

Chapter 4

Free-Market Economics and Developmental Statism as Political Paradigms: Implications for Water Governance Theory and Practice in Developing Countries

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Abstract Key actors in various developing countries are often confronted by difficult choices when it comes to the selection and deployment of appropriate water governance regimes taking into account national socio-economic and political realities. Indeed, scholars and practitioners alike continue to grapple with the need to create the optimum water-supply and allocation decision-making space applicable to specific developing countries. This chapter uses case studies to explore the utility of free-market economics and developmental statism as two major paradigms that have emerged in the face of enduring questions about how best to govern water-supply systems in developing countries. The chapter establishes that increasing pressure on available natural resources may have already rendered obsolete some of the water-supply systems and governance regimes that have served human societies very well for many decades. It is also clear that national water-supply governance paradigms tend to change in tandem with emerging national development theoretical frameworks and priorities. Each nation or local government feels compelled to adopt a particular framework to fulfil its needs taking into account the broader global water policy context. While many developing countries have adopted water policy prescriptions from the international arena, national and local socio-economic and political realities ultimately determine what works and what does not work on the ground. Local realities have also helped to inform how nation-states domesticate global concepts for their local purposes. Thus, the choice between free-market approaches and developmental state-oriented approaches is never simple, and hybrid models are often deployed. Indeed, the majority of countries and municipalities rely on a mix of market economics and developmental statism to make their water governance regimes more realistic and workable on the ground.

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4.1 Introduction and Background

The past six decades of changing development paradigms have seen alternating national and international water policies emphasise the state, user groups or markets as essential for solving water resource governance challenges. Closer analysis reveals that each of these solutions has worked in some places but failed in others, especially when attempts were made to pilot the solutions across many countries and diverse socio-economic situations (Meinzen-Dick 2007). But since the early 1990s, integrated water resource management (IWRM) has emerged as the dominant framework for guiding decision-making and planning in the water sectors of developing countries. With the observed and anticipated worsening of water scarcity due to climate change and various anthropogenic factors that increase water demand, the push for IWRM has never been greater.

It is within this context that discourses on the importance of the “political paradigm” for water governance in developing countries are usually framed. In these discourses, scholars and practitioners alike grapple with the need to create the optimum water-supply and allocation decision-making framework applicable to a developing country, especially in Africa. The enduring question is no longer whether or not water should be managed purely as a social or economic good. Instead, it is now more about how best a particular country and its service delivery agencies can manage freshwater-supply systems taking into account the state’s developmental role while at the same time addressing the free-market economy imperatives evident in and promoted by advocates of IWRM approaches. At the same time, implementation is often constrained by resource limitations, structural adjustment programmes and poverty reduction strategies.

Analytical papers by several scholars indicate that traditional approaches for meeting increasing demand for water relied almost exclusively on centralised infrastructure and decision-making characterised by big dams and reservoirs, pipelines and treatment plants, water departments and agencies (see Gleick 2002; Chikozho 2008; GWP 2012). These approaches, dominated by a supply orientation and reliance on technical solutions to water problems, have since been discarded in favour of a governance regime that embraces user involvement in decision-making and more efficient resource management. In effect, IWRM explicitly challenges traditional water development and governance systems. It starts with the recognition that top-down, supply-led, technically based and sectoral approaches to water governance and management impose unsustainably high economic, social and ecological

costs on human societies and on the natural environment. The water governance paradigm that has now emerged is underpinned by neoliberal approaches that emphasise, *inter alia*, a “rolling back of the state from the frontiers of development planning” and treating water-supply services as “economic” products that need to be paid for. It is a way of thinking that emphasises decentralised management structures, use of efficient technologies and deployment of water pricing structures that act as both incentives and disincentives for “irresponsible” water use.

This chapter addresses two major paradigms that have emerged in the face of enduring questions regarding how to govern water-supply systems in a developmental state or in a free-market economy. We present the main discourses attributable to each of these perspectives and their implications in a developing country context. We acknowledge that the increasing scarcity and demand for freshwater has serious implications for how water is allocated and protected. We argue that in the face of new pressures on the resource, water-supply systems, models and governance regimes that have served human societies for a long time may now fail to cope. Therefore, this chapter brings attention and sharper focus on the need to deploy alternative tools and approaches to water-supply governance and management in order to protect and sustainably allocate this resource. The chapter also brings to the fore the fact that despite the dichotomy between free-market economy and developmental-state paradigms, in practice, elements of both paradigms tend to be combined, albeit in different proportions.

Well-known scholarship that addresses water institutions includes Rosegrant and Binswanger (1994), Barnekov et al. (1989), Saleth and Dinar (2005), Meinzen-Dick (2007), Briscoe (2011), Beveridge and Monsees (2012) and Horne (2013). Most of these scholars partly focus on the benefits or disadvantages of water markets and provide insights about their utility in specific contexts as well as guidance on how they may be improved. Typically, most of them use economic efficiency and equity perspectives as the point of departure in their analyses. Our goal in this chapter is more modest, that is, to show how developing countries may or may not deploy market mechanisms in their water-supply systems and what this implies in terms of efficiency, equity and sustainability. We do not necessarily provide specific recommendations about how to improve water markets; neither do we discuss best practice in terms of water institutions (see Saleth and Dinar 2005). Instead, we provide an overview of the key debates and major institutional underpinnings of water-supply sectors in developing countries and their potential performance under market or developmental state-oriented planning conditions. This chapter is intended to inform practitioners, policymakers and theorists who grapple continuously with the challenge of crafting effective water governance systems in a rapidly altering environment in developing countries. Section 3.1 focuses on key discourses, concepts and expectations relevant to the management of water in a free-market economy. Section 3.2 explores the major discourses, concepts and expectations relevant to the management of water in a developmental state.

4.1.1 Managing Water in a Free-Market Economy: A Brief Historical Trajectory

While understanding around the vulnerability and finite nature of water in the face of rapidly growing demand for the resource has a long history, it was highlighted together with the concept of the “right to water” in much clearer terms than ever before during the United Nations (UN) Conference on Water, 1977 at Mar del Plata. Since then, debates on water governance in developing countries have mainly revolved around the need to discard the long-held belief that water is a social good to be provided by the state, either free of charge or at very low cost. To proponents of this approach, developing and delivering new water-supply systems and suppressing water prices appear much more politically expedient than focusing on charging higher prices and improving the efficiency of existing supply systems. This approach was buttressed by the widely held belief that water was always going to be in abundance (Molle 2009). Inefficiencies in water use were either not detected at all or simply ignored. Thus, the failure to recognise the economic value of water led to wasteful and environmentally damaging uses of the resource (Kevinsen et al. 2014). As Smith and Wang (2008) point out, solely searching for water supply-side remedies may mask overconsumptive or unsustainable behaviours that are acknowledged during the critical self-examination that inevitably occurs when a water conservation approach is adopted.

Both the 1987 Report of the World Commission on Environment and Development (Brundtland Commission) entitled “Our Common Future” and the Dublin Principles of 1992 heralded a significant shift in perceptions about how water and other natural resources should be governed and managed, giving rise to the acceptance of the integrated approach embodied in IWRM. Guided by the Dublin Principles, governments, water management agencies, international organisations, civil society agencies and others have engaged in a long-term change process to improve management of water resources (see FAO 1995; GWP 2003; Chikozho 2010). A product of the UN Conference on Environment and Development held in Rio de Janeiro, Brazil, in 1992, Agenda 21, Principle No. 4, declared that “Water has an economic value in all its competing uses and should be recognized as an economic good” (United Nations 1992). In 1993, the World Bank issued a comprehensive policy paper that basically reiterated that water should be viewed as a limited resource to be managed in an integrated manner to meet national objectives – economic, social, security and environmental rather than as an input into specific sectors (World Bank 1993a). Attention significantly shifted from technical solutions to solutions of a managerial and institutional nature in the early 1990s (Schwartz 2008). This shift should also be understood within the context of a broader neoliberal agenda led by the World Bank and the IMF during the same period that advocated reduction of the role of the state in development planning.

In effect, IWRM has been promoted in many developing countries by various international players such as the Global Water Partnership (GWP), the World Water Council, the World Bank and the UN, as well as national governments, as a key

means of improving access to safe water supply and sanitation and, more generally, alleviating poverty and improving peoples' lives. In the process, "water as an economic good" has evolved to take precedence over the IWRM principles of social and environmental equity (see Mukhtarov 2006; Mollinga 2008; Beveridge and Monsees 2012). Most of the key international water-policy players have either directly supported or advocated institutional reforms in developing countries whose backbone is the IWRM framework. In countries that have adopted the "water-as-an-economic-good" principle, the reforms that ensue have tended to drastically alter the relationships between the state, civil society and private sector players active in water supply and sanitation. The "water-as-an-economic-good" principle has come to be viewed as an important way of achieving efficient and equitable water use as well as encouraging better protection of the resource (Chikozho 2010). The World Bank in particular came to play a central role in developing and promoting water management policies and reforms consistent with its interpretation of water as an economic good (Budds 2004). It embraced the principles of water privatisation, in terms of both private-sector participation in urban water utilities and the definition of private property rights over water resources, as a means of addressing the dual concerns of increased water-supply coverage and efficient water resource management.

