial finance can "fill" this gap. Fundamentally, this is based on a simple calculation: a projected number of Kenyans will need additional water and sanitation services and therefore newly developed infrastructure, and a roughly known number of existing infrastructure assets will need rehabilitation within a given period. Estimated costs for both will exceed historical government and donor resources for similar periods by a certain amount, which will have to come from "alternative" sources – the World Bank estimated the total investment need for water supply to be USD 14 billion for Kenya from 2015-2030 (World Bank 2018a).[2] Such calculations have treated private finance as yet another source of finance, and as a largely quantitative dimension: as an additional pool of capital with a different cost. In contrast, this research was motivated by the assumption that integrating private finance also marks a structural change.

As discussed in chapter 2, this aim to explore and explain the structural dimension of the shift from "traditional" funding to "alternative" resource mobilisation was approached with a critical realist meta-theoretical lens. This enabled developing a causal explanation of the observed changes by focusing on what were judged the strata and laminae of social reality most relevant to this research, and theoretically generalising based on the proposed existence of mechanisms that may or may not actualise similar changes elsewhere. Grounded in critical realist meta-theory, the research adopted social theories that are themselves based on critical realism's "positioned-practices" and understood the (social) world as structured by social positions, relations between occupants of these positions, and specific rights and obligations of position occupants. Furthermore, the description of positions (their rights and obligations), the possibility to occupy them, and their performance was understood as shaped by the adoption of particular practices, based on norms endorsed and enforced by associated normative circles. This enabled a new analytical perspective on the resource mobilisation shift in terms of the construction and occupancy of a new position in Kenya's water and sanitation sector: the *debt emitter* position. Commercial financing, in other words, was seen as a reorganisation of the sector to include debt emitters, and debt relations between sector-internal debtors and external commercial creditors (see figure 4.3). Understanding

[2] In their budget statement, the National Treasury announced projected revenue collections of Ksh 2.4 trillion (including grants and appropriation-in-aid), and projected total expenditure of Ksh 3.3 trillion (National Treasury of Kenya 2022). At the time of writing, these are equivalent to approximately USD 20 billion and USD 27 billion. Ksh 45.9 billion, plus Ksh 5.8 billion from the third Economic Stimulus Programme, were allocated for water and sanitation infrastructure development. This currently equals about USD 427 million.

debt as both financially and normatively efficacious opened another analytical perspective: occupying a *debt emitter* (and later *debtor*) position bears on occupants not only in terms of resource mobilisation but also in terms of the normative environment. “Gap filling”, seen through social positioning and normative circles, has been a consequential reorganisation of the water and sanitation sector (of its positions and relations), and redefinition of the norms underpinning its operation by newly organised normative circles.

Based on this starting point and conceptual and theoretical understanding, the research was designed as a critical realist case study, which relied on intensive qualitative data generation and analysis to explore the mechanisms at work in this transition and explain their origins and tendencies of actualising a certain reality (see chapter 3). This was captured in two research questions:

1. How have Kenya’s water and sanitation sector and its entities historically been transformed (developed and organised) to make commercial financing possible and, crucially, probable?
2. Who and what has, at what times and in which ways, contributed to, or stood in the way of, these transformations of the sector and its entities?

To answer these questions, the research aimed at developing a diachronic and synchronic explanation of the change of Kenya’s water and sanitation sector associated with the introduction of sector-internal debt emission. The empirical work and analysis, in short, looked at both the historical process (including actors shaping this process), and the new organisation of the sector (positions and relations) and related emergent causal powers and liabilities of this reorganisation and positioning process. To this end, the study had as its objects historical events, rights and obligations and associated practices, norms and normative circles and their reasons and resolutions, and the organisations and people performing practices and engaged in normative circles holding these reasons and resolutions. Data generation included 87 interviews (86 usable), workshop attendance and observations, and documents such as reports, policies and guidelines, and laws.

The broader motivation behind this study has been to understand better the changes in basic services provision (or the foundational economy) as development funding is being commercialised. Water, an essential good and service for (human) life, has been a part of this as it has (again) become a frontier for private sector participation and financialised forms of development (see Bakker 2010; Bayliss 2014). Kenya’s water sector has been in the middle of this transformation of development funding, and was therefore selected as case for this study (see section 3.2). Several development funding innovations have been trialled in the East African country over the last decades, including more recently capital market-based financing approaches such as the Kenyan Pooled Water Fund (KPWF). Furthermore, Kenya has created the necessary environment to enable or promote these donor initiatives, ranging from the policy environment overall and of the water sector in particular, to the development

of a banking sector and capital market that can underpin commercial investments into the water sector. This environment also includes the recent re-classification as lower middle-income country, which fundamentally changed the availability and structuring of grants or concessional donor funding. Additionally, research practicalities played a role in case selection: the East African context generally and Kenya in particular were comparatively more accessible and therefore made the breadth and depth of data generation possible.

Within Kenya eight sub-cases (i.e. eight water utilities) were selected based on their pioneering role in the sector in terms of adopting commercial financing approaches. These Water and Sanitation Companies (WASCOs) have joined – or even supported the design and up-scaling of – programmes such as the World Bank's Output-Based Aid (OBA) and KfW's Aid on Delivery (AoD), or have lately considered KPWF financing (after KPWF had pre-selected them based on their performance and creditworthiness ratings). These utilities, in other words, were targeted by donors and have generally been supportive of commercial financing approaches, making them the key sub-cases to study both the adoption of commercial financing and related changes in utilities and the sector (including water users).

A few limitations need mentioning. While most interviews were planned and scheduled in advance, some happened at short notice or had to be conducted on the same day due to travelling practicalities. This led to some dense data generation days and made immediate preliminary analysis in the field difficult, impacting subsequent interviewing. Fieldwork practicalities and the cost of travelling (financial and temporal), generally, impacted data generation; online meetings could mostly compensate for this, however. Recruiting research participants and accessing data was fairly easily possible in most instances, with the notable exception of sub-national governments, however. Despite successful contacting and even agreements to meet, no representative of county governments could be interviewed. Although some third-party accounts stated the perspectives of sub-national governments, these were mostly excluded from the analysis given that these accounts could not be verified (except through other third-parties). Moreover, data generated through interviewing was assumed to reflect a "Western" perspective given my whiteness and background as international post-graduate researcher at a UK university. This impacted data generation both in terms of access to different perspectives (more "Western" accounts could be generated) and in terms of the validity of accounts (some accounts seemed to be more controlled than others). One the one hand, many research participants, mainly white themselves or working with donors or international organisations, responded to me and my research with openness, an assumption of a similar world view and shared perspective on their work, and an supposition of a degree of usefulness of my research to their work. On the other hand, a few Kenyan research participants working with local organisations seemed reluctant or careful to speak freely to a white researcher; and some research participants of key international organisations seemed careful in their responses, too.

7.2 Concrete arguments

Chapter 1 presented two case-specific aims: to understand better the historical emergence of the sector's possibility, capacity, and commitment to finance (some) water services development commercially, and to understand better the causal powers (and liabilities) regarding water service provision produced by the reorganisation of the country's water sector. This section is accordingly organised in two parts. Section 7.2.1 looks at the historical process of remaking Kenya's public water utilities (the roughly 50 water and sanitation companies, or WASCOs, in the sector) into viable candidates for a newly created *debt emitter* position, and their self-reliant and committed occupancy and performance thereof. Section 7.2.2 looks at the powers and liabilities of the reorganised water sector that includes debt emitters.

7.2.1 The historical development of the possibility, capacity, and commitment of Kenya's water sector to emit debt

The Kenyan government and donors have developed the possibility, and to some extent the capacity and commitment, of the country's water sector and its entities, especially water utilities, to emit debt and therefore commercially finance (parts of) their development and investment backlogs. The thesis built this argument over three empirical chapters. First, chapter 4 argued that policy and legal reforms, especially the new water laws of 2002 and 2016, reformed the water sector and created the *possibility* of debt emission by sector organisations. Moreover, the chapter argued, these reforms have since been trialled, the possibility of commercially financing utilities has been confirmed, in principle, by several donor initiatives, and commercial lenders and commercial financing transactions have been supported. The chapter concluded that a *debt emitter* position was created in the sector, that WASCOs have been singled out as its occupants, and yet despite this possibility and indexation few WASCOs have actually occupied a *debt emitter* position.

