Future DAMS

Design and Assessment of water-energy-food-environment Mega-Systems

The contradictions of an aspiring developmental state: energy boom and bureaucratic independence in Rwanda

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Abstract

Scholars have typically explained the developmental performance of late-late developers through the analytical lens applied to East Asian developmental states, a lens that focuses on bureaucratic capacity and the bureaucracy's relationship with businesses and with society more broadly. In contrast, relatively limited attention is devoted to the relationship between bureaucrats and politicians. This is surprising, as a rich literature exists on this topic in developed countries and recent work has underlined the importance of the bureaucratic–political interface in poorer countries' reform processes. This article contributes to addressing this gap. It demonstrates the significance of internal regime dynamics between politicians and bureaucrats as a factor explaining states' ability to create functioning economic development. Using the case of the electricity sector in the aspiring developmental state, Rwanda, it shows the importance of what we term bureaucratic independence – the ability of the civil service to formulate technical advice and to deploy it in policymaking. We demonstrate how the absence of such independence produces economically-wasteful, even developmentally-detrimental, outcomes. This is notable, given the capability of Rwanda's bureaucracy, the resources available for projects and the strong commitment of ruling elites to long-term development ambitions. By limiting the space for administrators to assert their professional perspective on policymaking and implementation, the executive branch of government and the wider ruling party have created an electricity production system poorly attuned to Rwanda's energy demand profile, and one that is prohibitively costly, particularly in the African context. Thus, we argue that understanding a state's development potential involves analysis of the power relations between rulers and the wider state apparatus.

Keywords

Political Economy, Rwanda, Electricity, Bureaucracy, Developmental

JEL Codes

O13; O21; O55; P41; P48; Q48

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1 Introduction

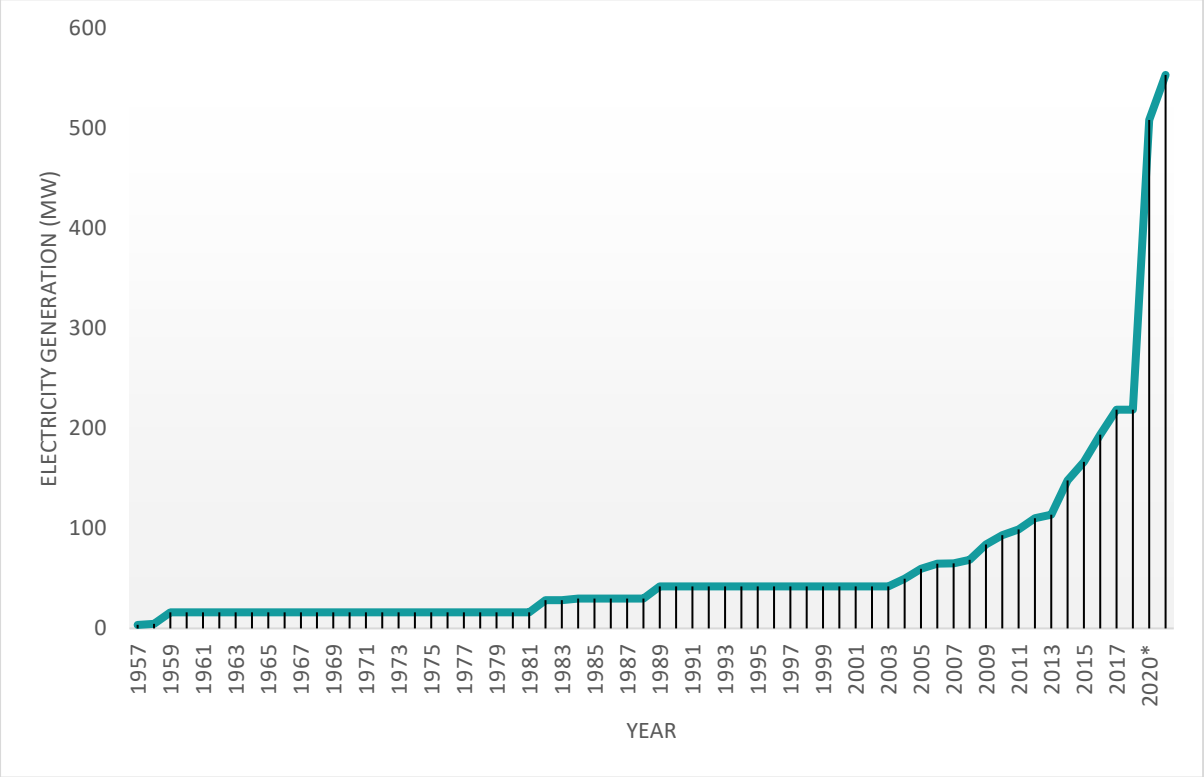
The spectacular economic rise of a number of East Asian developmental states in the 1980s reignited scholarly interest in the role of the state in development (Amsden, 1989; Evans, 1995; Johnson, 1982; Wade, 1990). This research identified the instrumental role of states' bureaucracies in economic transformation, including their capabilities, their resistance to political capture and to societal demands for immediate wealth distribution, and their vital maintenance of discussion channels with those instrumental to economic transformation (Amsden, 1989; Evans, 1995; Haggard, 1990; Leftwich, 1994; Wade, 1990). With this focus on bureaucratic capacity, alongside other factors in state–society and state–business relations, scholars have set key academic research agendas influencing the study of development in East Asia and beyond to the wider Global South (see, eg Centeno et al., 2017; Kohli, 2004; Mkandawire, 2001; Sen, 2017).Yet this literature has devoted relatively limited attention to the nature of bureaucrat–politician relations. This is surprising, as a rich literature on this topic exists in the case of developed countries (Georgiou, 2014) and recent work underlines the importance of the bureaucracy–politics interface in reform processes in poorer countries (Dasandi & Esteve, 2017). This article contributes to addressing this gap by problematising what is required from a bureaucracy to deliver development. There is an established recognition of the importance of bureaucratic capacity and of bureaucracies' autonomy from societal pressures. Furthermore, there is widespread recognition of the achievements of states with a strong developmental commitment and centralised political authority (Haggard, 2018; Kohli, 2004; Leftwich, 1994).

We assert that, in addition, scholars should closely analyse the power dynamics between bureaucrats and politicians. Using the case of Rwanda's energy sector, we demonstrate the importance of the bureaucratic–political interface as a central variable influencing the developmental potential of bureaucracies, alongside their capacity, autonomy and social embeddedness. In doing so, we argue that the concept of bureaucratic autonomy, as typically used in the literature, needs to be unpacked. It conflates autonomy from societal forces with autonomy from politicians, and thus is unable to analytically grasp cases like Rwanda, where bureaucratic autonomy from society is present but accompanied by a lack of independence from politicians. Such independence is key to the creation of capable bureaucracies. But equally key – and central to this paper's conception of independence – is the way that some insulation of the bureaucracy against political interference allows deployment of expertise in policymaking. The strategic and/or ideological importance of particular policies, alongside the scale of resource mobilisation necessary to achieve certain aims, frequently entails the close involvement of politicians in policymaking. Thus, rather than fetishising isolation as the key to success, we argue that analysis should focus on the inclusion of expert knowledge, technical critiques and professional experience in policymaking; on whether the bureaucracy has the independence to undertake expert analysis and to assert its technical advice and experience in a collaborative relationship with politicians.