4.1.1.1 Theoretical Underpinnings of a Free-Market Economy

A free-market economy basically refers to an economic system in which economic decisions and the pricing of goods and services are guided solely by the aggregate interactions of a country's citizens and businesses. There is little government intervention or central planning except as a guarantor of the transactional environment through development and enforcement of the regulatory environment (Coates 2000; Hall and Soskice 2001). In other words, goods and services are produced and sold with very limited interference from the state. Trading relations exist mainly between and among the producers of raw materials, producers of processed goods and services, retailers and consumers. The laws of demand and supply determine the direction and speed with which goods and services move on the market (Jessop 2002; Perkins et al. 2012). Consumers express their choices through the decisions they make when allocating their finances to enable specific transactions to occur. A free-market economy is therefore, the opposite of a centrally planned economy, in which government decisions determine the direction that most aspects of a country's economic activity take.

Free-market economies are based on the assumption that market forces, such as supply and demand, are the best determinants of what is right for a nation's well-being, and these are based on rational decisions made by consumers seeking to optimise or maximise their benefits from various transactions. While most developed nations today could be classified as having mixed economies, they are often said to have market economies because they allow market forces to drive most of their activities, typically engaging in government intervention only to the extent that

it is needed to provide stability (Jessop 2002). In essence, proponents of free markets and privatisation assume that the private sector is inherently dynamic, productive and dependable. They also hold the belief that private institutions are intrinsically superior to public institutions for the delivery of goods and services. They have the confidence that market efficiency is the appropriate criterion of social performance in virtually all spheres of community activity (see Barnekov et al. 1989; Castro 2007). Although the market economy is clearly the system of choice in today's global marketplace, there is significant debate regarding the amount of government intervention considered optimal for efficient economic operations in developing countries.

Debates surrounding the applicability of free-market principles in developing countries intensified in the past few decades, especially with the failure of the socialist path to development in the late 1980s and the rise to prominence of neoliberalism as promoted by the World Bank, the International Finance Corporation and their development partners (the so-called Washington Consensus). The major ideology behind neoliberalism is that economic, political and social relations are best organised through formally free choices of free and rational actors who seek to advance their own material or ideal interests in an institutional framework that, by design, maximises the scope for free choice (Coates 2000; Jessop 1997; Perkins et al. 2012). Economically, it promotes the expansion of the market economy and monetisation of exchange in as many social practices as possible. From a political perspective, it implies that decision-making should involve a state that has limited substantive powers of economic and social intervention and commits itself to maximising the freedom of actors in the economy to engage in economic transactions that they consider beneficial to their welfare (Jessop 2002).

In most free-market economies, calls for the liberalisation and deregulation of economic transactions within national borders and beyond have prevailed to the point where even formerly social democratic political parties decline to challenge them. This has also entailed privatisation of state-owned enterprises and public services and application of market proxies in the public sector (see Hodgson 1992; Jessop 2002). Hoskisson et al. (2000) argue that as a political project, free-market economics seeks to actively promote rolling back of the state from its traditional and routine forms of intervention associated with the mixed economy and the welfare-oriented national state. It also involves a deliberate shift in public policy that leads to the roll-out of new forms of governance such as decentralised national planning and service delivery, privatisation and commercialisation of public services such as water and electricity supply.

Presumably, these new forms of governance are more suitable for a thriving market-driven national economy (Stein 1994). This typically involves the selective transfer of state capacities upwards, downwards and sideways, as intervention is rescaled in the hope of securing conditions for a smoothly operating world market and to promote supply-side competitiveness on various scales above and below the national level (Jessop 1997). A shift also occurs from government to market forces and public-private partnerships. This shift reflects the neoliberal belief in the probability, if not inevitability, of state failure and the need to involve relevant

stakeholders in supply-side policies (ibid). If the state cannot deliver something as basic as water and sanitation, the argument goes that is a strong indication of a general failure of public-sector capacity (see Anderson and Snyder 1997). Therefore, water scarcity becomes simultaneously indicative of a problem of poverty, of modernisation and of governance, and reforms are required to correct state failure (Goldman 2007). The extent to which the reforms and new forms of governance are applicable to a sector such as water supply remains debatable, particularly given the orthodox categorisation of water as a *public good* in mainstream public management discourses for many decades.¹

4.1.1.2 Implications for Water Governance and Management

While very few countries in the developing world use the free-market economy principles to solely determine water allocation and distribution among various social groups, many public water utilities in Africa have been grappling with extensive reforms as part of the implementation of IWRM. Such reforms have also been implemented in the context of broader public-sector reforms aimed at improving public service delivery across various government departments.² A key defining feature of these reforms is the introduction of management principles and practices associated with typical private-sector commercialisation processes (Schwartz 2008). These include using the laws of supply and demand to determine prices for water and strict commitments to making profits. The implications of these reforms on water-supply system efficiency and equity are likely to be far reaching.

Implementation of the reforms on the ground has been characterised by two main approaches. The first one is a situation where management of the water utilities in urban areas is delegated to the private sector through concession contracts or other contractual arrangements. The second is a strategy that retains management of the water utility in a public agency, but concentrates on introducing management practices associated with the private sector for both urban areas and irrigated agriculture (ibid). Introduction of private-sector management approaches usually results in changes to the water rights or licensing regime. The expectation is that water licences or rights can be eventually traded on the open market based on demand and supply while progressively “depoliticising” the water governance regime (see Hernández-Mora et al. 2015). According to Brown et al. (2009), many international

¹Gravelle and Rees (1981) state that “The defining characteristic of a public good is that consumption of it by one individual does not actually or potentially reduce the amount available to be consumed by another individual”. Thus, individuals cannot be effectively excluded from using or consuming those goods, and the use by one individual does not reduce availability to others, e.g. fresh air, forests, fisheries, water, etc.

²Schwartz (2008) states that the origins of this form of reform, often referred to as the *New Public Management*, lie in New Zealand and the United Kingdom where it was initiated in the early 1980s. These “reforms are a significant part of the *new public management* discourses that have been promoted by a broad coalition of sector professionals, donors and international development agencies”.

and bilateral donors and lending agencies have supported privatisation of water-supply systems believing that private-sector involvement is a means of removing politics from the sector and also a reliable source of investment capital. However, the extent to which such assumptions are realised in reality differs from place to place.

A major thrust of reforms in developing countries has been towards implementing changes in arrangements within the public sector by increasing the autonomy of state-owned utilities and requiring them to manage resources such as water on a more commercial basis (Schwartz 2008). Broadly, new public management (NPM) reforms in the water-supply and sanitation sector share characteristics such as increasing the level of autonomy of the utility, separating regulatory tasks from service provision, creating quasi-competition in the water sector in terms of service provision, increasing tariffs to cost recovering levels and increasing customer orientation and increasing accountability for the results produced by the water utility (Herrera and Post 2014). To ensure that the utility is actually producing the services that it is supposed to be producing, an accompanying regulatory framework is often developed and implemented which provides incentives for the utility to improve service provision. Consumers are expected to obtain access to water by obtaining formal water rights or licences. The state agencies and autonomous utilities supplying water benefit directly through increased revenues raised from water licences and permits.

In the long run, an expected offshoot of water privatisation and commercialisation is the emergence of water trading among users with formal rights to water. Briscoe (2011) points out that once users have clear, transferable property rights to water, they automatically consider whether they wish to forego a particular use of water in exchange for compensation from another user who may place a higher value on the water. Reallocating water then becomes a matter of voluntary and mutually beneficial agreements between willing buyers and willing sellers and not a matter of confiscation or an endless search for new sources of supply by state agencies. Throughout the arid Western United States, for example, and in the Murray-Darling basin in Australia, water rights are considered as legal property and, under different rules in different states, allow for approved transfers between willing buyers and willing sellers (see Grafton et al. 2011; NWC 2011). Chile and Mexico are the other well-known examples of countries where formal water markets have been introduced (Horne 2013). It has also become an issue for debate in the UK as part of the UK's reconsideration of abstraction management. However, in most developing countries, water markets mainly consist of informal agreements between neighbouring farmers about how to share supplied or extracted water for their mutual benefit. Typically, this involves one farmer allowing access to water to another user in exchange for a financial or nonfinancial payment (Briscoe 2011; Nikolakis et al. 2013).

Where the free-market economy is fully functional and an appropriate regulatory environment for water markets is created, efficiency gains are noticeable. For example, Horne (2013) states that the operation of water markets in the Murray-Darling basin provides an important example of the potential benefits of water trading for

irrigators, communities and the environment. Generally, water markets in this basin account for over 80 % of both the water entitlement trade and the trade in seasonal allocations (or trade in actual water) nationally. Tradability of water and water assets follows complex rules, and for the most part, trading in surface water entitlements occurs only in relation to regulated water flows within and between valleys, provided there are no hydrological reasons inhibiting trade (NWC 2012; National Water Market 2012).

In the face of increasing water stress, it is possible that more countries will turn towards legal, formally managed water markets which enable them to shift water from low-value to high-value uses (Briscoe 2011). One would also imagine that once the free-market economy approach is deployed, policy and legislation governing water allocation and supply systems inevitably treat water as an economic good. The “user-pays” and “polluter-pays” principles are then applied to enhance water governance efficiency.³ Application of these principles also implies running the water sector on a cost-recovery basis so that it becomes self-financing instead of relying on government budgetary allocations and subsidies. It also means charging higher prices for water than before in order to recover all costs of supplying the water to users (see Herrera and Post 2014). In such a case, companies and individuals whose activities cause water pollution have to obtain water pollution permits. They are then charged certain prices (penalties) according to the level of pollution they cause. The money raised is intended to be used to correct any environmental damage caused by the pollution.