Chapter 5, then, turned to this non-occupancy of the *debt emitter* position and argued that after the initial focus on reforms, support of commercial banks, and facilitation of transactions, donors realised that utilities lacked critical *capacities* to borrow commercially. Occupancy of the created *debt emitter* position, in other words, has depended on WASCOs' *capacities*, and several donors, the chapter argued, have therefore adjusted their initial approach of facilitating transactions to instead develop these capacities. The chapter concluded that – in order to reduce utilities' dependency on aid to facilitate commercial financing transactions – donors have instilled and entrenched in several utilities a range of (corporate) practices that are believed to support self-reliant debt emission.

Last, chapter 6 looked at the non-occupancy of the *debt emitter* position despite the possibility and capacity of (some) utilities to occupy it. The chapter argued that actual adoption of practices that support debt emission has crucially depended on utilities' *commitment* to emit debt also without external facilitation (subsidies, guarantees, technical assistance), and that

the government and donors have therefore begun to construct utilities' commitment to self-reliantly emit debt. The chapter concluded that whereas donors and the government have built powerful local normative circles that have since endorsed self-reliant debt emission and related practices, no circle member has yet *enforced* them; commitment to self-reliant debt emission has remained erratic. The following subsections unpack this further.

7.2.1.1 The possibility of debt emitters in the water sector was established

Scaling the mobilisation of resources from "alternative" sources in Kenya's water and sanitation sector has been a decade-long process of substantial government and donor interventions. Chapter 4 discussed the legal and policy foundations of this: the adjustments and reforms since the change of the millennium that created an enabling environment and indeed the *debt emitter* position in the sector by corporatising (section 4.1) and commercialising (section 4.2) water service provision. This new environment has been trialled by donors through several programmes and initiatives (section 4.3). Over the course of many years, donors introduced commercial financing first to community-based organisations and their water projects. Later, the World Bank and KfW, together with the WSTF, upscaled the approach to licenced public utilities through their OBA and AoD programmes. This was a crucial step in three ways. It established WASCOs as the key entities that would emit debt on behalf of the sector, it developed a revenue-backed lending structure (given that WASCOs cannot pledge collateral), and it trialled and confirmed this lending structure and the utilities' (limited) viability for this role, even if position occupancy remained highly dependent on external facilitation (both financially and technically). WASCOs had effectively become the sector's main candidates for *debt emitter* position occupancy. This singling out of WASCOs was grounded in the corporatisation and commercialisation of these organisations: they had the required management structures (at least better developed compared to CBOs), and they collected and owned the sector's revenues.

The OBA and AoD programmes, and their demonstration of utilities' positioning as debt emitters (even if temporary and facilitated), enabled the Kenya Pooled Water Fund (KPWF) that has since attempted to link WASCOs with capital market investors. This Dutch-funded initiative further adjusted the environment, mainly by working with the capital market regulator CMA to adjust assetisation and securitisation related regulations. In principle, WASCOs have therefore been able to also emit debt that can be bought by investors such as Kenya's pension funds, opening up potentially much larger pools of capital (at potentially better conditions) than commercial banks can provide. At the time of analysis, the initiative had not closed any transactions, however; similarly, commercial banks have not substantially lent to the sector after the end of OBA and AoD. Debt emission by WASCOs has stalled for two reasons: utilities have struggled to be able and to commit to debt emission given associated costs and requirements on them.

7.2.1.2 Capacities of WASCOs to emit debt have been developed

Donors had realised the issue of insufficient capacities of WASCOs, and have developed them since. This marked a fundamental shift of their approach, from enticing lenders and facilitating transactions, to making WASCOs appealing to lenders. Chapter 5 discussed this change of direction and related focus on instilling and entrenching a range of debt emission aligned practices in WASCOs. Utilities have received substantial technical assistance from donors, contracted NGOs and consultancies, sector organisations such as WASREB and WSTF, and their peers and associations (WASPA), to develop their resource mobilisation capacities. This has rested on the adoption of particular practices by WASCOs that enable their *self-reliant* occupancy of the *debt emitter* position on behalf of the sector, including crucial practices of business planning, staff training and recruitment, billing and collection of adjusted tariffs, project preparation and packaging, and relationship cultivation with counties (see section 5.2). This has been a long process that has used different approaches, including training WASCOs, instructing them (with the help of guidelines, templates, and crucially while actually borrowing), and promoting commercial financing and liaising between essential organisations (see section 5.3). Irrespective of any actual transactions, WASCOs have therefore undergone fundamental changes simply by preparing to become *debt emitter* position occupants on their own, i.e. without donors' or government's facilitation.

These practices, while aiming at developing the capacity of WASCOs to emit debt, have targeted WASCOs themselves (as corporations), WASCOs *qua* WSPs, and WASCOs *qua* debt emitters (see figure 5.2). In other words, three categories of practices have been disseminated: practices that enable and improve effective management and efficient operation of WASCOs, commercial water service provision by WASCOs *qua* WSPs, and self-reliant debt emission by WASCOs *qua* debt emitters. Many of the practices introduced on behalf of resource mobilisation have therefore overlapped with and contributed to operational performance, which has also been a prerequisite for convincing lenders of repayment abilities. It is useful for the analysis, however, to distinguish the purpose of these different practices, to avoid confusing or conflating operational performance improvements with resource mobilisation from "alternative" sources. Whereas commercial financing depends on operational performance improvements, the inverse is not necessarily the case: necessary investments can come from traditional or "alternative" sources. But commercial financing has helped to endorse or enforce norms and associated practices that have been shown to contribute to performance improvements in the past. Operational performance improvements, in other words, are a precondition for and side effect of debt emission. This is an important point: the adoption of new practices to the end of improving operational performance has not depended on making WASCOs debt emitters, but has been supported by it.

Irrespective of their ultimate purpose, however, utilities' new practices have been instilled and entrenched in them by organisations external to potential commercial financing relations.

Neither lenders nor utilities, on their own, have introduced associated practices (mostly in utilities but to some extent also in lender organisations). Instead, WASCOs and commercial banks (and other lenders) have been taught and trained by assistive organisations, including donors and local (sector) organisations. The ability of WASCOs to self-reliantly emit debt is, in crucial ways, a function of these efforts. These organisations have formed *assistive circles* (see below) that share a commitment to instil or entrench particular practices in WASCOs, in this case practices that have been proven to increase their creditworthiness and therefore appeal to lenders. Together, these practices form a particular complex of practices (practices of self-reliant debt emission), whose performance has given WASCOs the capacity to emit debt on behalf of the sector without external support. Performance of this complex of practices, in other words, has brought the transactional de-risking (that donors and the government have provided) *into* WASCOs. However, other practices and complexes of practices to mobilise resources have remained available to WASCOs, and utilities have continued to perform these as well, even when they have been already able to perform self-reliant debt emission. This has included, for instance, practices of accessing grants or subsidised loans through OBA or AoD. In short, whereas WASCOs have acquired the ability to perform a different complex of practices (self-reliant debt emission), they have not necessarily committed to actually performing it.

7.2.1.3 The commitment of WASCOs to emit debt has been gradually (and erratically) constructed

Constructing this commitment to *reliably* mobilise resources on behalf of the sector through self-reliant debt emission has therefore been an important part of this shift from transactional de-risking to positioning WASCOs as debt emitters. This has relied on the localisation of international norms of Development and parallel formation of local normative circles that endorse or enforce them (see figure 6.1). Chapter 6 discussed this process, including the incremental enlargement of these local normative circles that have mostly endorsed and seldom enforced the norms that someone in the sector should borrow, that WASCOs should be the ones to do this, that WASCOs should adopt particular practices, and that WASCOs should perform these practices and reliably and self-reliantly emit debt on behalf of the sector. Whereas donors and particularly the World Bank have been crucial members of these circles especially in the beginning, sector organisations such as the Ministry, WASREB, and WSTF, but also NGOs, the CMA, and the National Treasury have joined them over the years. Most importantly, lenders (including commercial banks and the KPWF) and WASCOs (and their association WASPA) have become important members. Virtually all banks have endorsed lending to the sector and therefore respective debt emission norms about the adoption of aligned practices, while banks themselves have hardly changed their practices beyond those that have enabled them to read and understand the sector. Similarly, many WASCOs (particularly those recruited for this research) have endorsed commercial borrowing as "the way

to go", supported by (allegedly) broad endorsement by water users, given that "finance gap filling" actually translates into "service gap filling".