To explore this politician–bureaucracy interface, we examine the Rwandan electricity sector over the past two decades. On paper, Rwanda possesses the means to increase the production of affordable electricity; it has a relatively capable bureaucracy and, over the past

15 years, has benefited from an influx of financial resources and the constant support of technical advisors and donors.

Figure 1: Installed electricity generation in Rwanda (MW)



Note: *Projections based on projects under contract.
Source: Authors' statistics gathered from Mininfra and news articles.

Above all, since the end of the post-genocide transition period (1994–2003), power generation, and increases in electricity access have become a top priority. Installed capacity rose exponentially from 39.95MW in 2003 to 218.9MW in 2017 (Figure 1) and electrification increased from 6% in 2009 (Republic of Rwanda, 2009) to a reported 24% in 2017 (World Bank, 2017a).[1] This is remarkable for a country emerging from the total societal, infrastructural and state collapse entailed by the genocide and wars of the 1990s, which particularly debilitated the country's electricity system (Safari, 2010). However, the system created by this rapid increase in energy generation has fundamental problems. Rwanda will produce too much power in the coming years, with installed generation capacity far exceeding expected demand. Projects are also poorly attuned to Rwanda's daily energy-demand profile. These factors, combined with 'take-or-pay', private-sector energy-generation contracts, make Rwanda's energy generation prohibitively costly, even in the African context. Consequently, increased generation has not improved the financial accessibility of electricity, while locking the country into high-energy costs for at least the next two decades. This article examines the policymaking process that created such costly and far-reaching mistakes. Given that the theoretical literature suggests that an *autonomous* and *capable* bureaucracy, with unfaltering political support, should lead to developmentally beneficial policies, what happened in Rwanda?

[1] 'Electrification' is defined as the percentage of the population with access to electricity.

We argue that the answer lies in the way in which the Rwandan regime has deployed authority within the state. Specifically, the concentration of power around the President and high-level party officials, alongside their far-reaching involvement in policymaking to the exclusion of bureaucrats and expert advice, has formed a dogmatic focus on electricity production capacity. This skewed planning of the electricity system towards a narrow focus on installing megawatts has created significant short-sightedness over other energy-sector needs, while also suppressing critical appraisal by the bureaucracy. Therefore, we assert the importance of 'bureaucratic independence' as a concept that contributes to making states successful at economic development.

Based on qualitative methods, this article's research consisted of a review of policy documents and semi-structured interviews with key informants. A total of 90 interviews were conducted between 2013 and 2018 with a variety of actors in the energy sector, including former ministers, civil servants in the Ministry of Infrastructure (Mininfra) and in the Energy Utility companies, advisors, officials from donor organisations, and consultants. Given the need to protect sources, quotes are anonymised. The article proceeds by reviewing the characteristics of developmental bureaucracies, highlighting the limited knowledge of internal dynamics between bureaucrats and politicians in the policy-making process. It then moves to a presentation of the empirical material, which centres on the efforts to increase Rwanda's electricity production capacity in the past 15 years. The article then discusses its empirical findings. It concludes by reflecting on its key contributions to debates on the kind of bureaucracy required for developmental states to succeed.

2 A reignited debate: the characteristics of a developmental bureaucracy

The economic rise of East Asian developmental states was instrumental in the reconsideration in the 1980s of the roles of the state in development (Amsden, 1989; Haggard, 2018; Johnson, 1982; Wade, 1990). It switched the debate from a question about how much power the state should have to one concerning the kind of state required for development. Central to this conception of a developmental state was the bureaucracy. There is now a consensus that, although the so-called developmental states have not followed a single bureaucratic model (Clark, 2000; Evans, 1998), they do share key features, which were instrumental to successful policy formulation and implementation (Evans, 1998; Rauch & Evans, 2000). First, their bureaucracies, or at least the most vital parts of them, had expert and competent staff. This was made possible through different means of selection that created significant professional prestige and ensured technical ability: South Korea and Japan used stringent unified civil service exams, while Singapore handed scholarships to talented high-school students. Meanwhile, Taiwan's strategy involved the selection and training of top university graduates (Evans, 1998, p 71). This is not to say that such merit-based recruitment occurred in all developmental states and throughout their civil services, as clientelism and patronage also frequently featured. However, in such states, those functions, agencies or organisations considered most developmentally crucial were sheltered from political interference in recruitment, in order to support the emergence of Weberian ideal-type enclaves (Evans, 1998, p 79).

Second, developmental states tended to have autonomous bureaucracies (Evans, 1995; Weiss, 2000). Autonomy here refers to the political shielding of parts of the civil service from

societal forces, in order to allow the disciplining of labour and the suppression of popular demands and political opposition. Typically, this was achieved by the centralisation of power in the strong executive branch of authoritarian regimes (Deyo, 1989; Leftwich, 1994).[2] This is advantageous, as it allows a regime to avoid being overwhelmed by popular demands or other social interest groups that might push it towards practising short-term clientelism for political survival. With this insulation bureaucracies could build their capacity and follow more technically rational and cost-effective decision making. Autonomy therefore helps explain why developmental states avoid two major pitfalls: state capture by individual interests and the wasting of scarce resources on regime survival or personal enrichment. Rather, it can underpin the creation of a Weberian ideal civil service whose participants adopt a 'vocational ethos', one that ingrains the higher goals of the state —in this case national development— instead of individual interests. In addition, autonomy supports a merit-based hiring process, generating an *esprit de corps* and the awareness of being in an enlightened vanguard of individuals with rare skills to serve an ambitious developmental project (Cheng et al, 1998; Evans & Rauch, 1999, pp 751–752; Evans, 1995, pp 49, 71).

A third feature noted by the 'developmental state' school, was the ability of these bureaucracies to coordinate government programmes, discipline businesses and allocate rents to activities deemed developmentally productive. This dynamic, clearly present in Asian developmental states (Haggard, 2018), is also visible in aspiring, developmentally orientated states in Africa like Rwanda and Ethiopia (Booth & Golooba-Mutebi, 2012; Kelsall, 2013). To achieve this, coordination was often vested in a super-agency that solved intra-state conflicts, such as the Ministry of International Trade and Industry (MITI) in Japan, the Economic Planning Board in Korea, the Economic Planning and Development Board in Taiwan, or more recently in Rwanda, the Rwandan Development Board.