Another common feature of managing water in a free-market economy (and indeed an important one) is the emphasis on water conservation and demand management (WDM). This is perhaps best showcased in urban areas where human population continues to be more concentrated and also in irrigated agriculture which tends to be a major water-use sector in most countries (see Gleick 2002). In developing country urban water-supply systems, unaccounted-for water often averages between 40 % and 60 % resulting from old infrastructure and burst or leaking pipes. Efforts to address such water losses through conservation measures and WDM often bear impressive results (Brandes and Ferguson 2004; Schwartz 2008; Da-ping et al. 2011). As Gumbo (2004) points out, the argument for WDM is sound and convincing: if there is a shortage of water for urban supplies, do not limit the solution to supply options only, but also consider demand-side options, such as minimising water losses and influencing demand to more desirable levels through structural measures such as retrofitting of water appliances, recycling and reuse, active or reactive leak detection and repair.

Useful nonstructural measures would include education and awareness campaigns, restrictions on water use, water tariff structure policy changes and innovative presentation of utility bills. In essence, WDM has evolved into long-term

³ Correljé et al. (2007) state that the polluter-pays and the user-pays principles are both related to who should bear the costs of environmental degradation. Those who cause pollution should meet the costs to which it gives rise, and users of a natural resource must bear the cost of running down natural capital.

municipal planning that helps to avoid costly capital infrastructural expansions (Vickers 2001; Brooks 2006; Kevinsen et al. 2014). A study by Gumbo (2004) focusing on eight cities in Southern Africa concluded that cities such as Bulawayo in Zimbabwe, Windhoek in Namibia and Hermanus in South Africa, which have invested in WDM, significantly reduced water losses (by at least 20%). The same study also concluded that cities performing well in terms of WDM have higher water-supply coverage figures, with at least 90% of the population having individual or household water connections, while cities that did not implement WDM approaches could not account for more than half of the water supplied.

Economic incentives and water pricing policy strategies are today's powerful WDM tools, making this option more environmentally friendly and, at the same time, an economically effective alternative solution to balance supply and demand (Kolokytha et al. 2002). Pricing through metering allows water users to become more aware of local consumption and is a prerequisite for the implementation of volume-based water pricing mechanisms (Kevinsen et al. 2014). Switching from a flat or fixed water rate to a metered system and increasing tariffs have been shown to reduce water demand (Da-ping et al. 2011). The goals most often cited in discussions of water pricing and tariff structures include efficiency, equity and sustainability (see Kanakoudis et al. 2011; Wichelns 2013). If set at the right levels, prices increase the possibility that consumers will better understand the prevailing pertinent costs and water scarcity conditions, and in the process, they will be encouraged to choose water volumes that reflect an efficient allocation of water between competing uses over time. In Beijing, China, a new pricing system that linked the cost of water to the amount of water used significantly encouraged conservation (Gleick 2000). A similar pricing system decreased average monthly residential water use by nearly 30% in Bogor, Indonesia (Postel 2000). Regional water providers in South Africa managed to delay the construction of new water-supply systems by imposing higher rates, distributing water conservation equipment and educating the public (Gumbo 2004).

4.1.1.3 Challenges of Managing Water Using Free-Market Approaches

It is, however, important to note that within the context of equity and pursuing national objectives of redressing historical imbalances in access to water, the free-market approach (particularly pricing) usually becomes a hotly contested subject. The notion that all members of a community must have access to an affordable supply of water for domestic uses and livelihood activities is widely accepted in most parts of the world. Thus, equity becomes particularly prevalent in discussions of water tariff structures, given that water is essential and that in many settings, a purely market-based allocation of water between competing users would deprive poor residents of their access to a safe and reliable supply (Wichelns 2013). From a theoretical perspective, one option for simultaneously addressing both equity and efficiency through pricing is to deploy increasing block-rate tariffs. This is a pricing structure that provides some amount of water to poor residents at very low prices,

while requiring wealthier residents to pay higher prices. Increasing block-rate tariffs have been implemented in many countries, as they enable water agencies to establish a very low price for the volume of water required for subsistence, while charging much higher prices for water deliveries in excess of minimal requirements (see Evans et al. 2002; Madhoo 2011).

However, the use of block-rate tariffs has had mixed results in various countries and cannot, therefore, be considered as the automatic panacea to water pricing controversies. For example, in several cases the incremental prices of water have been too low to motivate wise use on the part of wealthier consumers, and as a result, cost-recovery efforts have tended to fall short of initial estimates while the notion of sustainability remains unfulfilled. In other cases, water-supply connection rates have not improved at all even after block-rate tariffs have been introduced (see Keener et al. 2010). This suggests that block-rate tariffs are not necessarily the silver bullet for addressing water pricing challenges. Even the best-designed tariff structure cannot provide benefits to poor households that are not connected to the supply network (Angel-Urdinola and Wodon 2012). Water is not a typical or an ordinary economic good, and because of its specific characteristics, it is difficult to apply economic theory to it (Lamoree and Van Steenberg 2006; Anokye and Gupta 2012). In any case, water has no substitute, and if water for basic needs is treated as an economic commodity, it is likely to have serious consequences, particularly for the poor who often do not have alternative sources or substitutes (Grimble 1999). To this end, water utilities in developing countries should still consider increasing their investments in expanding water-supply service delivery in order to increase access for the poor.

From the foregoing, it is increasingly clear that the establishment of water markets is neither simple nor a readily available panacea. Experience has shown that the establishment of water markets is considerably more complex and nuanced than is often assumed and that it is not enough to just extol the virtues of pricing (Briscoe 2011). For starters, ordinary water users understand a price as a payment for a service rendered. In most developing countries where the supplier is usually a monopoly (and prices are set outside of the market), this means that the legitimate price in the eyes of users is that which it costs an efficient producer (usually a public utility) to produce the service (Nickson 1997; Schwartz 2008). However, it is common for the supplier in Africa to be inefficient, and users are unwilling to pay for these services under those conditions (Briscoe 2011). In addition, even under the most advantageous of settings, users will vigorously resist the notion that they should pay for *sunk costs* which, in their eyes, have already been paid for by taxes or other assessments (Nickson 1997).⁴ Pressure to increase cost recovery without addressing these fundamental accountability questions is a major part of the reason why cost recovery has been so poor in many countries (Briscoe 2011).

⁴In economics and business decision-making, sunk costs are retrospective (past) costs that have already been incurred and cannot be recovered. They are independent of any event that may occur in the future. As such, once committed, sunk costs no longer constitute a portion of the cost of production (see Baumol and Willig 1981; Sherman 2008).

A typical example is water privatisation in Bolivia in the early 1990s that occurred with total disregard for the concerns of the citizenry. It resulted in water tariffs that were beyond many citizens' ability to pay, such that it became a very controversial issue and source of conflict in Latin America, leading to a series of political debates, protests and even riots (see Castro 2007; Hailu et al. 2012). The concession was terminated in March 2000 as a result of massive public mobilisations that led to the withdrawal of the entire federal cabinet. The concessionaire's subsequent attempts to seek redress in international courts failed dismally. An examination of the performance of the private sector with respect to water-supply connections for poor households in Jakarta, Indonesia, concluded that the Jakarta private-sector partnership contract had not been pro-poor, and the expected trickle-down effect did not materialise (Bakker 2007). New connections were preferentially targeted at middle- and upper-income households over the period 1998–2005, and the numbers of new connections had been lower than the original targets. The failure to connect the poor is not solely attributable to the private operators and identifies disincentives to provide individual network connections to poor households on the part of the municipality, the private concessionaires and poor households (ibid).

In 1981, Chile reformed its Water Code in line with neoliberal principles, based on private water rights that could be freely traded with few restrictions and minimal state regulation. International financial institutions have embraced the Chilean model, claiming that it results in more efficient water use, and potentially fosters social and environmental benefits (Budds 2004). However, the free-market Water Code has been the focus of a lengthy and heated debate, and attempts to modify it have been debated in congress for over ten years. Moreover, its implementation has been problematic, both in terms of failing to foster active water markets and the growing evidence of social as well as environmental conflicts (Hearne and Easter 1997; Bauer 2004). None of the purported benefits of water markets for peasant farmers in Chile have been observed in practice; indeed, the present mode of water management has had negative socio-environmental implications for peasants in terms of reduced formal access to water and increased vulnerability to drought (Budds 2004).

In other parts of the world where the water “marketisation” agenda has been vigorously promoted, various studies have highlighted the common use of non-institutional forms of resistance by citizens. These include violent and non-violent protests, vandalism, illegal reconnections and other forms of collective action. In Lima, Peru, for instance, citizens resisted attempts by the water utility to closely monitor household water usage by stealing and vandalising water meters with much greater frequency. For example, whereas 32 256 meters were stolen or vandalised in 2000, this number increased to 85 176 by 2007 (see Ioris 2012; Herrera and Post 2014). In a number of South African cities, activists protested the installation of water meters, leading to arrests and criminal charges (see Conca 2006; Harvey 2005). In Durban and Tygerberg, for instance, citizens reconnected themselves to the water-supply system following service cut-offs for non-payment (Morgan 2011). High rates of service cut-offs for non-payment in Tygerberg and Cape Town actu-

ally “sparked township revolts, making these areas periodically ungovernable” (Smith 2004:389). Protestors also boycotted payment in Pretoria while in Durban, large crowds rallied in the water utility offices, holding 10-rand notes to symbolise the maximum amount they could afford to pay per month (Bakker 2010; Morgan 2011). In Lusaka, Zambia, price increases that doubled tariffs for middle-class users and more than quadrupled tariffs for low-income users became politically untenable when people protested, and the tariffs were soon reduced significantly (Dagdeviren 2008).