Few, however, have actually self-reliantly emitted debt, let alone done so durably and reliably. Even WASCOs that have achieved creditworthiness or near-creditworthiness have remained uncommitted: local normative circles, which have relied on persuasion, encouragement, and incentives, have not been able to conclusively construct that commitment. Some, especially donors related to the KPWF that has struggled without such commitment from WASCOs, have therefore advocated a sector-wide "financing policy", which would exclude creditworthy utilities (or bankable projects) from donor or government funding and effectively enforce debt emission by those WASCOs. However, the Ministry, although it has signalled openness to such policy, has not (yet) developed, let alone implemented such policy.[3] Neither have donors adopted such policy for themselves: despite their endorsement of debt emission norms, donors have continued to fund projects of creditworthy WASCOs, and often precisely these given the associated promise of more effective and efficient implementation of grants or concessional funding. Donors, in other words, have been unable to coordinate and restrict funding of well-performing WASCOs (*inter alia* because of the competition between donors and their need to disburse). And lenders, in principle effective enforcers, have not yet been in a position to do so: they have simply yet to become creditors to WASCOs *qua* debtors.

These normative circles, to be effective, have therefore required a certain composition and internal division of labour. Donors, for instance, have required the Ministry to enforce an allocation of concessional monies and grants according to creditworthiness criteria, and therefore segmenting the sector and effectively enforcing debt emission for some (a role that the Ministry has not (yet) taken on). Similarly, all members have relied on lenders to enforce norms about particular practices. This has been the case even when lenders have not been part of proximal normative circles and others have simply pointed to them in their endorsement and enforcement efforts.[4] Another central member has been WASREB, by virtue of its relation with WASCOs that have been direct licensees of the regulator since the 2016 reform. Through its power to issue regulations and to set licence conditions and tariff adjustment application requirements, WASREB has been an authoritative member of the local normative circles. This internal organisation of local normative circles, which has transferred more and more endorsement work to lenders and the sector regulator, has enabled the Ministry and donors to retreat (donors have made this a part of their exit preparations), and "hide" behind lenders or "the market".

[3] Donors have signalled willingness to support the Ministry in the development of such "financing policy", and the government seemed likely accept such support in the near future.

[4] Lenders are part of normative circles that endorse or enforce norms as part of the financing relation between creditors and debtors. But lenders can also be part of the normative circles around debt emission, yet seldom of the proximal circles. This includes forums organised by WASPA, where commercial banks or the KPWF have presented themselves and their facilities, and financing agreement negotiations.

7.2.2 The powers and liabilities of water service provision through debt emission

The process of positioning WASCOs as debt emitters, as fallible and incomplete as it has remained, has reorganised Kenya's water sector. Associated with this reorganisation, the sector has acquired new powers and liabilities. The key power increasingly possessed (yet not necessarily exercised) by Kenya's reorganised water sector – and purpose of all reorganisation – has been self-reliant debt emission. But it has not been the only one, and may not even have been the most important one. Virtually everyone in the sector has become aware of secondary effects of this reorganisation: disciplining of WASCOs, and related improvements in water service provision. The water sector, in other words, has furthermore acquired additional powers to discipline the key entities that provide water services, even during the positioning process and before durable positioning has been achieved, and to reach more water users and provide improved water services to them.

7.2.2.1 New powers: self-reliant debt emission, WASCO disciplining, effective and efficient service provision

Corporatising and commercialising water provision, creating a *debt emitter* position in the sector, and capacitating and committing WASCOs to self-reliantly emit debt has created the water sector's power, exercised or not, to (potentially) commercially finance itself. "Gap filling", in other words, has ceased to be the result of de-risking efforts, but an emergent power of the organisation of the water sector in Kenya (see also section 5.1). This organisation includes three two crucial positions: the *commercial water service provider* and the *debt emitter* positions. These positions are *linked* in such way that they are occupied by the same entity, and that performing either of them enables or strengthens the other (see section 7.3.3 below). WASCOs, the (newly) created publicly owned companies providing water services, have been positioned both as cost-recovering *commercial water service providers* and as *self-reliant debt emitters* in the sector. At the same time, water users have been repositioned as *customers* of WASCOs *qua* commercial WSPs. This power of WASCOs *qua* commercial WSPs to fully recover costs from water users *qua* customers, linked to the power of WASCOs *qua* debt emitters to emit debt has been at the centre of the sector's power to mobilise commercial resources. Consequently, this has consolidated the commercial operation of an important part of the foundational economy, and extended the user-pays-principle not only to operations but also development thereof.

At the same time, the sector has been able to discipline WASCOs. To the extent that WASCOs have actually self-positioned as debt emitters, or committed to such positioning, WASCOs have been exposed to a much stricter normative environment and its enforcement by lenders. Whereas this disciplinary effect of lenders on WASCOs has its origin in the *creditor-debtor* relation the two form once WASCOs actually borrow, WASCOs have felt the disciplining also as debt emitters, i.e. before entering any actual financing relation.

Lenders, through their power of withholding financing until their requirements are met, have disciplined WASCOs therefore also as debt emitters: to be or become positioned as debt emitters, WASCOs have had to adjust their practices. Whereas lenders disciplinary power has been substantial (once WASCOs committed to commercial financing), they have also accepted a range of "traditional" practices as long as they understood how these helped with the repayment obligation. Lenders, for instance, have readily accepted subsidies or guarantees as practices that enabled WASCOs' debt emission in the OBA and AoD programmes.[5] But the sector, through its components such as WASREB or also donors, has been able to make use of this comparably general disciplinary effect to enforce *specific* corporate change (such as professional management and operation of WASCOs) and a *specific* definition of the *WSP* position (commercial operation and cost-recovery), all while attributing those specific choices to lenders and "the market". In short: Kenya's water sector, through its components, has acquired the power to discipline WASCOs, which has fundamentally altered the governance of both WASCOs and the sector.[6]

Importantly, this has included the power to discipline WASCOs *qua* WSPs, WASCOs in their crucial role for the sector as service providers. Together, the increased disciplinary control over WASCOs and WASCOs *qua* WSPs has given the sector the power to more effectively and efficiently provide services. This was often described as a secondary effect of debt emission, which donors and sector organisations had discovered only after first debt emissions had occurred. Similar to the linking of the *water service provider* and *debt emitter* positions, this power to provide more Kenyans with water services is difficult to separate form the power to mobilise commercial resources. In both cases, however, the power comes from the new organisation of the sector; it is not a secondary effect of debt emission, but an emergent power like debt emission itself. This new power, which is grounded in the disciplinary power the sector has acquired, has become a consequential one, and possibly one more important than debt emission itself. Even without actual debt emissions, this power has enabled the sector to potentially extend coverage to more Kenyans, and maintain and improve the services provided. Whereas achieving this has been the purpose of mobilising commercial resources (and such mobilisation may still contribute and "bridge" the "finance gap"), it has been this power to more effectively and efficiently provide services that can potentially contribute to *"filling"* the *"service gap"*.[7]

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[5] This effectively makes guarantors part of the disciplining, partially replacing lenders.

[6] This has extended the disciplinary effect of debt to water users, who have been recast as customers who accept metering and prompt payment of adjusted tariffs in return for (commercially financed) projects that extend coverage to them or improve services. Water users *qua customers* have had to accept that unless revenues generated from their water consumption are high enough, projects cannot be implemented.

[7] See also chapter 1 and Goodfellow (2020).

7.2.2.2 New liabilities: external control (and extraction), increased component agency, uneven financing

Emitting debt and selling it to commercial lenders has made the sector susceptible to a new form of external control. Lenders have been able to not only discipline the companies emitting the debt, but also control selection of projects for implementation with the proceeds from such debt emission: directly, through "bankability" conditions for particular projects, or indirectly, through creditworthiness conditions for WASCOs. These two forms of control have been comparably general, and lenders have left "bankable" project identification and selection to creditworthy WASCOs. Creditworthy WASCOs have therefore maintained some control over projects, as long as they have been evaluated by lenders as "bankable". However, whereas "bankability" is to some extent a property of projects and their preparation through WASCOs, it also crucially depends on the financing market. "Bankability", in other words, is not only a technical assessment of projects, but an assessment or valuation technique controlled by lenders. With debt emission, the sector has become susceptible to such valuation techniques and any changes of them. So far, lenders have tended to under-value the sector, and have limited investments despite need: few lenders have regarded the sector "bankable" without de-risking; the sector's response has been to increase creditworthiness of WASCOs and "bankability" of projects. Yet lenders may in future also over-value the sector, and fuel investment irrespective of need. Arguably, this seems far from becoming an issue for the sector. But demand of mortgage debt, engineered to appear safer than it was, showed that such over-valuation may occur unnoticed, or be misjudged as an indication of the strength of the sector.[8]

Moving resource mobilisation to WASCOs *qua* debt emitters has increased their agency not only in debt emission but also in controlling projects (although secondary to lenders control over projects through "bankability"). The sector has therefore become susceptible not only to external control from lenders, but also increased component agency. So far, this has not mattered much, it seemed: any agency of WASCOs to mobilise additional resources has been welcomed and indeed encouraged. But county governments and WWDAs have started to realise that this agency in resource mobilisation increases WASCOs autonomy. Whereas this has been welcomed by many for its contribution to enable debt emission, it has also effectively removed governments (sub-national and national) from controlling investments. They have had to rely on norm endorsement instead, or on introducing new policies such as a sector-wide financing policy. In short: sector resource mobilisation has more and more been imagined as a function of debt emission by WASCOs, which makes the sector liable to utilities' agency in this regard. The struggles of WASCOs to commit to emitting debt have more and more become the sector's struggles to mobilise resources.