Fourth, alongside civil service insulation, authors have highlighted the social foundations of the so-called developmental states' bureaucratic performance (Evans, 1995; Maxfield & Schneider, 1997; Moon & Prasad, 1994). Evans (1989, 1995), for instance, argued that, to succeed, a centralised and autonomous civil service required ties and channels of communication with certain segments of society, especially business sectors, as the bureaucracy needed to obtain information for coherent policy making and in order to pick winners and distribute subsidies (see also Johnson, 1987). Evans (1995) labelled this 'embedded autonomy'. Overall, as summarised by Clark (2000, p 1836), "the most prevalent interpretation of [Japan's, South Korea's, Taiwan's and Singapore's] success was that their authoritarian governments had created 'strong and autonomous developmental states' in which highly educated and far-sighted technocracies, free from day-to-day political pressures, plotted enlightened and effective development strategies".

This quote also highlights the enabling role of authoritarianism in producing development states. As indicated above, centralising state power and reducing democratic influence can support the creation of embedded, autonomous bureaucracies. As Haggard (1990, 2018, pp 35–37) writes, authoritarian states support the insulation of bureaucracies from society, enabling technicians to implement their supposedly rational and technically proficient policies

[2] In the case of Japan, Johnson (1982) stated that the developmental state was forged under authoritarian rule.

regardless of public opinion or impact. Additionally, authoritarian levels of centralised power also support the disciplining of interest groups with rent-seeking aims and those wanting to carve out personal advantage and wealth. Instead they direct efforts towards investment in long-term development. However, despite describing this mechanism, Haggard also argues, alongside others like Przeworski et al (2000), that authoritarian states have a wide variety of developmental outcomes. This observation informs the 'political settlements' literature, an academic school originating in Mushtaq Khan's work and with roots in critiques of the neoclassical, good governance literature of the 1990s (Behuria et al, 2017). In brief, the 'political settlements' approach focuses on understanding the distribution of power in policymaking and the alignment of different social and political actors' interests with developmental outcomes (Khan, 2010). This tends to lead to a hypothesis that countries with cohesive, dominant ruling coalitions, in comparison to fragmented ruling elites, will be best able to discipline their society, and orientate activity towards longer-term investment in development. Thus, by focusing on the distribution of power between and within political groups, the approach is able to differentiate between different types of ruling regime beyond the simple authoritarian–democracy spectrum, to understand the precise political conditions that produce the enabling characteristics identified by the developmental state literature.

However, the literature reviewed thus far has not significantly focused on the relationship between bureaucrats and politicians. As Dasandi and Esteve (2017, p 231) recently observed, "there has been very little attention given to the relationship between politicians and top bureaucrats in developing countries, and how this relationship might shape the development process". This is surprising in two respects. First, it stands in contrast to the volume of literature on the politics–bureaucracy interface in richer democratic countries (Demir, 2009; Georgiou, 2014; Svara, 2001, 2006). This arguably originates in Woodrow Wilson's seminal essay (1887) which, theorising the dichotomy between politics and administration, paved the way for the academic study of public administration. Moreover, there is a growing literature on the importance of political–bureaucratic interactions in developing countries' reform processes (Dasandi & Esteve, 2017, p 231), which shows that no single model can account for policy-process outcomes (see, for example, Grindle, 2012; Levy, 2014; Tendler, 1998). For instance, in the developmental state literature, Cheng et al (1998) argued that public agencies and ministries involved in economic transformation tended to be insulated from political and societal pressures but were also made somewhat independent from the presidency. Johnson (1982) in turn emphasised that the Japanese state's effectiveness lay in a high degree of separation between politicians and bureaucrats, although this "ended up being one of the most disputed features of Johnson's book among political scientists" (Haggard, 2018, p 38; see especially Ramseyer & Rosenbluth, 1997). In Taiwan, Wade (1990, pp 195–196) noted that "the President and premier have much more control over the policy-making apparatus than, say, their Japanese counterparts" and that "economic policy-making is intensely centripetal; it is carried out … almost entirely within the executive branch, with some input from the top of the party". Conversely, since the 19th century, a far richer literature has considered how the administration fits into processes of governance in democratic and mostly developed countries. Here, analysis of the bureaucrat–politician relationship is identified as oscillating between strict separation and the overlapping of objectives and roles (Demir, 2009; Georgiou, 2014; Svara, 2006; White, 1937; Wilson, 1887).

The goal of this article is to provide a better understanding of the conditions under which the bureaucrat–politician interface produces developmental outcomes. Our argument is that the independence of administrators from political power, and the inclusion of their technical advice, is paramount for successful development. We understand independence, following Svara, as the assertion of "professional perspectives in policy formation and adhering to professional standards in implementation" (Svara, 2001, p 179; cf Fukuyama, 2013). Independence does not involve a lack of political control over bureaucrats or the two working separately. Rather, it seeks to conceptualise the independence that allows bureaucrats to undertake their technical roles professionally and for their advice to be included in policymaking: the ideal political–bureaucratic interface is thus one where both collaborate to inform goals and shape implementation.[3] We argue that independence is key to creating the space for bureaucracies to provide technical input to politicians and to professionally implement the mandate given to them. Such an argument echoes recent work (Bersch et al, 2017; Cingolani et al, 2015; Fukuyama, 2013) and older research (Evans, 1995; Huntington, 1968) on the importance of bureaucratic autonomy. However, the concept of autonomy conflates autonomy from societal forces and autonomy from politicians. We argue that distinguishing between the two is essential to provide analytical leverage in the study of developmental bureaucracies, and so we conceptualise bureaucratic independence as independence from politicians that enables civil servants to fulfil their professional mandate and include their technical expertise in policymaking. In contrast to this, our Rwandan case demonstrates that autonomy from society can go hand in hand with a lack of independence from political masters and shows the detrimental impact of having insufficient independence.

3 Rwanda's problematic surge in electricity generation

Rwanda is regarded as an "emergent developmental state" (Goodfellow, 2017), as it shares many features associated with the aforementioned East Asian countries' success. Its bureaucracy is relatively capable, thanks to its general respect for formal rules, its expansion of merit-based recruitment, and strong efforts to limit corruption in the civil service (Chemouni, 2017). It has an especially strong economic technocracy, viewed by the political leadership as the condition for delivering ambitious developmental plans (Chemouni, 2019). Performance is notably ensured by the generalisation of performance contracts in the central and local-level bureaucracy, which has the power to make and break top civil servants' careers (Klingebiel et al, 2019). Capacity has also been supported by donors. Many of the key state functions – tax collection, agricultural production, health care, education and energy generation – have received strong budgetary support and technical advice, including the secondment of staff to work within ministries and agencies. For the energy sector, this has included placing international and Rwandan consultants in the Ministry of Infrastructure and the Energy Utility company, as well as funding studies by external consultants. Overall, and especially only 25 years after the genocide, Rwanda possess a remarkably "lowly-corrupt, capable and coordinated bureaucracy efficiently using public and donors' funds",

[3] This echoes Fukuyama's (2013) distinction between politicians as direction setters and bureaucrats as implementers but takes a more fluid understanding that sees both groups intertwined in setting agendas and enacting policy.