Overall, the available evidence indicates that market-based approaches to water-supply governance that may have worked in some developed countries do not necessarily apply in developing country contexts. This suggests that sensitivity to the socio-economic, institutional and political dimensions of water management is fundamental to successful implementation of IWRM (see Chikozho 2010; Beveridge and Monsees 2012). Closer analysis of the IWRM framework also reveals the negative effects of policy standardisation and formulation at the international level and promotion of policy transfer from the top downwards (Mukhtarov 2006). In this model, a network of international agencies, water experts and professionals have colluded to redefine the water resource management agenda in ways that promote transfer of neoliberal-oriented water policy prescriptions across the world. As a result, much of the IWRM decision-making prescriptions tend to ignore the social, cultural and political context, as well as the historical aspects within which these are embedded (Ashton 2007).

When a state adopts a free-market approach to water governance in a developing country, immediate questions arise regarding the extent to which the approach takes into account these institutional and political sensitivities (Bruns et al. 2005). This becomes a hotly contested terrain in countries such as South Africa and Zimbabwe where deep-seated historical inequities in access to water have prevailed for a long time. It may be viewed as excluding previously disadvantaged groups from accessing the resource since pricing structures determined on the basis of economic efficiency and cost recovery would be predominant (Bouchaud 2008). That is perhaps why scholars such as Mukhtarov (2006) and Butterworth et al. (2010) have argued strongly that IWRM was never a “people-centred” concept, having emerged from practitioners’ ecological concerns over the then-dominant utilitarian use of water supply and discharge. The approach runs the risk of legitimising existing power and access rights inequalities as well as oversimplifying the diversity of needs and interests of local actors (see Molle 2008; Saravanan et al. 2009).

Another controversial feature of the market economy approach is that it urges government to retreat from the frontiers of development planning by reducing the size and costs of its activities in the water sector, deliberately shifting from a supply-orientation to a demand-driven approach, based on the user-pays principle (see Nhira and Derman 1997; Schreiner and Van Koppen 2001). Policies and legislation are subsequently revised to suit the emerging water governance regime. Bithas (2008) carried out an elementary microeconomic analysis, which demonstrated that even in cases where private water companies are given the mandate to supply water, constant state intervention is necessary to correct market failures and approach

social full-cost pricing. Goldman (2007) argues that the key word is “affordable”, as many of these water-supply services have been provided in developing countries but have now been shut off because people cannot afford to pay for them. In this chapter, our position is that, although there is an increasing recognition, at least rhetorically, that neoliberal water-supply policies have failed to achieve the expected results; the marketisation forces set in motion since the advent of IWRM will continue to shape institutional reforms and policy decisions that may deepen rather than reduce inequities in developing countries’ water sectors. These processes require careful analysis and reconfiguration before they can work in developing countries.

4.1.2 Managing Water in a Developmental State

The idea of a “developmental state” has proved to be one of the most attractive concepts in development theory and practice for several decades. Shortcomings evident in market-oriented approaches to the management of water and national economies at large have led to the emergence of a strong counter-narrative about macroeconomic policy and water-supply planning. This counter-narrative is based on the conviction that the state still has a developmental role to play even in cases where the free-market economy agenda is given priority (Dassah 2011). As Radice (2008) points out, in the 1980s and 1990s, the concept played two roles in developmental debates. First, it provided a coherent counter to the dominant neoliberal narrative that portrayed the market as the master institution underlying both growth and welfare such that by 1990, the developmental state had become the major ideological rallying point for those who wished to contest the appropriateness of neoliberalism and the Washington Consensus as a framework for effective governance and economic development in the global south. Sindzingre (2004) argues that the concept of the developmental state continues to be the most fertile conceptual issue in development economics more than a decade after its formulation, for it has explained the exceptional growth performances of East Asian countries as resulting from a combination of economic, political and institutional structural changes.

By the turn of the millennium, the application of the concept had spread beyond these origins, but it is still useful to recall its beginnings (Evans 2012). According to Radice (2008), the developmental state remains one of the chief points of reference, both analytical and political, for those who reject the current neoliberal global order. Proponents of the developmental state strongly believe that since there are so many imperfections in developing country market economies, it remains the responsibility of the state to step in and lead national planning and implement specific policies, plans, programmes and projects to drive the national development agenda (see Dassah 2011; Deen 2011; Routley 2014). The concept of the developmental state itself was popularised in 1982 by Chalmers Johnson. It has since been written about extensively and critically analysed in tandem with empirical experiences of its application (Aye 2013).

The successful developmental state experiences of several countries in Asia such as South Korea, Malaysia, Singapore, Japan, China, India and Taiwan have been repeatedly used to demonstrate how and why the rest of the developing world can and should move swiftly towards rapid economic growth (Edigheji 2005; UNECA 2013b). Even with reference to Africa, there are scholars who strongly believe that the developmental state model of national economic planning is the way to go. For example, Taylor (2002) argues that of those countries in Africa that have recorded respectable levels of economic development, it is precisely the developmental states of Botswana and Mauritius that have performed well. It is therefore important to articulate the concept's theoretical underpinnings and empirical application in order to generate relevant lessons for the rest of the developing world.

4.1.2.1 Theoretical Underpinnings of a Developmental State

As an analytical concept, the “developmental state” has been described variously as one that places economic development at the top of government policy priorities and which is able to design effective instruments to promote such a goal (see Mkandawire 2001; UNECA 2013a). Some of the instruments often referred to include the establishment of well-functioning formal institutions, weaving of formal and informal networks of collaboration among citizens and government officials and the utilisation of new opportunities for trade and profitable production (see Fakir 2007; UNECA 2013b). According to Radice (2008), in contrast to the conventionally polar models of liberal free-market capitalism and the state-socialist planned economy, the developmental state is seen as a distinctive political economy that combines elements of market and plan, linking a mixed economy to a political-ideological approach that combines authoritarian technocracy with a relatively egalitarian distribution of income and wealth.

The developmental state has also been characterised as a state that promotes macroeconomic stability, as well as establishing an institutional framework that provides law and order, effective administration of justice and peaceful resolution of conflicts, ensuring property rights and appropriate infrastructure investments and advancing human development (Dadzie 2013; Aye 2013). It is seen as a state that is determined to influence the direction and pace of economic development by directly intervening in the national development process, rather than relying on the uncoordinated influence of market forces to allocate economic resources (Johnson 1982; Taylor 2002). Elsewhere, the developmental state has been described as one that authoritatively, credibly, legitimately and in a binding manner, is able to formulate and implement its policies and programmes. In other words, it is a state that is capable of deploying the requisite institutional architecture and mobilising society towards realisation of its developmentalist project (Edigheji 2010; UNECA 2013a).

UNCTAD (2007) points out that the literature on developmental states has focused their characterisation on two major features, namely, a developmental ideology and a structure pertaining to the requisite institutions, norms and standards that can support the development process. Therefore, their *raison d'être* is building

the political, administrative and technical capacity to support development, in what has been summed up as constituting the “software and the hardware” of developmental states (see Kim 2007; Weiss 2010; Dadzie 2013). In short, the developmental state is understood, at one level, to be a unitary actor vis-à-vis markets, social forces and international pressures. It is also conceptualised as a set of institutions that structure the behaviour, preferences and strategies of all political actors, inside and outside of the actual state apparatus (Wong 2004). Ultimately, robust state-intervention measures determine the nature and pace of socio-economic progress (Routley 2014). The implications of this state-centric paradigm, both as an empirical reality to be studied and a theoretical construct to be debated, are far reaching, particularly when one considers governance of a resource sector such as water and sanitation.

It is also important for scholars to understand that in East Asia where the concept was successfully tried out and popularised, government development policies were neither socialist in design, nor did they promote completely unfettered markets (Fakir 2007). The East Asian experience, and the role of the state in facilitating post-war growth, confounded existing capitalism–socialism and North–South debates (Johnson 1999). When understood against this ideologically charged context, it becomes easier to understand how the examples of Japan, Taiwan and South Korea are often regarded as the living prototypes of developmentalism. Kriekhaus (2002) states that many East Asian countries have obtained economic growth rates unparalleled in human history, with per capita income roughly doubling every decade over the past 30 years. Therefore, they were post-war anomalies whose experiences still demand explanation (Leftwich 2005).

Some of the key factors that have been identified as necessary ingredients for the emergence and sustenance of developmental states include the establishment of production-oriented private sectors and performance-oriented governance generally, which essentially refers to fully functional and effective institutions (Meyns and Musamba 2010). Beyond merely identifying and stressing the importance of these factors in the emergence of developmental states, the literature has also extensively examined the processes by which they can and should be put in place. For example, the developmental states in Japan, South Korea and Taiwan used public policy instruments to allocate productive resources rather than relying solely on the market (Bagchi 2000; Kim 2007). They also targeted certain industrial sectors in their allocation of resources, sometimes playing a leadership role in prospecting potentially lucrative industrial sectors and at other times playing a followership role in strengthening pre-existing private-sector initiatives (Wade 2004).