[8] An important aspect of such over-valuation is that the disciplinary effect of lenders decreases, which might then affect the sector's newly acquired powers to discipline WASCOs and more effectively and efficiently provide water services.

Together, external control of and WASCOs' agency in selecting and implementing projects have started to further and consolidate spatial disparities across scales, including disparities between regions (with lower or higher costs related to water production),[9] between cities and the countryside, between richer and poorer cities, and between richer and poorer neighbourhoods or communities of cities. With debt emission, the sector's power to universally provide water services will ultimately depend on the power of WASCOs to achieve debt emission supporting cash flows. Where WASCOs have been liable to high water production costs, have lacked the power to recover costs (for instance because water users cannot be positioned as customers, who consume enough water at fully cost-recovering tariffs), or have been unable or unwilling to exercise this power (for instance because their owners or boards prevent it), "alternative" resource mobilisation has remained impossible. In other words, the sector's new powers to mobilise resources for service extension and improvement, and more effectively and efficiently provide services, has prioritised specific areas based on their natural, administrative-territorial, and socio-economic situation, as well as their respective WASCO. This has excluded rural, peri-urban, and even inner-urban low-income areas, and virtually everyone agreed that it will continue to exclude these areas for the time being. Furthermore, moving resource mobilisation to a sector component on behalf of the sector but not *for* the sector has robbed the sector of effective cross-subsidisation:[10] areas that are more able to mobilise commercial resources cannot (even if they wanted to) easily support other areas.[11] The sector, in other words, has more and more become susceptible to underlying conditions and WASCOs in its effort to achieve universal coverage.[12]

7.3 Wider considerations

This section advances three wider considerations by abstracting further from the case. First, section 7.3.1 argues that commercial financing is best understood as debt emission. On the one hand, this shows borrowing organisations as the active agents they are, and the normative forces acting upon them to direct their agency. On the other hand, this captures the shift

[9]Which may be grounded in geographical or climatic differences, or in territorial boundaries that force some regions to excessively spend on water pumping.

[10]*WASCOs* emit debt, not the sector, and proceeds of such debt emission remain with, and are distributed by, the debt emitter, not the sector. The devolution has further complicated this, and likely restricts, *de jure* or in practice, redistribution to other counties.

[11]This is primarily tied to WASCOs, i.e. a stronger WASCO cannot easily support a weaker WASCO. But even cross-subsidisation *within* a WASCO, i.e. using cash flows generated from higher-income areas to support lower-income areas, may be difficult or impossible, depending on the lender.

[12]The justification for WASCOs' debt emission has involved the argument that it would free up donor and government resources for these weaker areas. This has faced two obstacles in practice: on the one hand, commercial finance has been seen as a replacement of donor funding; the KPWF, for instance, is the Dutch "exit" initiative. On the other hand, WASCOs' ability to mobilise resources from "alternative" sources has also been advantageous to mobilise resources from "traditional" sources: donors have welcomed funding these WASCOs. Yet even if no such misallocation of donor and government funding is assumed, it remains questionable how the much more expensive commercial finance can replace government funding *of infrastructure development* (not merely operation) in some areas, especially given the substantial costs of extending networks.

from de-risking to reliable positioning in financialisation attempts, which has consequences for Development's role in these. This speaks primarily to development studies and political economy audiences. Section 7.3.2 proposes the concept of assistive circles, as a specialised case or specialised members of normative circles. These bring together organisations that share the goal and commitment to instil and entrench particular (normatively determined) practices and their performance in organisations. Whereas normative circles endorse and enforce practices, these circles *assist* organisations in adopting such practices, and *enable* organisations to conform with norms. This contributes to the concept and theory of normative circles. Finally, section 7.3.3 argues that the *debt emitter* position is a *linked position* (in the study's case a position linked to the *WSP* position). Such linked positions or linked positionings are a form of multiple positioning that occurs next to other positionings yet with implications for these other positionings. This contributes to social positioning theory.

7.3.1 Debt emission

Many spoke of utilities' 'debt absorption' capacity as the limiting factor for commercial financing, suggesting that WASCOs "took on" debt. But debt is an IOU ('I owe you') statement, and borrowers *emit debt*, whereas lenders *absorb debt* (by purchasing these IOU statements, in WASCOs' cases typically sophisticated contracts).[13] Instead, borrowers absorb capital (and by absorbing excess capital become crucial surplus recyclers in capitalist economies, see section 2.5.1).[14] Absorbing capital through emitting debt, however, is a complicated process. On the one hand, capital is not simply available (as the "gap filling" narrative may suggest). Accumulated capital becomes surplus capital only when it is not reinvested (for whatever reason), and such surplus capital is only available on terms and conditions of the accumulating person (an individual or organisation). Capital, in other words, switches into finance at the behest and on terms of the capitalist. Second, for surplus capital to be absorbed through the finance sector (commercial banks or financial markets), it needs to be exchanged and traded for debt (IOUs). With proper underwriting by lenders, debt is more than a simple promise of repayment (including agreed interest and fees): it is a *credible* promise of repayment. There is, in other words, good reason to believe that debts will be honoured and repaid. Borrowers therefore need to produce such good reason, to convince lenders to emit credit (become *worthy* of their *credit*).

[13] Likewise, lenders *emit credit*, that is they *trust* borrowers in their commitment to repay what is owed and honour their debts. See Douglas (2015); Douglas briefly speaks of debt emission (and the obligation to emit debt) on pages 105-6.

[14] Borrowers absorb, or recycle, excess or surplus capital, not debt. Capital here can take many forms, including aid in form of concessional loans, which can be understood as merely surplus capital offered at subsidised rates for recycling (or absorption). From this perspective, concessional loans by donors are an important mechanism to recycle surplus capital, and the shifts towards blended or commercial financing ("gap filling") are efforts to transfer more of this recycling to (former) aid recipients directly. Grants, too, can be understood as a recycling mechanism, where surplus capital is easily absorbed given nothing is expected in return (at least not from grantees).

Debt, in other words, needs to be trusted and accepted by lenders before it can be exchanged and traded for capital. Debt emission, if it wants to be successful, needs to be matched by "credit emission". Both of these emission processes may be anything between fairly simple (borrowing between friends) and rather complicated (Kenyan WASCOs borrowing from Kenyan pension funds or international investors). Debt emission (the focus here), then, is not a simple (capital) absorption process, but requires active and skilled agency by the ones emitting debt. Borrowers, in other words, do not simply exist (with varying degrees of "absorption capacities"), but are made: both the capacity and commitment to emit *trusted* debt are acquired. More precisely, debt emission is a position (the *debt emitter* position) that can be occupied by persons (individuals or organisations), not a (varyingly pronounced) property of persons. This opens up an analytical perspective important to critical analyses: debt emission requires borrowers to be seen as the active agents they are. Furthermore, debt emission enables analyses that explore and explain the various forces, including assistive and normative ones, that act upon borrowers in attempts to direct their agency to emit debt – in terms of whether and how much debt is emitted, and in terms of how creditworthiness of this debt is produced. This helps to counter the idea that finance is simply available for absorption; whereas at times excess capital may indeed be simply available, its absorption through debt emission is complicated and importantly tied to lenders' credit.[15]

Such understanding of borrowing as debt emission also helps to make sense of Development's next step after efforts to de-risk commercial financing, and of the financialisation of development (or the foundational economy). After the promotion of private sector participation more generally through the "Washington Consensus", and public de-risking of private investments (mainly through PPPs) more specifically through the "Wall Street Consensus", Development's most recent effort has been to reliably position for instance public utilities as debt emitters. This has been an attempt to even more reduce engagement of donors or the government. Whereas de-risking has effectively been an effort in sharing the responsibility, costs, and risks of emitting debt for development, the new approach transfers these completely to public utilities through positioning them as reliable and self-reliant debt emitters. Instead of governmental entities, or the donors supporting them, taking over (some) risk of commercial financing transactions, de-risking has been gradually made part of the debt emitter position that is occupied by separate corporatised utilities.