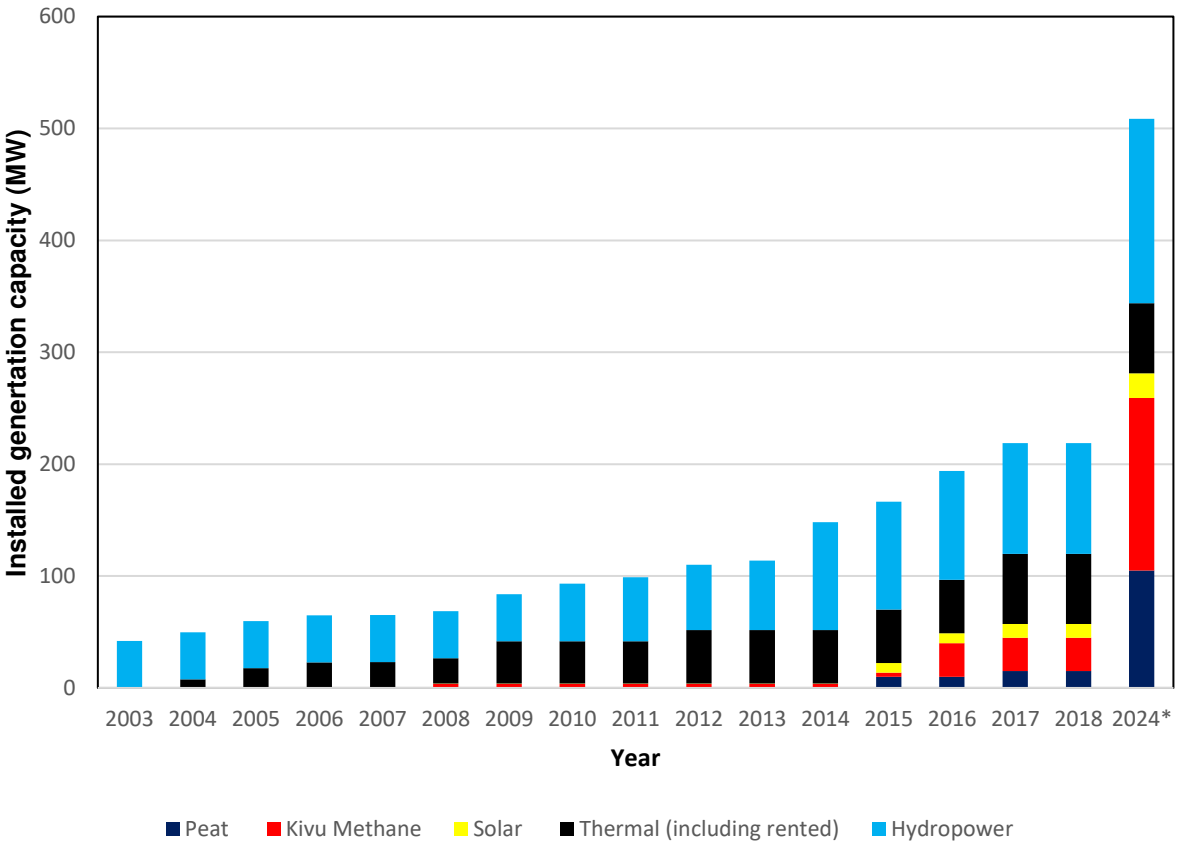
(Chemouni, 2017, p 3). As a result, according to the World Bank, Rwanda had, in 2014, the most effective public sector among the low-income country category (Chemouni, 2017, p 4).

Additionally, the country's bureaucracy is relatively autonomous from societal forces. This is mainly the result of Rwanda's authoritarian regime where, since the end of the genocide, power has been firmly entrenched in the hands of the Rwandan Patriotic Front (RPF). The party has complete control of the state and the military. It is also supported by a range of military- and party-owned companies who invest in key economic sectors (Gökgür, 2012; Reyntjens, 2013). Such dominance closes political space and limits media and civil society activities (Beswick, 2010; Reyntjens, 2004) . As a result, political opposition to the ruling coalition is weak. It is mainly located outside Rwanda, involving diaspora activists and the remnants of the armed opposition to the RPF that fled into the Democratic Republic of Congo after the genocide. The executive government, and the party more widely, are dominated by President Paul Kagame. He sits at the apex of a pyramidal party–state power structure, centralising key decision making and policymaking in the Presidency. Its dictates are then enforced through the party's machinery and its members, who are found throughout the government machine. Enforcement is enhanced by the RPF's tight control of the local administration and over civil servants, both of whom are mandated to achieve targets set out in performance contracts (Chemouni, 2014). The bureaucracy is therefore accountable to the Presidency and insulated from society. This type of autonomy is demonstrated by the rapid implementation of projects with significant social impacts but few accompanying protests. In agriculture, the government officially dictates what crops to farm and how, despite their choices frequently being geographically inappropriate and undermining rural livelihoods (Ansoms, 2009; Van Damme et al, 2014). They have also undertaken large-scale land dispossession for plantations (Ansoms, 2009; Huggins, 2017). Additionally, the rapid construction of hydropower plants (see below) has displaced large numbers. Rwanda's biggest hydro-plant, Nyabarongo Dam, for example, removed over 4000 households, including a number who did not receive compensation, and yet the project faced no widespread protest (Dye, 2016).

Consequently, on paper, the Rwandan state ticks the key features identified by the developmental-state literature, having an autonomous and capable bureaucracy supported by an ambitious, committed and powerful ruling coalition. In part, these conditions have led to a number of achievements, not least of which is the remarkable expansion in installed generation (Figure 2). Two decades ago, Rwanda's total production capacity stood at roughly 40MW, although much of this was dysfunctional. Remarkably, today Rwanda produces over 200MW, with this set to increase to over 500MW in three years' time. This has supported the country's fast-growing population and its commercial sector. It should have ended economically and socially harmful blackouts. Such a rapid expansion of electricity generation through tens of projects across a variety of technologies, rather than through singular mega-plants, is arguably unprecedented in East and Southern Africa, where countries' electricity grids have long been propped up by a small number of large hydroelectric plants.[4]

[4] For example, Great Ruaha in Tanzania; Inga I and II in DRC; and Kariba in Zambia and Zimbabwe. However, this has been diversified somewhat in recent years.

Figure 2: Installed generation capacity by technology (MW)



Source: Author's statistics gathered from the Ministry of Infrastructure and news articles.