Through the creation of tariff barriers, the subsidisation of research and infrastructural development, the use of export incentives and centralised control over the financial system, the developmental state demonstrated how “getting the prices wrong” through government intervention into the market was an effective strategy to compensate for East Asia’s relative economic backwardness and to jump-start the region’s catch-up development (Meyns and Musamba 2010; Mkandawire 2012). The distributive consequences of economic growth were less important to the developmental state, provided that social inequality was never too severe and that the

trickle-down effects of aggregate growth continued to be felt (Haggard 2004; Shaw 2012). The developmental state was also defined by its ability to balance strategic linkages with, and relative autonomy from, different societal forces thereby avoiding the threat of elite capture. As Fakir (2007) points out, undergirding all these is the autonomy of the state from social forces so that it can use its capacities to devise long-term economic policies unencumbered by claims of myopic private interests.

One can infer from the foregoing discussion that the developmental state is able to craft a vision that it will relentlessly pursue in search of a solid economic development path. It is prepared to do whatever it takes to realise that vision and hence the deployment of both market-oriented approaches and state-led development strategies, practices and projects. It is able to assess its capacity and identify the public and private-sector ingredients it needs to deliver that vision. We propose in this chapter that key attributes of a developmental state will include dosages of pragmatism, authoritarianism, economic expediency, entrepreneurship and innovation. The developmental state is also able to rise above and sidestep elite capture tendencies and ensure the emergence of a more egalitarian society.

4.1.2.2 Implications for Water Governance and Management

The “Asian miracle” has already demonstrated that it is possible for countries in the developing world to apply the developmental state model and achieve rapid socio-economic development. From a water and sanitation supply perspective, the developmental state would essentially focus on the effective delivery of services using various instruments. In any case, availability of water in sufficient quantities and quality is crucial to the achievement of socio-economic development in any country. The developmental state is expected to provide the essential water infrastructure and services necessary to help catalyse economic development and improve the livelihoods of all communities. Fakir (2007) states that the state does this primarily by regulating, administering, executing, mediating, investing and delivering the construction, operations, maintenance and servicing of water service delivery infrastructure.

In a developmental state, the public service not only focuses on specific infrastructural outputs but is also acutely aware of the “soft” (policy and institutional) issues critical to sustainable governance of the sector. It strives to deliver water services in ways that are efficient and effective and to maintain the dignity of citizens by ensuring that even poorer sections of society have access to a basic level of water supply and sanitation. The developmental state will use its agencies to provide water and sanitation services but will also embrace the potential contribution and competitive advantage of the private sector. As Bagchi (2000) points out, one important feature of a successful developmental state is its ability to switch gears from market-directed to state-directed growth, or vice versa depending on geopolitical circumstances, as well as combining both market and state direction in a synergistic manner, when opportunity beckons. In other words, when managing water in a developmental state, the government is likely to facilitate the emergence of a

mixed economy in which the arm most suitable to provide water services at a particular point in time and place will be given the opportunity to do so. The use of public–private partnerships becomes a readily accepted practice. Therefore, the specific competencies, skills and values required in the water sector of a democratic developmental state are defined by its development context, priorities and challenges as well as the specific institutional conditions that exist or may need to be created to enable realisation of a specific vision.

4.1.2.3 Challenges of Managing Water in a Developmental State

A key aspect raised in most of the criticism on the notion of a developmental state is that the effectiveness of the developmental state is severely restricted in contemporary times. National and global ideological, economic and political changes have resulted in its formation and operationalisation becoming an impossibility. Thus, even the Asian developmental states would find it difficult to replicate their performances in contemporary times (see Meyns and Musamba 2010; Deen 2011). For instance, key actors in the water sectors of developing countries now have to deal with new challenges and pressures that were non-existent in the past. These include increasing water demand, climate change, increasing demands for better democratic dispensations and declining financial resources for water infrastructure. These challenges require new forms of governance and planning that may not be sufficiently addressed by one model of development planning.

Another challenge that arises when managing water in a developmental state is that the state itself is conceptualised as normative and better, particularly in terms of its capacity. It is this which underpins the debate about whether a state is strong or weak. However, we already know that many developing countries do not have the capacity to deliver on public services (water included). As Gainsborough (2009) points out, the trouble with the “developmental state” literature is that discussion of the state is underpinned by a series of assumptions about what the state is which are not universally valid. Thus, while one can analyse developing countries in terms of whether they measure up to Weberian notions of state capacity, it seems much more sensible to try and understand that they are non-Weberian in the majority of cases and do not necessarily have the capacity required to assume the role of a developmental state. For non-Weberian states, politics is much more about patronage and much less about delivering “public goods” such as water-supply development (*ibid*). As a result, water governance is negatively affected by limitations in state capacity.

Historically, many developmental states have been based on various forms of nondemocratic political regimes (see Fritz and Menocal 2007). However, the fact that it is possible to name a good number of authoritarian developmental states does not settle the issue. It certainly does not imply that all authoritarian regimes are developmental. It also does not mean that states need to be authoritarian in order to be developmental (*ibid*). Unfortunately, there are many examples of “anti-” or non-

developmental authoritarian states in Africa, Asia and Latin America. Managing water in such contexts will always be difficult, and deployment of the developmental state model in the water sector may prove fruitless. This point resonates well with Gainsborough (2009) when he states that state capacities generally cannot increase if a developmental commitment among the state elite is missing or insufficiently resolute. This may be the main reason why so many donor-sponsored capacity-building initiatives have proven ineffective in various parts of the developing world.

There is also little doubt that building developmental states in a democratic context does bring with it particular challenges which, for the most part, Asian and other historic success stories did not face. The dominance of the IWRM framework today, with its emphasis on decentralised water-supply and governance systems, makes application of the typical developmental state model almost impossible in developing countries. For one thing, democracy has an inherent tendency to disperse power and slow down decision-making processes, and it also makes the state less autonomous and less insulated from societal demands (see Fritz and Menocal 2007). A majority of developing countries that have experienced a democratisation process since the 1980s find themselves stuck in an unfinished transition. In these “hybrid” regimes (combining traits of authoritarianism and democracy), political leaders confront increasing pressures to deliver, but state capacity remains limited and accountability mechanisms weak or even non-existent while development goals remain elusive (see Fritz and Menocal 2006; Rakner et al. 2007). These conditions have remained prevalent in many developing countries thereby limiting the possibilities of establishing a developmental state. Water governance has so far been affected by the complexities arising from state incapacity.

4.1.3 Discussion

It is clear that the level of state intervention that the developmental state paradigm requires contradicts neoliberal theory. However, discourses about the developmental state would not have been topical still today had it not been for the failure of neoliberal policies to bring about sustained development, particularly in Africa. Sindzingre (2004) points out that the Asian financial crisis of 1997-1998 has been interpreted by mainstream analyses as a confirmation of the irrelevance of the developmental state concept as well as the fragility and limited developmental character of its ingredients. We argue that this concept remains seminal and important for understanding the determinants of the economic failures of other developing countries, as well as the possible exportability of its ingredients to other historical and economic contexts, such as sub-Saharan Africa. The economic stagnation of sub-Saharan Africa and the failure to develop effective water governance systems may indeed be interpreted as a consequence of common characteristics and constraints of its states, in terms of history, economy, global integration and political economy rather than failure of the developmental state model.

At the same time, there are key characteristic features of water supply and sanitation that one cannot ignore even in a free-market economy. Due to the nature of water as a basic need, debates about water-supply governance are now increasingly framed within a human rights framework whose principles indicate that it is vital for all human beings to have access to clean water and sanitation at an affordable price. Realisation of this human right seems more possible in a developmental state. Free-market approaches do not sufficiently address these requirements. Dassah (2011: 588) expresses this more aptly when he points out that “although not all state-led developmental efforts succeed, hardly any state has ever been successfully transformed through market mechanisms only”. There is also sufficient evidence from the Asian Tigers’ experiences demonstrating that national transformation processes can succeed with full involvement of the state (Castells 1992; World Bank 1993b).⁵

From the discourses presented in this paper and evidence from the published literature, it is clear that water is a location-specific resource which is usually mostly non-tradable, because markets for water may be subject to imperfection. That is why water pricing has rarely been efficient and equitable whenever it is introduced. As Shah et al. (2005) point out, the physical, social, institutional and economic conditions characterising developing countries are totally different from those in the rich temperate zone countries, and the objectives are usually also completely different. Analysts often overlook the fact that it took several centuries for the Western world’s water management to be where it is today. Therefore, the “one-size-fits-all” model of IWRM needs to be revisited so that it can be adjusted to suit country-specific socio-economic contexts. This suggests that deployment of free-market forces in the water sector may not be appropriate in developing countries. In its Economic Report on the continent in 2011, the United Nations Economic Commission for Africa (UNECA) abandoned inherited market liberalisation in favour of a “developmental state approach” in which burgeoning growth would be advanced through sustained infrastructural, institutional and social development based on lessons from East Asia (Shaw 2012). This suggests that UNECA appreciated the need for the developmental state model of governance to regain its visibility in Africa. Its application in the water sector will therefore be quite timely.