For both governments and donors, this has meant a shift from direct control over development by means of funding it, operating services, or designing and implementing interventions, to a more indirect form of control by shaping the normative environment related to debt emission. This has included norm setting, and norm endorsement or enforcement in normative circles. Crucially, these normative circles, which have endorsed and enforced debt

[15]Capital is surplus capital because it cannot be profitably invested, or because (numerous) people save (e.g. for their retirement). For such surplus capital to be recycled, it needs to buy debt (emitted by others) which offers acceptable returns and repayment certainty: surplus capital recycling depends on debt emission.

emission by WASCOs and the particular ways this is achieved, have been *local* normative circles and included, next to donors, lenders and local organisations. This has been the new form of financialising development: replacing government and donor funding (including de-risking) with the reliable occupancy and performance of a *self-reliant debt emitter* position by corporatised and commercialised utilities, and integrating lenders into the disciplinary local normative circles that endorse and enforce the norms of such debt emission. In short: Development moves from de-risking to creating the organisations that are capable of and committed to self-reliantly emit debt, and the government from emitting debt itself (for instance through sovereign guaranteed concessional borrowing) to encouraging or requiring other organisations to do it.

7.3.2 Assistive circles

The Kenyan case demonstrated the importance of assistive organisations that have taught and trained WASCOs in practices that have been normatively endorsed by their associated normative circles. Debt emission is grounded both in the endorsement and enforcement of related norms, and in the capacity to perform endorsed and enforced practices – which is acquired, *inter alia*, through the assistance of external persons (individuals or organisations). Part of the normative circles that endorse or enforce norms, *assistive circles* teach, train, instruct, or support learning to perform a (normatively endorsed) practice: they instil and entrench practices. In short, assistive circles are organised totalities that bring together persons (individuals or organisations) based on their shared commitment to instil or entrench a particular practice (or set of practices). This shared commitment makes these assistive circles powerful: an entity approaching any member of an assistive circle is taught, trained, or instructed in the same practice and the performance thereof, albeit not necessarily in the same way. This variance in the training, teaching, or instruction of practices may further increase the power of assistive circles to instil and entrench particular practices by catering to different "learning styles". Assistive circles therefore complement normative circles by capacitating entities to conform with the norms endorsed and enforced. Assistive circles, in other words, enable conformity with these norms by explaining them to persons, and building the means of persons to comply: assistive circles and their members are the "helpers" that make norm conformity feasible, which is especially important for practices that are not simply complied with such as the ones related to debt emission.

Whereas assistive circles are therefore analytically distinct, they are specialised members of normative circles: teaching, training, and instructing are technologies of norm endorsement and enforcement, similar (and next) to other technologies such as persuading, rewarding (conformity), or punishing (non-conformity). Norm conformity, in other words, is a normative issue that relies on various technologies of endorsement and enforcement, including those that *enable* entities to conform with an (implicitly endorsed) norm. Figure 7.1 summarises

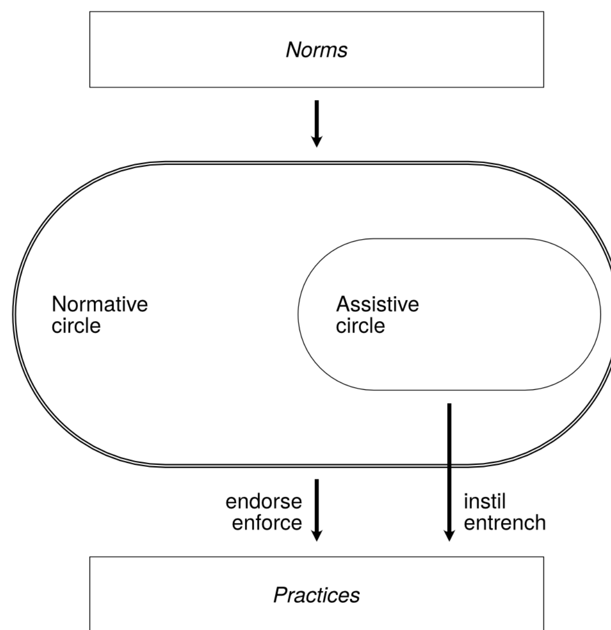

Figure 7.1: Norms, normative circles, and assistive circles.

this schematically. Assistive circles, as members of normative circles, substantially increase the endorsement and enforcement powers of normative circles, especially of those that back norms about practices that are difficult to perform. Furthermore, assistive circles, as members of normative circles that endorse or enforce specific practices, crucially co-determine the endorsement and enforcement of aggregate practices, and the particular composition of specific practices to perform the aggregate practice. Debt emission, for instance, depends on a range of comparably more difficult specific practices such as business planning, financial modelling, or debt capacity assessments. And whereas debt emission requires establishing a credible debt repayment commitment (aggregate practice) that relies on several specific practices, how precisely repayment is guaranteed (through specific practices) is not specified by the norm about the aggregate practice. Repayment may come from revenues or other sources, and risks may be reduced by strict control over revenue generation or by attracting guarantees.[16] The capacity to perform any of these specific practices, in other words, is vital for conformity with a particular form of an aggregate practice: if acquiring a specific practice is easier than acquiring another one (because of the nature of the practice, because of existing skills, because of supportive technologies, or because of the relative power of normative circles through their assistive circle members), it tends to be acquired more.

Assistive circles are analytically useful to unpack the power of normative circles to create norm conformity. Seeing capacity development (and associated instilment and entrench-

[16]A different example is road safety. Norms dictate that car drivers must not harm other road users. Driving schools teach and train future drivers in a range of practices to achieve this, including the use of mirrors or looking over ones shoulder. What practices precisely future drivers are taught and trained in depends on norms other than the norm these practices sustain (not to harm road users). There may in fact be different *schools* that teach and train slightly different practices to achieve safe driving. Moreover, these norms depend on the particular type of vehicles used to participate in road traffic.

ment of practices) as an important technology of this helps to see the relative difficulty of endorsing or enforcing some norms over others, and the ways such difficulties are resolved. An organisation that knows how to perform a specific practice will more likely conform with the norms that require this practice. Commercially financing Kenya's water sector is a case of this: the transition to position WASCOs as *debt emitters* depends on WASCOs being committed to *and* able to perform several specific practices aligned with debt emission. Assistive circles that have instilled and entrenched such practices in Kenya's water sector have been powerful members of the local normative circles that have endorsed and enforced them: by teaching, training, and instructing these specific practices, they have effectively empowered the endorsement and enforcement of related norms. These assistive circles have therefore not only been technical (as "technical assistance" would suggest), but also normative.

7.3.3 Linked positions and positionings

Debt emission depends on guaranteeing debt repayment. The *debt emitter* position (and its effective occupancy), in other words, depends on another position (and its effective occupancy) that generates the power to guarantee repayment: the *debt emitter* position is *linked* to another position, in the case of Kenya's water sector for instance to the *water service provider* position (see section 4.4 and section 2.2.3). Whereas these positions bear on each other, they are not nested. Generally, debt emission does not depend on water service provision; any position that can guarantee repayment suffices. The *debt emitter* position, in other words, is not a specialisation of the *WSP* position, but a parallel – and *linked* – position occupied by the same person.[17] WASCOs are positioned both as WSPs and debt emitters, instead of first as WSPs, and then, as WASCOs *qua* WSPs, further as debt emitters.[18] Different kinds of debt emitters exist, with different linkings to other positionings. Mortgagors, for instance, may link their debt emitter positioning to their (more or less stable and supportive) positioning as employees (the sub-prime crisis of 2007-8 demonstrated the dangers of shoddy underwriting, i.e. mortgagees acceptance of unstable or unsupportive linkings). More generally, following Lawson's suggestion that gender is a class of positions, *gendered woman* may be linked to various other positionings: a person positioned as *gendered woman* and *employee*, for instance, may experience their workplace (or indeed enter it) differently from a person positioned as *gendered man* and *employee*.

Linked positions or positionings differ from *nested* positions or positionings in their topological ordering. Nested positions follow a tree topology: nested position occupancy require the occupancy of *one super*-position. Examples are CEOs, who are specialised (nested) employees, or Members of Parliament, who are specialised (nested) citizens.[19] Accordingly, re-

[17]The *water sector debt emitter* position, however, may be a specialised (nested) *capitalist economy debt emitter* position.

[18]Or, conversely, a WASCO *qua* debt emitter further positioned as *WSP*.