However, the rapid rise in electricity generation has not addressed a long-standing constraint, namely the price of electricity. While, in 2018, Rwanda was ranked 41 out of 190 countries for the ease of doing business, it ranked 119 out of 190 in access to reliable and affordable electricity (World Bank, 2018, p 188). In the 39 Sub-Saharan African countries surveyed by Kojima and Trimble (2016, p 21), Rwanda is the second least affordable for households' subsistence level electricity (defined as 30 kW per month). Electricity consumption remains expensive despite the government's continued heavy subsidy. For example, the state spent US$57 million in 2016 to reduce tariffs by more than 37% of 'real' electricity costs, but this still left them far higher than in the majority of East Africa, and the 12th highest on the continent (World Bank, 2017a, p 19). The cost of electricity has increased during the government's power construction drive. While electricity residential tariffs in 2004 were $0.10 (in 2018 prices), they were 0.21 in 2018.[5] High tariffs are not new. An electricity study in 2010 found Rwanda to have the highest tariffs in its region; five cents more per kWh than second placed Uganda (Economic Consulting Associates, 2010). These high tariffs are a major bottleneck for the private sector's activities. In a recent 2018 survey conducted by the World Bank and the Rwandan Development Board (RDB), investors most frequently cited access to affordable electricity as the factor limiting their activities (World Bank and RDB, 2018, p46). This is a particular issue for the manufacturing sector, where

[5] Author's calculation in 2018 US dollars, based on adjusted exchange rates of the residential tariffs (42RwF/kWh in 2004) and for the 15–50 kWh tariff in 2018 (182 RwF/kWh).

more than half of investors reported electricity access as a constraint (World Bank & RDB, 2018, pp 34, 46). This has added significance given that, since 2015, the government has made industrialisation a key priority. Within governmental, donor and consultant circles, there has been awareness of the issue for some time.[6]

However, despite such longstanding internal and external recognition, plans to construct further generation (see Figures 1 and 2) are, if anything, likely to worsen the cost issue. Virtually all the projects, whether micro-hydro, peat or lake methane, involve contracts with private companies. These follow standardised Power Purchasing Agreements (PPAs) where the price of electricity is generally fixed for 25 years. Additionally, they stipulate that the state-owned Energy Utility, the Rwanda Energy Group (REG), must pay for 90% of the power made available by the private company. These guarantees have allowed the electricity-generation market to flourish. The private companies' role in the sector began in 2007–08 in micro-hydro projects, which have grown to include 30 Rwandan and international companies engaging in 43 completed or under-construction hydropower projects. The speed at which a vibrant power-sector market was created is itself impressive, particularly when considered against Rwanda's landlocked geography and its recent history. Moreover, in contrast to countries like Tanzania, Rwanda has successfully fostered trust in its PPA contracts, making them 'bankable', meaning that they can be used to raise private finance (Dye, 2020). Many of the new micro-hydro companies received financial start-up support from donors. Key payers included German and Belgian government donor agencies and the World Bank, which also advised the Rwandan government to offer generous tariffs and tax breaks, and build facilitating infrastructure like roads and transmission lines, in order to kick start the sector (African Development Bank Group, 2013). However, such incentives proved costly, not least because the deals are locked in for 25 years. Consequently, the government stopped offering these after 2015 as it "realised [they were] too much of a burden to the country".7 Rwanda has also chosen to pursue expensive generation technologies. It developed the world's first lake-methane extraction plant, an inevitably costly operation, particularly in a landlocked and infrastructure-poor country. The government is also pursuing peat fuel, a technology whose rarity (it is only used extensively in Turkey and Finland) also makes it relatively expensive. One study found that the new methane and peat plants' operating costs would be more than $500 million between 2015–16 and 2030 compared to a scenario where diesel and hydro constituted the main electricity generation technologies (Katz et al, 2017). This suggests that, despite official plans for the energy sector citing a least-cost rationale, in practice building more power trumped other concerns.

In addition to its costs, Rwanda's ambitious construction programme is creating over-supply. The latest forecasts suggest that, by 2024, peak demand will be between 220MW and 295MW. In contrast, new national and regional hydropower projects will add a capacity of 346.2MW,[8] bringing the total capacity to at least 465.2MW.[9] This is a concern because, as stated above, new capacity constructed under PPAs has a take-or-pay clause. This renders

[6] Interviews with donors and consultants, 2013–18, and with a former senior official 2014.)
[7] Former junior civil servant, Mininfra, 2016.
[8] Referring to the Ruzizi III & IV, and Rusumo Falls dams.
[9] Capacity would increase by an additional 43.5MW in 2025 if the Nyabarongo II dam were to be constructed on time.

excess capacity a significant debt risk. In addition, PPAs are agreed in dollars, exposing the government to foreign exchange risks. As summarised by one donor official interviewed, such oversupply, compounded by expensive-tariff agreements, amount to the government "digging a fiscal hole".[10] According to the World Bank, by 2020, 4% of GDP might be needed to sustain these payments. The possibilities of cancelling or changing such deals are limited. As they are already signed, reneging on payments or outright cancelation will entail penalties. Furthermore, another oft-proposed solution – selling the power to neighbouring countries through the emerging Eastern Africa Power Pool[11] – looks far-fetched given Rwanda's comparatively higher electricity tariffs.[12] Therefore, while achieving a remarkable increase in electricity generation, Rwanda's scramble for megawatts seems likely to carry a considerable fiscal burden. This endangers poverty reduction, job creation and the attractiveness of investment.

How has such a flawed system been created? The sector was at the top of the government's political agenda and has been supported by an army of consultants and advisors. Moreover, as indicated above, many internal and external actors knew about such issues. The sector also received huge resources from the state and from donors. We suggest that, far from being antithetical, the factors underpinning dramatic levels of infrastructure construction also explain the planning process's short-sightedness: politicians centralised decision making to a narrow focus on installed generation while simultaneously restricting the bureaucracy to an implementing role devoid of providing expertise or technical critique. It was not given the independence necessary to sustain a professional service.

4 The lack of independence of the Rwandan bureaucracy

Only a decade ago, the total volume of power was a major concern in Rwanda. This concern became especially acute between 2003 and 2005, when the country experienced a significant drought. Because of near-exclusive reliance on hydropower, the low water levels caused electricity production to plummet. The generating capacity of the two main hydropower plants , Ntaruka and Mukungwa, dropped from of 23MW in 2003 to 5MW in 2004 (Ministry of Natural Resources, 2012, pp 113–114). During hours of peak demand, load-shedding (meaning power cuts) might affect 50% of the electricity network.[13] Increasing electricity generation therefore became a policy priority. However, Rwanda's status as a heavily indebted poor country (HIPC) restricted the government's capacity to invest in energy infrastructure, as a large proportion of the budget was earmarked for poverty-reduction activities. The cancelling of $1.9 billion of Rwanda's debt in 2005–06 under the HIPC and Multilateral Debt Relief Initiative (MDRI) gave the government greater leeway to prioritise investment expenditure. As explained by a government official, after the debt cancellation, there was an understanding that the "budget for electricity production should be ring-fenced from year to year".[14]

[10] Interview with donor, June 2018.
[11] An under-construction, regional network of electricity interconnectors from Tanzania to Egypt.
[12] An argument made by several donor and consultant interviewees, Kigali, 2015–16.
[13] https://www.newtimes.co.rw/section/read/25927.
[14] Ministry of Finance and Economic Planning, official, June 2018.