The irrationality of neoliberal policy prescriptions which underlie the official water reform processes in sub-Saharan Africa, for instance, is typified by the sidelining of localised understandings of water resource management when most users at the local levels generally do not treat water as an economic commodity. Therefore, flexibility is required for developing countries to adjust the reform model to their own specific conditions. In addition, the reduction of the state’s role in development planning and resource management seems untimely. The state cannot afford to remain a passive actor in a world in which forces of globalisation threaten to erode the basis for that role. It needs to recapture its critical role and ensure that the

⁵These countries were far from paragons of laissez-faireism and, instead, were highly dynamic economies in which the state played an active role to ensure high levels of accumulation, technology absorption and conquest of foreign markets (see Mkandawire 2001; Stiglitz 2002 for more details).

nation's policy and water governance institutional structures are sufficiently adapted to local conditions and emerging global resource governance discourses. This point resonates strongly with the conclusion by Chabal and Daloz (1999) that even neoliberal frameworks are tamed locally to meet the context under which implementation is taking place, especially in the context of Africa. The public protests against water privatisation and pricing in various countries briefly mentioned in this paper demonstrate the importance of understanding the local situation sufficiently.

While traditional water-supply schemes were mainly comprised of large, centralised infrastructure, emerging approaches are characterised by integration of water infrastructure with biophysical systems, taking into consideration the social, economic, environmental and political factors that determine provision of water for ecological and human uses and a long-term sustainability perspective (see Brown and Keath 2008; Van de Meene et al. 2011). We argue that this more comprehensive approach to water governance is more easily attained in the context of a developmental state. Precepts guiding the free-market paradigm produce a very narrow perspective that is not geared to address this comprehensive list of priorities.

We are also acutely aware that over the past few decades, dominant public policy discourses have frequently attempted to paint the distinction between public and private agency as quite sharp and clear, to the extent that one can make the sweeping generalisation that the world's water problems are either due to the public or the private sector. However, most conventional successful water projects show that this distinction is largely artificial and that the public-private distinction has always been blurred. Participation of both private and public agencies in most of the world's largest water projects may actually be the norm rather than the exception. Scholars such as Hill and Hupe (2002), Meuleman (2008) and Pierre and Peters (2000) argue that in reality different, and sometimes ideal, water governance approaches will rarely be deployed in isolation, but rather mixed or hybrid forms will be detected in practice due to the complexity of real-world situations. Indeed, environmental governance scholars such as Kooiman and Jentoft (2009), Lemos and Agrawal (2006) and Pahl-Wostl (2009) contend that hybrid governance approaches are likely to deliver more sustainable outcomes. This suggests that a mix of developmental state and free-market approaches stands a better chance of attaining optimum levels of service provision while ensuring sustainability of the water sector.

Several scholars have already identified numerous systemic and interrelated social and institutional barriers impeding implementation of sustainable water governance (see Farrelly and Brown 2011; Harremoes 2002; Mitchell 2006). Some of the barriers include institutional fragmentation, poor political leadership, unproductive intergovernmental relations, limited long-term strategic planning and inadequate community participation (see Brown 2005; Brown and Farrelly 2009). In this paper, our position is that only a strong and committed developmental state will be able to overcome these barriers. From our assessment, the implications for water-supply governance practitioners are also very clear. If free-market approaches are deployed, the key is an institutional framework that promotes efficient and accountable water service provision, with users being able to observe that their payments are actually used to improve the quality and coverage of water-supply services.

Without this, water users will not feel the obligation to pay. The design of water pricing policies is often complicated by the need to balance financial sustainability of the service provider with the water users' ability to pay. Historically, water has been significantly underpriced, and therefore, sudden and steep price hikes can quickly escalate into a political challenge. Conversely, if tariff structures are not designed taking into account the broader social implications, price increases may disproportionately affect poorer households.

It is also important to acknowledge that the global financial crises and recession experienced in recent years might have left champions of free-market capitalism facing an increasingly sceptical international audience. In this chapter, we argue that the failure of free-market approaches on the ground in other spheres beyond water is likely to leave scholars more sceptical about its applicability to the water sector. We further argue that there is already limited historical evidence to support the claim that free-market economic principles could be the main driver for successful water-supply governance in Africa and other parts of the developing world. On the contrary, the historical evidence shows that profit-oriented market approaches tend to produce highly exclusionary and elitist outcomes which are unlikely to benefit the poor. Chances of achieving universal coverage for water supply and sanitation will be possible when nation-states adopt policy principles that give priority to the basic human right to water instead of market interests. It is our considered belief that such policies and principles are likely to be easier to deploy within the context of a strong and capable developmental state.

In essence, despite the attractiveness of the free-market economy, the debate about the role of the state in economic development planning and water governance has come full circle. With the onset of the global financial and economic crisis in 2007, many developed countries, led by the United States, undertook radical state-led financial and economic intervention measures to rescue their economies from collapse. This has further broadened and strengthened the case for an active role of the state in economic development, particularly in the developing world. The concept of the developmental state has therefore risen to the top of development discourses once again, and its application in the water sector would be very timely.

4.1.4 Conclusion

This chapter has explored in detail the implications of managing water in a free-market economy and in a developmental state. From the exploration, it is clear that national water-supply governance paradigms tend to change in tandem with emerging national development theoretical frameworks and priorities. Each nation feels compelled to adopt a particular framework to fulfil its needs. In practice, more and more water utilities and planning agencies have been shifting their focus towards exploration of water-supply system efficiency improvement possibilities, implementation of options for WDM within the confines of IWRM and equitable reallocation of water among competing users and uses to reduce consumption and meet

future water demand. While many developing countries have adopted water policy prescriptions from the international arena, national and local socio-economic and political realities ultimately determine what works and what does not work on the ground. Thus, the choice between free-market approaches and developmental state-oriented approaches is never simple. Experiences across the globe indicate that careful analysis of local socio-economic and political conditions is crucial before deploying specific water-supply governance frameworks. The calls for the costs and benefits of water infrastructure developments to be distributed in a more equitable manner and for unmet basic human needs to be addressed urgently are most likely to continue growing in Africa and beyond. In this regard, more concerted efforts will be required to better understand and meet the diverse interests and needs of all affected stakeholders in the water sector. Application of the principles of sustainability and equity will help bridge the gap between diverse and competing interests and unleash the potential for more innovation in water-supply governance. It is always important to remember that in water governance, context matters.

References

- Anderson, T. L., & Snyder, P. (1997). *Water markets: Priming the invisible pump*. Washington, DC: Cato Institute.
- Angel-Urdinola, D. F., & Wodon, Q. (2012). Does increasing access to infrastructure services improve the targeting performance of water subsidies? *Journal of International Development*, 24, 88–101.
- Anokye, N. A., & Gupta, J. (2012). Reconciling IWRM and water delivery in Ghana – The potential and the challenges. *Physics and Chemistry of the Earth*, 47–48, 33–45.
- Ashton, P. J. (2007). The role of good governance in sustainable development: Implications for integrated water resource management in Southern Africa. In A. R. Turton, H. J. Hatting, G. A. Maree, D. J. Roux, M. Claassen, & W. F. Strydom (Eds.), *Governance as a dialogue: Government-society-science in transition*. Heidelberg: Springer.
- Ayee, J. R. A. (2013). The developmental state experiment in Africa: The experiences of Ghana and South Africa. *The Commonwealth Journal of International Affairs*, 102(3), 259–280.
- Bagchi, A. K. (2000). The past and the future of the developmental state. *Journal of World-Systems Research*, 6(2), 398–442.
- Bakker, K. (2007). Trickle down? Private sector participation and the pro-poor water supply debate in Jakarta, Indonesia. *Geoforum*, 38, 855–868.
- Bakker, K. (2010). *Privatizing water: Governance failure and the world's urban water crisis*. New York: Cornell University Press.
- Barnekov, T., Boyle, R., & Rich, D. (1989). *Privatism and urban policy in Britain and the United States*. Oxford: Oxford University Press.
- Bauer, C. J. (2004). Results of Chilean water markets: Empirical research since 1990. *Water Resources Research*, 40, 1–11.
- Baumol, W. J., & Willig, R. D. (1981). Fixed costs, sunk costs, entry barriers, and sustainability of monopoly. *The Quarterly Journal of Economics*, 96(3), 405–431.
- Beveridge, R., & Monsees, J. (2012). Bridging parallel discourses of integrated water resources management (IWRM): Institutional and political challenges in developing and developed countries. *Water International*, 37(7), 727–743.