[19]The specialisation of these nested positions is expressed in added rights and obligations of these positions.

spective communities are nested. Managers are specialised employees, and members of the UK Parliament are specialised UK citizens. Linked position occupancy, however, may have *one or more* linked positions, and their communities overlap: there are women managers, and women MPs, for instance. Nested positionings are special kinds of linked positionings in which only one link exists, typically only one necessary constitutive link (see further below). Moreover, nested positionings may be temporarily changed into linked positionings, for instance when an externally appointed and funded CEO manages a corporation that went into receivership (i.e. a non-employee occupant of the *CEO* position of the corporation in receivership, who is an employee of the official receiver organisation).

Linking occurs in different forms. Position occupancies may be *constitutively* linked, in which a secondary position occupancy is a (positive or negative) entry condition for a primary position occupancy. Additionally, positions may be *operatively* linked, in which a secondary position occupancy is required to perform the primary position occupancy. Furthermore, these secondary position occupancies may or may not be actually required, and may be either necessary or optional. Constitutive and operative linking may therefore be further distinguished by their attachment type: necessary linking, where a secondary position occupancy is required, and optional linking, where a secondary position occupancy is not required (but supportive). A secondary position occupancy may therefore enable or support entering a primary position occupancy. For instance, employment (occupancy of an *employee* position) may be (illegally) restricted to persons occupying particular gender positions; and the separation of powers suggests that persons positioned as lawmakers may not be positioned as judges.[20] Similar for operative linking. The board of the KPWF, for instance, has been deliberately filled with persons who have occupied secondary positions that are helpful to the steering of the KPWF. And a rock band *guitarist* position may be operatively linked to a *guitar teacher* position in a music school: playing the guitar in a rock band may support teaching to play the guitar, and, conversely, teaching to play the guitar may support playing the guitar in a rock band. These linkings are often subject to contestation and social change.

Links are (normatively determined) properties of positions. Each position may therefore be linked differently. Whereas the guitar player and guitar teacher are mutually optionally operatively linked, other combinations are possible (generally or in case specific instances). In the case of commercially financing Kenya's water sector, for instance, *WSP* position occupancy is necessarily constitutively linked to a *debt emitter* position occupancy, but *debt emitter* position occupancy is mainly optionally operatively linked to *WSP* position occupancy. Importantly, linkings are normatively determined: a financing policy, for instance, may change the linking of *debt emitter* position occupancy with *WSP* position occupancy

[20]This also applies to depositioning, where a primary depositioning may be required or restricted by a secondary positioning or depositioning.

into a necessary operative one. Linking may therefore be expressed as additional rights and obligations of positions. For instance, *debt emitter* occupants *may* occupy the *WSP* position (*debt emitter* occupants *must*, however, occupy at least one other position that enables repayment), *WSP* occupants *may* or *must* occupy a *debt emitter* position, or *CEO* occupants *may* (or *must* to a certain quota) occupy a *gendered woman* position. Moreover, linking may further modify linked positions. Instead of simply requiring or supporting particular position occupancies or position performance, the linking may inject specific rights and obligations. The linking of the *WSP* position to the *debt emitter* position, for instance, alters the *WSP* position by injecting the obligation to generate sufficient cash flows. These, too, are normatively determined, which makes the normative environment crucial for linking itself and the associated injection of rights and obligations. Occupying a *debt emitter* position not only involves norms (and associated normative circles) about that position itself, but also norms (and associated normative circles) about the linked position (such as the *WSP* position that effectively becomes a *commercial WSP* position). Linked positions (or positionings), in other words, are different from the positions or positionings when not linked.[21]

7.4 Outlook

This research offered a new analytical perspective on "finance gap filling" through the theories of social positioning and normative circles. It used the case of the introduction of commercial financing to Kenya's water and sanitation sector to explain Kenya's historical process and the emergent new powers and liabilities of the increasingly *commercially financed* water and sanitation sector. At the same time, the research did not do many things, most of all it did not evaluate whether these emergent powers and liabilities actually contribute to bridging the "finance" gap, and whether this also helped to fill the "service gap". This last section reflects on research and policy implications, taking into consideration the changed context after the global health crisis that unfolded during fieldwork for this research.

The UN has not only declared universal coverage of water and sanitation services as a goal, but also suggested that those furthest behind should be reached first. Especially the latter, however, has remained questionable: debt emission prioritises (full) cost recovery, which is seldom found in the communities furthest behind. This was particularly underlined and foregrounded during the COVID-19 related global health crisis. As responses to it demanded increased hygiene and therefore reliable water services provision, collections of water utilities plummeted, impacting cost-recovery and putting operations at risk even in top-performing utilities.[22] The Kenyan government and donors provided sizeable grants to maintain pre-

[21]This helps to explain for instance the financialisation of development (or financialisation generally): linking debt emission to positions of development modifies these positions, or "financialises" them.

[22]Data generation occurred before spring/summer 2020, and data did not include accounts about the effects of the crisis on the water sector. However, some participants mentioned the economic and financial effects and

crisis water services delivery. Grounding the further development of water services and related investments in cost-recovering user fees, in other words, has been demonstrated to be a substantial risk that is ultimately guaranteed by the state.

Collecting user fees that recover operation and maintenance (O&M) plus investment costs had been difficult even before the crisis, especially in lower-income areas. Ultimately, financing the maintenance and development of Kenya's water sector is an issue of solidarity and a question about the sector's capacity and commitment to cross-subsidise communities, cities, and regions. With the promoted particular form of debt emission, Kenya's water sector has become liable to more uneven resource mobilisation and a shrinking of spaces for solidarity and cross-subsidisation. A different sector organisation and governance, for instance a single (national) water utility or a mechanism to redistribute collections, may be able to avoid this. This warrants further research. Moreover, the simple calculation that mobilising commercial resources would free up traditional funding for the projects that really depend on it seems flawed: for *freeing up* funding for those projects suggests it has been used for other projects before. This, too, warrants further research that evaluates to what extent, and how, the commercialisation of development funding actually mobilises additional and affordable resources for those needing it most.

Despite these questions, *debt emitter* position occupancy seems to have also given – or at least has promised to give – Kenya's sector the power to more effectively and efficiently provide services. Even as resource mobilisation has remained limited, many, including the sector regulator and donors, have therefore affirmed the merit of preparing utilities for occupancy of, or actually occupying, a *debt emitter* position. The mechanism that has tended to produce this power (to more effectively and efficiently provide services) has not been resource mobilisation, however, but a strengthening of normative circles and their endorsement or enforcement of particular practices. This raises a question: could such strengthening be achieved in other ways, too? Moreover, alternatives to the form of debt emission chosen in Kenya exist, paradoxically even with the Nederlandse Waterschapsbank that had been the initial model for the capital market-based financing initiative KPWF. As a sovereign-backed development bank, this "Waterbank" emits debt at a different level. Lifting debt emission from the utility level to such higher level, e.g. a development bank or the state, may provide another way to guarantee solidarity and cross-subsidisation, and help prioritise those furthest behind. Whereas the team implementing the KPWF changed their course in Kenya and created a private fund to appeal to investors, debt emission can, in principle, be done by a public development bank. Such a public bank could also be swiftly and effectively recruited for any crisis response, such as during the global health crisis.

This seems to be the most pressing question left open by the research then: if debt emission by a public development bank really would tend to mobilise resources more cheaply,

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that all efforts of commercial financing had stalled.

distribute them more evenly, and even provide a mechanism for crisis responses, what has prevented or impeded this? The KPWF team still hopes that their initiative would eventually become a "MajiBank", making such research important theoretically and practically. Yet also beyond Kenya, financing of the foundational economy has reached a critical moment, further compounded by deficit built up during the global health crisis. As various forms of debt emission become available, policy decisions need to carefully consider the systemic capacity to maintain (also during crises) and further develop infrastructure and basic services delivery especially for those most needing and least able to pay for it. This research shows that critical realism and related social theories such as social positioning and normative circles can powerfully enable investigations of the foundational economy and critical studies of the politics of infrastructure investments, including the blocks and impediments of alternative forms of funding or debt emission (that may promise cheaper resource mobilisation and more even distribution). These (meta-)theories help to create detailed descriptions and analyses of central positioning processes, associated power-over-relations between positioned entities, and the resultant (re-)organisation of social systems. This enables exploring and unpacking the causal mechanisms operating at different strata and laminae as well as the emergent systemic powers and liabilities (for instance of reorganised basic services sectors). As development funding is being commercialised and development financialised, such deep understanding can inform policies that open up, instead of closing down, spaces for development that reaches everyone, and "those furthest behind first".