Alongside growing budgetary flexibility, pressure to deliver increased power redoubled. Shortages of electricity became more acute again from 2010, in the wake of Rwanda's rapid reconstruction and economic growth from the late 2000s. Major blackouts were common from 2011. Officials interviewed between 2014 and 2016 were aware that such power shortages were "[now] the key constraint" for investors.[15] Additionally, among civil servants, there were numerous stories of international companies turning away from Rwanda because of its lack of electricity: one former Energy Utility official was "aware that Google wanted to create a data centre … It needed 50MW but at the time the installed capacity of the country was 50–60MW, in 2007/8".[16] As a result, pressure on the civil service mounted. This principally took the form of ambitious targets for electricity production capacity in Rwanda's main planning documents (Table 1).

Table 1: The increasing ambition of electricity production targets

Planning document	Year	Electricity production target
Poverty Reduction Strategy Paper	2004	Additional 42.3MW between 2004 and 2006
Economic Development and Poverty Reduction Strategy (EDPRS) 1	2007	From 45MW to 130MW by 2012
Energy strategy	2008	Additional 150MW by 2012
Energy strategy	2011	1000MW by 2017
Energy strategy and EDPRS II	2013	563MW by 2017

Thus, informed by the RPF manifesto for the 2010 presidential elections, the 2011 energy strategy adopted the colossal target of generating 1,000MW by 2017. This figure was not based on any demand forecast. It contrasted with analysis funded by the Japanese Aid Agency (JICA) and the World Bank, which predicted Rwanda would need around 200MW in the medium term by 2017–20.[17] A consultant reported that the government's number was plucked from an investigation on "how much do citizens in middle income countries consume".[18] It was therefore a 'supply-side' assessment,[19] ie an estimate based on the desire to reach a certain level of electricity production; a back-of-the-envelope calculation taken from China's level of industrial growth. Thus, the 1,000MW figure was a symbolic

[15] Senior Energy Utility official, 2016, echoed by senior and junior Energy Utility and Mininfra officials, 2014–16.
[16] Former Energy Utility senior official, 2016.
[17] Interviews, JICA staff and consultants, Kigali, 2016.
[18] Interview, consultant, Kigali, 2018.
[19] Interview, JICA staff member, 2016.

statement about Rwanda's ambition. An advisor to the government suspected that, ultimately, the emblematic nature of a four-digit round figure might explain the number.[20]

The choice of such an unrealistic figure was influenced by the RPF's role in ministerial planning. The party has an internal structure to mirror the government, matching the cabinet's ministerial clusters around social affairs, good governance and the economy with three thematic commissions. Although often lacking technical knowledge, these commissions have become an influential internal think-tank. For instance, they have shaped policies through pre-cabinet meetings that convened politicians, civil servants, RPF commissioners and top regime cadres. These provide the ruling party with a tool to direct government policy and apply pressure on the Mininfra.[21] The RPF commissioners were a significant source of the state's narrow energy-sector focus, as they want to please the President and fear admitting failure. As summarised by a civil servant:

> these people are well-meaning, very ambitious. They push for a lot and want to please the President. This creates a problem when it cannot be delivered. So, then, it is about hiding the embarrassment. The problem is that they are not technicians. They are old people with their ideas but their capacity to understand constrains [is limited]. So, they promise a lot and it is a mess.[22]

Thus, the ascendency of the party over civil servants helped set overly optimistic objectives and prevented debate or critical thinking about the energy system.

The space to challenge decisions and think strategically was further constrained by the dominance of the Presidency in the decision-making process. This is partly demonstrated through President Paul Kagame's sporadic decision making on international trips intended to advertise Rwanda and bring investment. For instance, one trip to Turkey initiated a deal with a company for peat-generation, before technical teams in Rwanda had assessed it.[23] Alternative appraisals from within the government thus carry considerable personal risk. An advisor reported that he "nearly got fired" for criticising electricity-generation targets.[24] The potential ramifications of getting fired or demoted ensure many within government self-censor because they fear speaking out. Meanwhile, external consultants and donors mentioned the deafness of top officials when they raised issues about the financial burden created by infrastructure projects. This underlines the fact that, despite internal and external airing of issues with the electricity sector, officials overtly and subtly suppress critique. Top-down pressure, and the frequent replacement of senior officials, has caused the immediate delivery of installed capacity to take precedence over other considerations. The Presidency replaced the minister of infrastructure four times, and cycled through three energy ministers and three heads of the Energy Utility between 2009 and 2014, all for failing to increase installed capacity quickly enough (Dye, 2018, p 163). Pressure was also demonstrated at annual national leadership retreats, which often serve as a venue for Kagame to berate officials for their failures in delivery. In 2012, the President complained that the budget for

[20] Interview, advisor, Kigali, June 2018.
[21] Interviews, former civil servants, Kigali, June 2018.
[22] Interview, former civil servant, Kigali, June 2018.
[23] Interview, consultant, 2016.
[24] Interview, advisor, Kigali, June 2018.

the electricity sector had not been increased enough before asking “Do you need to attend thousands of seminars about the lack of electricity in Rwanda? I always read, in newspapers, officials saying ‘we are going to have so much electricity in 30 years’; no, I want it now”.[25] In 2014, officials were publicly lambasted by the President for the delays to energy projects such as Rukarara and Nyabarongo hydropower plants and the Kivuwatt methane plant.[26]

However, it was also at such a retreat that the 1,000MW target was revised to 563MW. According to a consultant involved in preparing the 2013 Energy Strategic Plan, an internal demand forecast was conducted in 2012. This predicted that demand would reach about 200MW by 2020, but the figure was subsequently massaged to 563MW. Although lower, this new target did not reflect demand predictions, something later recognised in a 2017 report for Mininfra, which forecast that peak demand would only reach this number in 2032 (Katz et al, 2017, p 18). The new “political number” (as a consultant interviewee put it) was chosen because it was more than half of the initial target and, in addition, 563MW had a certain technocratic cachet given that it is not a round number. One informant described how the energy minister eventually accepted this new figure but, in trying to get it approved, received at first an “absolute bollocking” from the prime minister, who insisted on following the presidentially decreed 1,000MW target. A senior official involved then described how “on a retreat in 2013 … the President asked, where did you get the 1,000MW and why? … [do] some simple research in the ministry … [it forecast] 563 [and so this was decided on]”.[27] Consequently, concerns about the excessive 1,000MW target were only acknowledged when raised by the President himself. This episode underlines the degree to which decision-making power is concentrated. In order to change an important policy, Kagame himself needed to be convinced.