- Bithas, K. (2008). The European policy on water use at the urban level in the context of the water framework directive: Effectiveness, appropriateness and efficiency. *European Planning Studies*, 16(9), 1293–1311.
- Bouchaud, J. P. (2008). Economics needs a scientific revolution. *Science and Finance*, 1, 1–3.
- Brandes, O. M., & Ferguson, K. (2004). *The future in every drop: The benefits, barriers, and practice of urban water demand management in Canada*. Victoria: University of Victoria POLIS Project on Ecological Governance.
- Briscoe, J. (2011). *Water as an economic good: Old and new concepts and implications for analysis and implementation*. Cambridge, MA: Harvard University.
- Brooks, D. (2006). An operational definition of water demand management. *International Journal of Water Resource Development*, 22(4), 521–528.
- Brown, R. R. (2005). Impediments to integrated urban storm water management: The need for institutional reform. *Environmental Management*, 36, 455–468.
- Brown, R. R., & Farrelly, M. A. (2009). Delivering sustainable urban water management: A review of the hurdles we face. *Water Science and Technology*, 59, 839–846.
- Brown, R. R., & Keath, N. A. (2008). Drawing on social theory for transitioning to sustainable urban water management: Turning the institutional super-tanker. *Australian Journal of Water Resources*, 12, 73–83.
- Brown, J. D., Earle, J. S., & Gehlbach, S. (2009). Helping hand or grabbing hand? State bureaucracy and privatization effectiveness source. *The American Political Science Review*, 103(2), 264–283.
- Bruns, B. R., Ringler, C., & Meinzen-Dick, R. S. (Eds.). (2005). *Water rights reform: Lessons for institutional design*. Washington, DC: IFPRI.
- Budds, J. (2004). Power, nature and neoliberalism: The political ecology of water in Chile. *Singapore Journal of Tropical Geography*, 25(3), 322–342.
- Butterworth, J., Warner, J., Moriarty, P., Smits, S., & Batchelor, C. (2010). Finding practical approaches to integrated water resources management. *Water Alternatives*, 3(1), 68–81.
- Castells, M. (1992). Four Asian tigers with a dragon head: A comparative analysis of state, economy and society in the Asian Pacific Rim. In R. P. Applebaum & J. Henderson (Eds.), *State and development in the Asian Pacific*. Newbury Park: Sage.
- Castro, J. E. (2007). Poverty and citizenship: Sociological perspectives on water services and public–private participation. *Geoforum*, 38, 756–771.
- Chabal, P., & Daloz, J. (1999). *Africa works: Disorder as political instrument*. Oxford: James Currey.
- Chikozho, C. (2008). Globalizing integrated water resources management: A complicated option in Southern Africa. *Water Resources Management*, 22, 1241–1257.
- Chikozho, C. (2010). *The realities and challenges of reforming the water sector in Zimbabwe*. Berlin: VDM Verlag Publishers. ISBN 978-3-639-25585-0.
- Coates, D. (2000). *Models of capitalism: Growth and stagnation in the modern era*. Cambridge: Polity Press.
- Conca, K. (2006). *Governing water: Contentious transnational politics and global institution building*. Cambridge, MA: MIT Press.
- Correljé, A., François, D., & Verbeke, T. (2007). Integrating water management and principles of policy: Towards an EU framework? *Journal of Cleaner Production*, 15(16), 1499–1506.
- Dadzie, R. B. (2013). Economic development and the developmental state: Assessing the development experiences of Ghana and Malaysia since independence. *Journal of Developing Societies*, 29(20), 123–154.
- Dagdeviren, H. (2008). Waiting for miracles: The commercialization of urban water services in Zambia. *Development and Change*, 39(1), 101–121.
- Da-ping, X., Hong-yu, G., & Dan, H. (2011). Discussion on the demand management of water resources. *Procedia Environmental Sciences*, 10, 1173–1176.
- Dassah, M. O. (2011). Developmental state as a model for Africa's development: Is its emergence imminent? *Journal of Public Administration*, 46(1), 588–607.

- Deen, E. S. (2011). The developmental state: An illusion in contemporary times. *African Journal of Political Science and International Relations*, 5(9), 424–436.
- Edigheji, O. (2005). *A democratic developmental state in Africa? A concept paper*. Centre for Policy Studies Research Report No. 105, May 2005, Johannesburg.
- Edigheji, O. (2010). *Constructing a democratic developmental state in South Africa*. Cape Town: HSRC Press.
- Evans, P. (2012). What will the 21st century developmental state look like? Implications of contemporary development theory for the state's role. In S. W. Chiu & S. L. Wong (Eds.), *Repositioning the Hong Kong government: Social foundations and political challenges*. Hong Kong: Hong Kong University Press.
- Evans, B. E., Brocklehurst, C., & Kariuki, R. M. (2002). *New designs for water and sanitation transactions: Making private sector participation work for the poor*. Washington, DC: WSP/PPIAF.
- Fakir, E. (2007). Public service delivery in a democratic, developmental state. *Policy: Issues and Actors*, 20(3), 1–11.
- Farrelly, M. A., & Brown, R. R. (2011). Rethinking urban water management: Experimentation as a way forward. *Global Environmental Change*, 21(2), 721–732.
- Food and Agriculture Organization (FAO). (1995). *Reforming water resources policy - A guide to methods, processes and practices* (FAO irrigation and drainage paper 52). Rome: FAO.
- Fritz, V., & Menocal, A. R. (2006). *(Re)building developmental states: From theory to practice* (ODI working paper no. 274). London: Overseas Development Institute.
- Fritz, V., & Menocal, A. R. (2007). Developmental states in the new millennium: Concepts and challenges for a new aid agenda. *Development Policy Review*, 25(5), 531–552.
- Gainsborough, M. (2009). The (neglected) statist bias and the developmental state: The case of Singapore and Vietnam. *Third World Quarterly*, 30(7), 1317–1328.
- Gleick, P. (2000). A look at twenty-first century water resources development. *Water International*, 25(1), 127–138.
- Gleick, P. (2002). *The world's water: The biennial report on freshwater resources*. Washington, DC: Island Press.
- Global Water Partnership (GWP). (2003). *Sharing knowledge for equitable, efficient and sustainable water resources management*. Stockholm: GWP.
- Global Water Partnership (GWP). (2012). *The handbook for integrated water resources management in transboundary basins of rivers, lakes and aquifers*. Geneva: GWP.
- Goldman, M. (2007). How “water for all!” policy became hegemonic: The power of the World Bank and its transnational policy networks. *Geoforum*, 38, 786–800.
- Grafton, R. Q., Libecap, G., Edwards, E. C., O'Brien, R., & Landry, C. (2011). Comparative assessment of water markets: Insights from the Murray-Darling basin, Australia and the Western USA. *Water Policy*, 14, 175–193.
- Gravelle, H., & Rees, R. (1981). *Microeconomics*. London: Longman.
- Grimble, R. J. (1999). Economic instruments for improving water use efficiency: Theory and practice. *Agricultural Water Management*, 40, 77–82.
- Gumbo, B. (2004). The status of water demand management in selected cities of Southern Africa. *Physics and Chemistry of the Earth*, 29, 1225–1231.
- Haggard, S. (2004). Institutions and growth in East Asia. *Studies in Comparative International Development*, 38(4), 53–81.
- Hailu, D., Osorio, R., & Tsukada, R. (2012). Privatization and renationalization: What went wrong in Bolivia's water sector? *World Development*, 40(12), 2564–2577.
- Hall, P. A., & Soskice, D. (Eds.). (2001). *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford: Oxford University Press.
- Harremoës, P. (2002). Integrated urban drainage, status and perspectives. *Water Science and Technology*, 45, 1–10.

- Harvey, E. (2005). Managing the poor by remote control: Johannesburg's experiments with pre-paid water meters. In D. A. McDonald & G. Ruiters (Eds.), *The age of commodity: Water privatization in Southern Africa* (pp. 120–127). London: Earthscan.
- Hearne, R. R., & Easter, K. W. (1997). The economic and financial gains from water markets in Chile. *Agricultural Economics*, 15, 187–199.
- Hernández-Mora, N., Cabello, V., De Stefano, L., & Del Moral, L. (2015). Networked water citizen organisations in Spain: Potential for transformation of existing power structures in water management. *Water Alternatives*, 8(2), 99–124.
- Herrera, V., & Post, A. E. (2014). Can developing countries both decentralize and depoliticize urban water services? Evaluating the legacy of the 1990s reform wave. *World Development*, 64, 621–641.
- Hill, M., & Hupe, P. (2002). *Implementing public policy*. London: Sage.
- Hodgson, G. (1992). The reconstruction of economics: Is there still a place for neoclassical theory? *Journal of Economic Issues*, 26(3), 749–767.
- Horne, J. (2013). Economic approaches to water management in Australia. *International Journal of Water Resources Development*, 29(4), 526–543.
- Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, 43(3), 249–267.
- Oris, A. (2012). The neoliberalization of water in Lima, Peru. *Political Geography*, 31(5), 266–278.
- Jessop, B. (1997). The governance of complexity and the complexity of governance: Preliminary remarks on some problems and limits of economic governance. In A. Amin & J. Hausner (Eds.), *Beyond market and hierarchy: Interactive governance and social complexity*. Cheltenham: Edward Elgar.
- Jessop, B. (2002). Liberalism, neoliberalism, and urban governance: A state-theoretical perspective. *International Journal of Urban and Regional Research*, 24, 273–310.
- Johnson, C. (1982). *MITI and the Japanese miracle: The growth of industrial policy; 1925-1975*. Stanford: Stanford University Press.
- Johnson, C. (1999). The developmental state: Odyssey of a concept. In M. Woo-Cumings (Ed.), *The developmental state*. Ithaca: Cornell University Press.
- Kanakoudis, V., Gonelas, K., & Tolikas, D. (2011). Basic principles for urban water value assessment and price setting towards its full cost recovery: Pinpointing the role of the water losses. *Journal of Water Supply: Research and Technology – AQUA*, 60, 27–39.
- Keener, S., Luengo, M., & Banerjee, S. (2010). *Provision of water to the poor in Africa: Experience with water standposts and the informal water sector*. World Bank Policy Research Working Paper No. 5387. <http://econ.worldbank.org>. Accessed 20 April 2014.
- Keivinen, J., Patrick, R., & Bharadwaj, L. A. (2014). A framework for assessing effective urban water management: Lessons from the Canadian prairie. *Water International*, 39(1), 113–127.
- Kim, Y. T. (2007). The transformation of the East Asian states: From the developmental state to the market-oriented state. *Korean Social Science Journal*, XXXIV(1), 49–78.
- Kolokytha, G., Mylopoulos, Y. A., & Mentis, A. K. (2002). Evaluating demand management aspects of urban water policy – A field survey in the city of Thessaloniki, Greece. *Urban Water*, 4, 391–400.
- Kooiman, J., & Jentoft, S. (2009). Meta-governance: Values, norms and principles, and the making of hard choices. *Public Admin*, 87, 818–836.
- Kriekhaus, J. (2002). Reconceptualising the developmental state: Public savings and economic growth. *World Development*, 30(10), 1697–1712.
- Lamoree, B., & Van Steenberg, F. (2006). From value to finance: Making IWRM work. *Journal of Contemporary Water Research & Education*, 135, 100–106.
- Leftwich, A. (2005). Democracy and development: Is there institutional compatibility? *Democratization*, 12(5), 686–703.
- Lemos, M. C., & Agrawal, A. (2006). Environmental governance. *Annual Review of Environmental and Science*, 31, 297–325.