Appendix A

EWASCO: pioneer of commercial financing

Arguably one of the most inventive utilities that pioneered unconventional approaches to funding their rehabilitation and expansion has been EWASCO, the utility in Embu near Mount Kenya serving about 200,000 people. The company has often featured in World Bank publications as a showcase (cf. World Bank 2018a) and is widely known in the sector for its proactive role in accessing commercial finance to "turn around" the utility and also re-designing the initial OBA programme to target WSPs instead of communities (see section 4.3.3 and 4.3.4). Faced with grossly under-maintained and insufficient infrastructure, staff with low skills and low 'morale', and a lack of vehicles, computers, and even a functioning building when incorporated as EWASCO, the managing director (+(MD)) attempted to access funding to improve their water supply. To this end, he approached the responsible WSB and the Ministry; neither had 'money available to help us improve the infrastructure' (IntWASCO4). When few considered borrowing an option, the MD therefore started talking to commercial banks:

> So at one stage, I approached the […] Water Services Board, I asked them, can I borrow money? If you cannot give me money, and people here are waiting for this service, can I be allowed to borrow money from the commercial bank? You know, that was a strange idea to most people. In fact, I remember the CEO [of the WSB] then would go over his entire board, telling people there is a man [in] Embu, who wants to borrow money from a commercial bank. But one day [he] was under such pressure, from the politicians, I think for a short moment, [and] he told me I can go and look […] for that money […] So I actually went to a lot of banks (IntWASCO4).

Most commercial banks refused to lend to the company, since EWASCO, established only 6 months earlier, had not banked with them before and could not 'even give [them] audited

accounts' (IntWASCO4). Yet Co-operative Bank, the one they had banked with, agreed: EWASCO would be able to borrow, given their projected cash flows, if they opened an escrow account that received 'whatever little surplus we [made]' (IntWASCO4). This success was short-lived, however. Once the WSB heard of it, they demanded the loan to be disbursed to them, although EWASCO would repay it, because the WSB was, by law, responsible for building infrastructure. At this point, the bank stopped negotiations, and EWASCO was 'back to square zero' (IntWASCO4). Yet the MD did not give up and instead pioneered 'vendor credits' to finance materials the company needed to improve service delivery: EWASCO, without an approval from the WSB, negotiated with vendors to pay for pipes over a 24-month period (after a 4-month grace period). The company eventually repaid within 18-19 months and received 'an award, being a very innovative company. Because, you know, the outcome, the impact was so great, our neglecting to seek permission, kind of was forgotten, because they realised what we had done was good' (IntWASCO4). This completely changed the company. By 2007 EWASCO covered 'almost [the] entire supply area' and by 2008 the company achieved providing 'quality water for 24 hours' to the whole area. Subsequently, EWASCO's mandated area was enlarged, and the company accessed OBA financing and JICA grants to become one of today's top-performers. However, 'that vendor credit was the very first thing we did, and it actually made [it] possible for us to do those [later] works' of improving the company (IntWASCO4).

Appendix B

List of interviews and fieldnotes

IntWASREB1 (2020). *Transcribed personal communication with managing officer of Water Services Regulatory Board (WASREB). Interview conducted 21 Jan 2020.*

IntWASREB2 (2020). *Transcribed personal communication with technical officer of Water Services Regulatory Board (WASREB). Interview conducted 28 Jan 2020.*

IntWSTF1 (2020). *Transcribed personal communication with managing officer of Water Sector Trust Fund (WSTF). Interview conducted 23 Jan 2020.*

IntWSTF2 (2020). *Transcribed personal communication with resource mobilisation officer of Water Sector Trust Fund (WSTF). Interview conducted 3 Feb 2020.*

IntWSTF3 (2020). *Transcribed personal communication with technical officer of Water Sector Trust Fund (WSTF). Interview conducted 26 Jan 2020.*

IntWSTF4 (2020). *Transcribed personal communication with consultant of Water Sector Trust Fund (WSTF). Interview conducted 23 Jan 2020.*

IntWASCO1 (2020). *Transcribed personal communication with managing officer of Kiambu Water & Sewerage Company (KWCL). Interview conducted 5 Feb 2020.*

IntWASCO2 (2020). *Transcribed personal communication with managing officer of Ruiru Juja Water & Sewerage Company (RUJWASCO). Interview conducted 5 Feb 2020.*

IntWASCO3a (2020). *Transcribed personal communication with managing officer of Thika Water & Sewerage Company (THIWASCO). Interview conducted 7 Feb 2020.*

IntWASCO3b (2020). *Transcribed personal communication with finance officer of Thika Water & Sewerage Company (THIWASCO). Interview conducted 7 Feb 2020.*

IntWASCO4 (2020). *Transcribed personal communication with former managing officer of Embu Water and Sanitation Company (EWASCO). Interview conducted 13 Feb 2020.*

IntWASCO5 (2020). *Transcribed personal communication with managing officer of Nyeri Water & Sanitation Company (NYEWASCO). Interview conducted 18 Feb 2020.*

IntWASCO6 (2020). *Transcribed personal communication with managing officer of Nakuru Rural Water and Sanitation Company (NARUWASCO). Interview conducted 18 Feb 2020.*

IntWASCO7 (2020). *Transcribed personal communication with commercial services managing officer of Kisumu Water and Sanitaion Company (KIWASCO). Interview conducted 19 Feb 2020.*

IntWASCO8 (2020). *Transcribed personal communication with managing officer of Eldoret Water and Sanitation Company (ELDOWAS). Interview conducted 20 Feb 2020.*

IntWWDA1 (2020). *Transcribed personal communication with technical officer of Athi Water Works Development Agency (AWWDA). Interview conducted 6 Feb 2020.*

IntWWDA2 (2020). *Transcribed personal communication with member of Lake Victoria South Water Works Development Agency (LVSWWDA) board. Interview conducted 24 Jun 2020.*
IntWASPA1 (2020). *Transcribed personal communication with managing officer of Water Services Providers Association (WASPA). Interview conducted 14 Feb 2020.*
IntKewasnet2 (2020). *Transcribed personal communication with managing officer of Kenya Water and Sanitation Civil Society Network (Kewasnet). Interview conducted 10 Feb 2020.*
IntKWAHO3 (2020). *Transcribed personal communication with managing officer of Kenya Water for Health Organization (KWAHO). Interview conducted 20 Feb 2020.*
IntWFF1 (2019). *Transcribed personal communication with managing officer of Water Finance Facility (WFF). Interview conducted 23 Sep 2019.*
IntWFF2 (2019). *Transcribed personal communication with senior legal counsel of Water Finance Facility (WFF). Interview conducted 23 Sep 2019.*
IntWFF3 (2019). *Transcribed personal communication with financial and organisational structuring expert of Water Finance Facility (WFF). Interview conducted 23 Sep 2019.*
IntWFF4a (2019). *Transcribed personal communication with project development officer of Water Finance Facility (WFF). Interview conducted 20 Aug 2019.*
IntWFF4b (2019). *Transcribed personal communication with project development officer of Water Finance Facility (WFF). Interview conducted 23 Sep 2019.*
IntWFF5 (2019). *Transcribed personal communication with member of investment committee of Water Finance Facility (WFF). Interview conducted 14 Nov 2019.*
IntKIFFWA1 (2019). *Transcribed personal communication with managing officer of Kenya Innovative Finance Facility for Water (KIFFWA). Interview conducted 9 Dec 2019.*
IntKPWF1 (2019). *Transcribed personal communication with managing officer of Kenya Pooled Water Fund (KPWF). Interview conducted 23 Sep 2019.*
IntKPWF2 (2019). *Transcribed personal communication with transaction advisor to Kenya Pooled Water Fund (KPWF). Interview conducted 10 Dec 2019.*
IntKPWF3 (2020). *Transcribed personal communication with technical officer of Kenya Pooled Water Fund (KPWF). Interview conducted 21 Jan 2020.*
IntKPWF4 (2020). *Transcribed personal communication with member of Kenya Pooled Water Fund (KPWF) board. Interview conducted 10 Jan 2020.*
IntBank1 (2020). *Transcribed personal communication with water and micro finance officer of Sidian Bank. Interview conducted 15 Jan 2020.*
IntBank2 (2020). *Transcribed personal communication with officer of Family Bank. Interview conducted 31 Jan 2020.*
IntBank3 (2020). *Transcribed personal communication with relationship manager energy & water of Co-operative Bank. Interview conducted 3 Feb 2020.*
IntBank4 (2020). *Transcribed personal communication with officer of Equity Bank. Interview conducted 24 Feb 2020.*
IntBank5 (2020). *Transcribed personal communication with managing officer of Absa. Interview conducted 25 Feb 2020.*
IntCMA1 (2020). *Transcribed personal communication with senior regulatory policy and strategy officer of CMA. Interview conducted 25 Feb 2020.*
IntCMA2 (2020). *Transcribed personal communication with technical officer of Capital Markets Authority (CMA) Kenya. Interview conducted 6 Feb 2020.*
IntFin1 (2020). *Transcribed personal communication with officer of Take-a-Stake Fund. Interview conducted 22 Jun 2020.*
IntFin2 (2020). *Unused personal communication with guarantor organisation. Conversation held 10 Jan 2020.*
IntConsult1 (2020). *Transcribed personal communication with lawyer of EMSI Associates, Kenya. Interview conducted 21 Feb 2020.*