The revised 563MW target was still extremely ambitious and did not reduce implementation pressure. As summarised by a civil servant, “the RPF said [to ministers] that they accepted the lower commitment of 563MW, but ‘don’t come back, no more excuses’, that was the message”. A 2013 mid-term review maintained focus by showing major delays in large infrastructure projects. The significant finance required for energy and other infrastructure also led to Rwanda issuing $400 million in bonds on the London finance markets for the first time (Wigglesworth, 2013). Additionally, in order to match the country’s ambition, the government turned to the private sector. From 2013 onwards, nearly all investments were in the form of public–private partnerships (PPPs), which involve companies, not the state, raising capital. As a result, by 2017, 52% of the country’s generation capacity was under private ownership (World Bank, 2017b, p 2). The short-sightedness and overreach of the ambitious targets has been realised over time, however. This is demonstrated by the 2016 electricity act, which dictates that the state should initiate all electricity generation projects, as oppose to the previous practice of accepting private investors’ unsolicited bids. The electricity generation capacity target was further revised in 2018. For the first time, this was based on a demand-led forecast, with a 15% buffer margin (Republic of Rwanda, 2018, p 10). A “moving target” was estimated to reach between 282MW and 376MW by 2024

[25] ‘Retreat targets growth’, *The New Times*, 5 March 2012.
[26] ‘Kagame urges leaders to deliver services’, *The New Times*, 9 March 2014.
[27] A narrative confirmed by observations in 2013.

(Republic of Rwanda, 2018, p 10) but arguably this comes too late given that under-construction plants will push installed generation above 500MW.

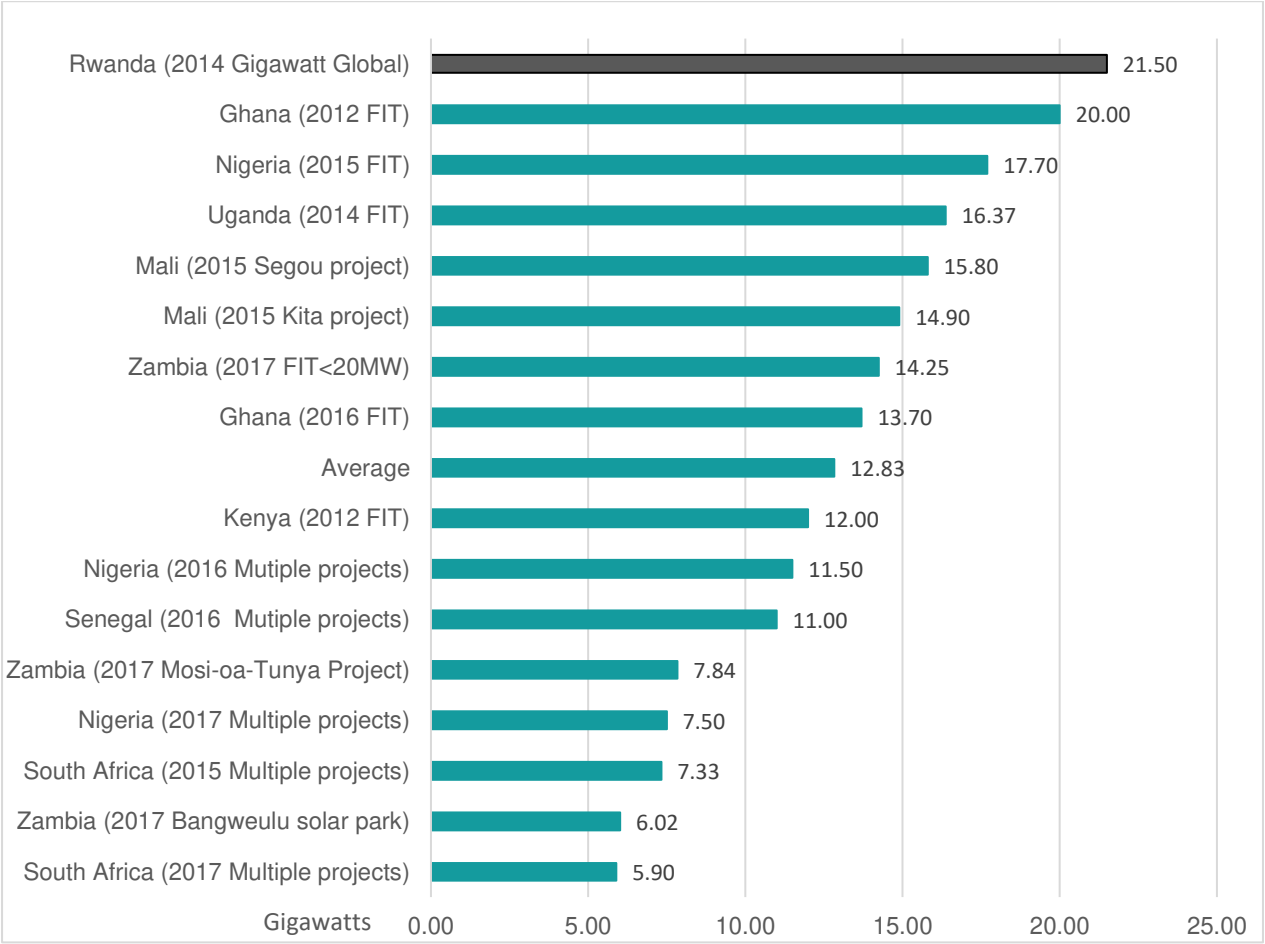
4.1 “Because of the pressure people are stupid”

Planning processes in the energy sector, until at least 2016, therefore appear almost exclusively driven by political rationales without debate or significant technical input. This produced a scramble that meant officials focused squarely on securing investment and completing construction, not on financial efficacy or the energy system’s reliability. As explained by a former adviser, the government “would jump on any possibility [of investment] to get more megawatts”.[28] In this context, the structure of incentives and pressure from above meant that “you can’t say no [to investors] if you don’t need their project”.[29] New proposals by investors were not compared with alternatives and, except for the new Symbion methane plant, PPA contracts followed bilateral negotiations, not competitive tendering. The eagerness to please potential investors also created coordination issues, which private actors exploited. Potential investors would be welcomed by top officials, including by the president himself, and were then promised a range of advantages. This was often done without consulting the Energy Utility, infrastructure ministry or RDB. As remembered by one technician, during the negotiation process, “the Presidency was undermining us on things like the price of PPAs” probably because “they just wanted the megawatts”. Again, this demonstrates the excluding of technical advice from implementation.

Pressure, alongside concerns about attracting investors to Rwanda, given the novelty of the country’s private sector and of public–private contracts, also led to generous deals. Recalling negotiations for the Gigawatt Solar power plant (8.5MW), an official stated that “we got the price of the electricity too high partly because we wanted to go quickly and accept the conditions offered too rapidly. We had pressure.” The project was one of Rwanda’s first major energy sector PPPs and was completed in just five months, being dubbed in the *Guardian* as “Africa’s fastest solar power project” (Smith, 2015). Nevertheless, as Figure 3 demonstrates, Rwanda’s deal made Gigawatt solar the most expensive in Africa. While PPA tariffs need to respond to difficult-to-assess, context-specific criteria such as site conditions, ease of grid connection and country risk, many of which are likely to be high in land-locked Rwanda, informants emphasised that the unflattering comparison shown in Figure 3 was primarily produced by the government’s poor negotiating and its will “to demonstrate quickly that they could do PPP”.

[28] Interview, consultant, Kigali, 2018.
[29] Interview, consultant, Kigali, 2018.