- Madhoo, Y. N. (2011). Redistributive impact of increasing block residential water rates: Some Empirical evidence from Mauritius. *Water Policy*, 13(4), 471–489.
- Meinen-Dick, R. (2007). Beyond panaceas in water institutions. *Proceedings of the National Academy of Sciences of the United States of America*, 104(39), 15200–15205.
- Meuleman, L. (2008). *Public management and the metagovernance of hierarchies, networks, and markets: The feasibility of designing and managing governance style combinations*. Heidelberg: Physica-Verlag.
- Meyns, P., & Musamba, C. (2010). *The developmental state in Africa: Problems and prospects*. Duisburg: Institute for Development and Peace, University of Duisburg-Essen.
- Mitchell, V. G. (2006). Applying integrated urban water management concepts: A review of Australian experience. *Environment Management*, 37, 589–605.
- Mkandawire, T. (2001). Thinking about developmental states in Africa. *Cambridge Journal of Economics*, 25, 289–313.
- Mkandawire, T. (2012). *Building the African state in the age of globalisation: The role of social compacts and lessons for South Africa*. Inaugural annual lecture paper presented at the Mapungubwe Institute for Strategic Reflection (MISTRA), March 2012.
- Molle, F. (2008). Nirvana concepts, narratives and policy models: Insights from the water sector. *Water Alternatives*, 1(1), 131–156.
- Molle, F. (2009). River basin planning and management: The social life of a concept. *Geoforum*, 40, 484–494.
- Mollinga, P. P. (2008). Water, politics and development: Framing a political sociology of water resources management. *Water Alternatives*, 1(1), 7–23.
- Morgan, B. (2011). *Water on tap: Rights and regulation in the transnational governance of urban water services*. Cambridge: Cambridge Studies in Law and Society.
- Mukhtarov, F. G. (2006). *Integrated water resources management from a policy transfer perspective*. Budapest: Department of Environmental Sciences and Policy, Central European University.
- National Water Commission (NWC). (2011). *Water markets in Australia: A short history*, NWC, Canberra. http://nwc.gov.au/_data/assets/pdf_file/0004/18958/Water-markets-in-Australia-a-short-history.pdf. Accessed 10 March 2014.
- National Water Commission (NWC). (2012). *Impacts of water trading in the Southern Murray-Darling basin between 2006–07 and 2010–11*. Canberra. http://www.nwc.gov.au/data/assets/pdf_file/0009/21996/NWC_7019_WTR_Full.pdf. Accessed 10 March 2014.
- National Water Market. (2012). *Trading in your state or territory*. <http://www.nationalwatermarket.gov.au/how-to-trade/your-state.html>. Accessed 11 March 2014.
- Nhira, C., & Derman, B. (1997). *Towards reforming the institutional and legal basis of the water sector in Zimbabwe*. Harare: CASS.
- Nickson, A. (1997). The public-private mix in urban water supply. *International Review of Administrative Sciences*, 63, 165–186.
- Nikolakis, W. D., Grafton, Q. R., & Hang, T. (2013). Indigenous values and water markets: Survey insights from Northern Australia. *Journal of Hydrology*, 500, 12–20.
- Pahl-Wostl, C. (2009). A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change*, 19, 354–365.
- Perkins, D. H., Radelet, S., Lindauer, D. L., & Block, S. A. (2012). *Economics of development*. Washington, DC: Norton & Company.
- Pierre, J., & Peters, B. G. (2000). *Governance, politics and the state*. Hampshire: Macmillan.
- Postel, S. (2000). Entering an era of water scarcity: The challenges ahead. *Ecology Applications*, 10(4), 941–948.
- Radice, H. (2008). The developmental state under global neoliberalism. *Third World Quarterly*, 29(6), 1153–1174.
- Rakner, L., Menocal, A. R., & Fritz, V. (2007). *Democratisation's third wave and the challenges of democratic deepening: Assessing international democracy assistance and lessons learned. Report prepared for Irish Aid*. London: Overseas Development Institute.

- Rosegrant, M., & Binswanger, H. (1994). Markets in tradable water rights: Potential for efficiency gains in developing country water resource allocation. *World Development*, 22(11), 1613–1625.
- Routley, L. (2014). Developmental states in Africa? A review of ongoing debates and buzzwords. *Development Policy Review*, 32(2), 159–177.
- Saleth, R. M., & Dinar, A. (2005). Water institutional reforms: Theory and practice. *Water Policy*, 7(1), 1–19.
- Saravanan, V. S., McDonald, G. T., & Mollinga, P. P. (2009). Critical review of integrated water resources management: Moving beyond polarised discourse. *Natural Resources Forum*, 33, 76–86.
- Schreiner, B., & Van Koppen, B. (2001). *Catchment management agencies for poverty eradication in South Africa*. Paper prepared for the 2nd WARFSA/WaterNet symposium on integrated water resources management: theory, practice, cases, Cape Town, 30-31 October 2001.
- Schwartz, K. (2008). The new public management: The future for reforms in the African water supply and sanitation sector? *Utilities Policy*, 16, 49–58.
- Shah, T., Makin, I., & Sakthivadivel, R. (2005). Limits to leapfrogging: Issues in transposing successful river basin management institutions in the developing world. In M. Svendsen (Ed.), *Irrigation and river basin management: Options for governance and institutions*. Colombo: IWMI.
- Shaw, T. M. (2012). Africa's quest for developmental states: 'Renaissance' for whom? *Third World Quarterly*, 33(5), 837–851.
- Sherman, R. (2008). *Market regulation*. Boston: Pearson/Addison Wesley.
- Sindzingre, A. N. (2004). *Bringing the developmental state back in: Contrasting development trajectories in sub-Saharan Africa and East Asia*. Paper presented at the Society for the Advancement of Socio-Economics (SASE) 16th Annual Meeting, George Washington University, Washington DC, 9-11 July 2004.
- Smith, L. (2004). The murky waters of the second wave of neoliberalism: Corporatization as a service delivery model in Cape Town. *Geoforum*, 35(3), 375–393.
- Smith, W. J., & Wang, Y. (2008). Conservation rates: The best 'new' source of urban water during drought. *Water Environment Journal*, 22, 100–116.
- Stein, H. (1994). The World Bank and the application of Asian industrial policy to Africa: Theoretical considerations. *Journal of International Development*, 6(3), 287–305.
- Stiglitz, J. E. (2002). *Towards a new paradigm for development: Strategies, policies, and processes*. The 1998 Prebisch Lecture at UNCTAD, Geneva, 19 October 1998.
- Taylor, I. (2002). *Botswana's "developmental state" and the politics of legitimacy*. Paper presented at the international conference: Towards a new political economy of development: Globalisation and Governance, University of Sheffield, United Kingdom, 4-6 July 2002.
- United Nations. (1992). *The United Nations Earth Summit '92: The UN Conference on Environment and Development, Rio de Janeiro*. London: Regency Press.
- United Nations Conference on Trade and Development (UNCTAD). (2007). *Economic development in Africa - Reclaiming policy space: Domestic resource mobilization and developmental states*. Geneva: UNCTAD.
- United Nations Economic Commission for Africa (UNECA). (2013a). Economic report on Africa 2011: Governing development in Africa - The role of the state in economic transformation. UNECA, Addis Ababa.
- United Nations Economic Commission for Africa (UNECA). (2013b). The developmental state: What options for Africa? UNECA issue paper discussed at the third meeting of the committee on governance and popular participation, Addis Ababa, Ethiopia, 2021 February 2013.
- Van de Meene, S. J., Brown, R. R., & Farrelly, M. A. (2011). Towards understanding governance for sustainable urban water management. *Global Environmental Change*, 21, 1117–1127.
- Vickers, A. (2001). *Handbook of water use and conservation*. Amherst: WaterPlow Press.
- Wade, R. (2004). *Governing the market: Theory and the role of government in East Asia*. Princeton: Princeton University Press.

- Weiss, L. (2010). The state in the economy: Neoliberal or neo-activist? In J. Campbell, C. Crouch, P. H. Kristensen, G. Morgan, O. K. Pedersen, & R. Whitley (Eds.), *Oxford handbook of comparative institutional analysis*. Oxford: Oxford University Press.
- Wichelns, D. (2013). Enhancing the performance of water prices and tariff structures in achieving socially desirable outcomes. *International Journal of Water Resources Development*, 29(3), 310–326.
- Wong, J. (2004). The adaptive developmental state in East Asia. *Journal of East Asian Studies*, 4, 345–362.
- World Bank. (1993a). *Water resources management*. Washington, DC: World Bank.
- World Bank. (1993b). *East Asian miracle: Economic growth and public policy*. New York: Oxford University Press.

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