IntConsult2 (2020). *Transcribed personal communication with officer of Kenya Markets Trust (KMT). Interview conducted 21 Feb 2020.*

IntConsult3 (2020). *Transcribed personal communication with technical officer of Open Capital. Interview conducted 24 Feb 2020.*

IntUNH1 (2020). *Transcribed personal communication with senior officer of Urban Economy branch of UN-Habitat. Interview conducted 17 Jan 2020.*

IntUNH2 (2020). *Transcribed personal communication with senior officer of Urban Basic Services branch of UN-Habitat. Interview conducted 24 Feb 2020.*

IntUNH3 (2020). *Transcribed personal communication with officer of Urban Basic Services branch of UN-Habitat. Interview conducted 17 Jan 2020.*

IntWB1 (2020). *Transcribed personal communication with officer of 2030 Water Resources Group of World Bank in Kenya. Interview conducted 16 Jan 2020.*

IntWB2a (2019). *Transcribed personal communication with financing officer of World Bank Kenya. Interview conducted 17 Dec 2019.*

IntWB2b (2020). *Transcribed personal communication with financing officer of World Bank Kenya. Interview conducted 12 Feb 2020.*

IntWB3 (2020). *Transcribed personal communication with officer of Public-Private Infrastructure Advisory Facility (PPIAF) of World Bank in Kenya. Interview conducted 14 Feb 2020.*

IntWB4 (2020). *Transcribed personal communication with country coordinator of Kenya Water Partnership (KWP). Interview conducted 4 Feb 2020.*

IntWB5 (2019). *Transcribed personal communication with 2030 Water Resources Group (World Bank Kenya) consultant. Interview conducted 14 Nov 2019.*

IntUSAID1 (2020). *Transcribed personal communication with managing officer of Water, Sanitation, and Hygiene Finance (WASH-FIN) programme of USAID. Interview conducted 17 Feb 2020.*

IntUSAID2 (2020). *Transcribed personal communication with managing officer of Water, Sanitation, and Hygiene Finance (WASH-FIN) programme of USAID. Interview conducted 16 Apr 2020.*

IntUSAID3 (2020). *Transcribed personal communication with technical officer of Water, Sanitation, and Hygiene Finance (WASH-FIN) programme of USAID. Interview conducted 20 Jan 2020.*

IntUSAID4 (2020). *Transcribed personal communication with former managing officer of Sustainable Water and Sanitation in Africa (SUWASA) programme of USAID. Interview conducted 17 Feb 2020.*

IntUSAID5 (2020). *Transcribed personal communication with former officer of Sustainable Water and Sanitation in Africa (SUWASA) programme of USAID. Interview conducted 5 Mar 2020.*

IntUSAID6 (2019). *Transcribed personal communication with project manager of USAID KIWASH. Interview conducted 10 Dec 2019.*

IntUSAID7 (2020). *Transcribed personal communication with officer of Development Credit Authority (DCA) of USAID. Interview conducted 10 Feb 2020.*

IntGIZ1 (2019). *Transcribed personal communication with financing policy officer of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Interview conducted 25 Jul 2019.*

IntGIZ2 (2019). *Transcribed personal communication with former water project manager of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Kenya. Interview conducted 2 Oct 2019.*

IntGIZ3 (2019). *Transcribed personal communication with senior water expert of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Interview conducted 8 Oct 2019.*

IntGIZ4 (2019). *Transcribed personal communication with water financing policy officer of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Interview conducted 8 Oct 2019.*

IntKfW1 (2020). *Transcribed personal communication with water and sanitation programme officer of KfW in Kenya. Interview conducted 9 Jan 2020.*
IntKfW2 (2019). *Transcribed personal communication with infrastructure and water officer of KfW. Interview conducted 28 Oct 2019.*
IntNL1 (2019). *Transcribed personal communication with water and food security secretary of Netherlands embassy in Nairobi. Interview conducted 5 Dec 2019.*
IntNL2 (2020). *Transcribed personal communication with water and food security policy officer of Netherlands embassy in Nairobi. Interview conducted 17 Feb 2020.*
IntSNV1 (2020). *Transcribed personal communication with WASH programme officer of SNV Netherlands Development Organisation. Interview conducted 14 Feb 2020.*
IntVEI1 (2020). *Transcribed personal communication with managing officer of Performance Enhancement for Water utilities in Kenya (PEWAK) project at Vitens Evides International (VEI). Interview conducted 26 May 2020.*
IntSE1 (2020). *Transcribed personal communication with senior programme manager of Embassy of Sweden. Interview conducted 10 Feb 2020.*
IntSida1 (2020). *Transcribed personal communication with loans & guarantees officer of the Swedish International Development Cooperation Agency (Sida). Interview conducted 5 Mar 2020.*
IntAFD1 (2020). *Transcribed personal communication with programme officer of Agence Française de Développement (AFD) Kenya. Interview conducted 15 Jan 2020.*
IntEU1 (2020). *Transcribed personal communication with programme manager of infrastructure section of European Union delegation to Republic of Kenya. Interview conducted 8 Jan 2020.*
IntIFC1 (2020). *Transcribed personal communication with officer of International Finance Corporation (IFC). Interview conducted 16 Jan 2020.*
IntGov1 (2020). *Transcribed personal communication with senior civil servant of Ministry of Water of Kenya. Interview conducted 28 Jan 2020.*
IntGov2a (2020). *Transcribed personal communication with deputy director of water services in Ministry of Water of Kenya. Interview conducted 24 Jan 2020.*
IntGov2b (2020). *Transcribed personal communication with deputy director of water services in Ministry of Water of Kenya. Interview conducted 19 Feb 2020.*
IntGov3 (2020). *Transcribed personal communication with Ministry of Water of Kenya representative of Sovereign Green Bond National Committee. Interview conducted 20 Feb 2020.*
IntGov4 (2020). *Transcribed personal communication with technical officer of National Treasury of Kenya. Interview conducted 23 Jan 2020.*
IntGov5 (2020). *Transcribed personal communication with research analyst of National Treasury of Kenya. Interview conducted 28 Jan 2020.*
IntGov6 (2020). *Transcribed personal communication with officer of Economic Advisor Office of the Governor, County Government of Mombasa, Kenya. Interview conducted 25 Feb 2020.*
IntNGO1 (2020). *Transcribed personal communication with managing officer of Water & Sanitation for the Urban Poor (WSUP) Kenya. Interview conducted 6 Feb 2020.*
IntNGO2 (2020). *Transcribed personal communication with research and policy officer of Water & Sanitation for the Urban Poor (WSUP) Kenya. Interview conducted 27 Jan 2020.*
IntNGO3 (2020). *Transcribed personal communication with WASH strategist of Oxfam Kenya. Interview conducted 27 Jan 2020.*
IntNGO4 (2020). *Transcribed personal communication with officer of Aqua for All. Interview conducted 27 May 2020.*
IntNGO5 (2020). *Transcribed personal communication with researcher and community organiser of Slum Dwellers International (SDI) Kenya. Interview conducted 28 Jan 2020.*

IntNGO6 (2020). *Transcribed personal communication with managing officer of Umande Trust, Kenya. Interview conducted 4 Feb 2020.*
IntNGO7 (2020). *Transcribed personal communication with managing officer of Sanergy. Interview conducted 7 Feb 2020.*
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NoteWS1 (2020). *Notes of WASREB workshop day 1 (18 Feb 2020).*
NoteWS1/2 (2020). *Note of WASREB workshop day 1 session 2 (18 Feb 2020).*
NoteWS1/3 (2020). *Note of WASREB workshop day 1 session 3 (18 Feb 2020).*
NoteWS1/5 (2020). *Note of WASREB workshop day 1 session 5 (18 Feb 2020).*
NoteWS1/8 (2020). *Note of WASREB workshop day 1 session 8 (18 Feb 2020).*
NoteWS2 (2020). *Notes of WASREB workshop day 2 (19 Feb 2020).*
NoteWS2/3 (2020). *Note of WASREB workshop day 2 session 3 (19 Feb 2020).*
NoteWS3 (2020). *Note of meeting with bank during WASREB workshop (18 Feb 2020).*

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