Figure 3: PPAs of recent solar power plants in Sub-Saharan Africa



Note: FIT refers to 'feed-in tariff' – long term contracts to buy electricity offered to energy producers.
Source: Compiled from public data.[30]

Additionally, the absence of strategic, cross-sectoral thinking meant that transmission lines did not always accompany generation installation. Rwanda's major new power generation plants are located around Lake Kivu (for methane), in the southwest peat fields and in the western mountains (containing the majority of hydropower sites). However, only one high-capacity transmission line services this area. Consequently, the biggest hydro-plant in Rwanda – the 28MW Nyabarongo Dam – often functions below full capacity, partly because of insufficient transmission capacity. In addition, investments in the energy sector have not been optimised to meet daily demand cycles. Because Rwanda has little industry, power consumption strongly varies, with an evening peak electricity demand of roughly 25%. However, the government has not constructed specific peaking capacity to meet this demand spike. Rather, it has built baseload generation that is designed to run constantly (Dye, 2020). This means that, even if peak demand and supply are matched, there will be oversupply for the roughly 20 hours when electricity need is lower than the pronounced evening spike. Plants like Gigawatt solar compound this issue as, without storage, they are limited to daytime functioning. Again, this underlines the degree to which the political priority

[30] We thank Alvaro Lara and Sidney Wakaba for sharing these data.

for megawatts trumped other important electricity-system needs that officials and advisors were aware of.

Pressure to increase electricity production also resulted in poorly planned plants. The most telling example here is the $45 million Gishoma peat power plant. Construction started in 2013 but was completed, after three years' delay, in 2017. Once functional, the plant operated at half capacity (5MW) before stopping four months later. This was partly thanks to technical problems but, more importantly, Gishoma had an insufficient peat supply from its adjacent bog (OAG, 2017). Initial rapid studies by the investor wrongly stated that sufficient peat was present but, to hasten the process, no further detailed or counter-studies were done. When the construction started, "it was known from day one that there was not enough peat".[31] Technicians and consultants had routinely raised these issues, some maintaining that they were identified before construction started.[32] In addition, the plant was not engineered to allow the flow of water required for maximum operation. Furthermore, in order to save time, there was no study of the peat's power-generation quality, which later proved to be poor. The case of Gishoma is representative of wider shortcuts. The government rarely conducted validating counter-studies. Nyabarongo Dam illustrates this. Here, limited planning on topography and sedimentation meant that the reservoir was several kilometres longer than planned. The reservoir has also unexpectedly filled with sediment so quickly that the government was planning to use a dredger only two years after the dam's completion (Dye, 2018).

Additionally, due diligence on the capacity of investors to deliver on time and to specification was routinely hasty. For instance, one major project proceeded without the investor providing information on its financial state.[33] Furthermore, an early round of micro-hydro projects was awarded to a Sri Lankan firm that lacked prior hydropower experience and engineering expertise. This proved costly: insufficient foundations and poor engineering disabled most plants in a year, requiring significant rebuilding.[34] As with the electricity production target, the hierarchical nature of the Rwandan bureaucracy and the top-down pressure removed space for technicians to challenge decisions on the targets, investment options and implementation. Several consultants mentioned the refusal of officials to listen to their reservations. One explained that, by raising questions, he was accused of going "against the vision of Rwanda".

Overall, the energy sector's policy-making process reveals two pertinent aspects. First, it shows that the key direction of prioritising power production and sacrificing detailed, strategic decision making lay with the aforementioned, partially hidden circle of RPF decision makers behind the formal ministries and agencies of government; these include the president, senior RPF politicians, officials in the presidency and party members. As a result, implementation practices were often ad hoc. Second, our analysis demonstrates the degree of pressure created by this group and the way this created narrow decision making based solely on one concern – installed generation, ignoring other issues like cost or reliability. The scramble supressed critical voices and the more systemic analysis of civil servants, donors and

[31] Interview with former civil servant, June 2018.
[32] Multiple interviews with consultants and civil servants, June–July 2018.
[33] Interview with former government advisor, June 2016.
[34] Interviews, private sector officials, consultants and civil servants, 2013–16.

international advisors. The bureaucracy's implementation practices were strongly influenced by the party, which, in turn, suppressed its ability to deploy its expertise.

5 Discussion: the pitfalls of the lack of independence of the bureaucracy

Rwanda's ability to achieve rapid increases in installed capacity is impressive, not only in comparison to other countries on the continent, but for its own chances of economic transformation. It creates the conditions that could support electrification of the countryside and large-scale rises in manufacturing. Rwanda's narrow ruling elite circles mandated this single-minded policy focus on rapid change and reinforced this through continuous pressure in the form of ambitious performance targets and coercion by the party machinery. This dynamic is seen elsewhere in sectors such as healthcare (Chemouni, 2018), social protection (Lavers, 2016) and local service delivery more generally (Chemouni, 2016). The bureaucracy's relative weakness in comparison with a small group of RPF officials and the presidency allowed the forcing through of megawatt construction regardless of technical advice or concerns about the cost of electricity. Rwanda's oversupply saddles the Energy Utility, and thereby the state, with sizeable debt, making electricity prohibitively expensive and calling into question claims that the energy boom will lead to significant inward investment or substantive use of electricity by poorer households. This analysis consequently demonstrates that a relatively capable bureaucracy, autonomous from society and with a long-term planning horizon does not necessarily produce effective development. Learning and correction did happen with the revisions of the megawatt targets and changes in private-sector contracts. However, such changes came too late to prevent the construction of underperforming and financially deleterious power plants.

Thus, the case of the energy sector reveals the weakness of centralised decision making otherwise associated with successful developmental states. If administrators are not independent enough from their political masters in generating and deploying policy advice, if they cannot assert professional perspectives in policy formation or adhere to professional standards in implementation, governmental decision making falters. In Rwanda, civil servants only understood themselves as narrow implementers of the president's and the party's grander vision. This also ensured that the bureaucracy routinely ignored the reservations expressed by some civil servants, international consultants and donors.

It could be argued that such problems stem more from lack of bureaucratic quality. Undoubtedly, analysing bids, managing PPP negotiations and the planning and execution of large projects are difficult tasks requiring significant technical knowledge and experience that poor countries may struggle to acquire. Yet this does not seem to be the overriding influence here. First, donors provided significant support to the energy sector's bureaucracy through significant levels budget support, the commissioning of numerous reports and the funding of an army of advisors and consultants deployed within the state. For example, the EU's 'Sector Reform Contract' for electricity of €177 million between 2015 and 2020 dedicated 88% to direct budget support, with the remainder paying for technical assistance (EU, 2015). Furthermore, the World Bank, pledged $95 million for a 2015–21 'Electricity Sector Strengthening Project'.[35] However, our analysis has demonstrated the suppression of such

[35] World Bank, 2015

critiques and expert opinion: criticism of energy demand forecasts or the choice of power plants, donors and external advisors was frequently ignored. This is a stark contrast to the role of foreign advisors in a number of East Asian developmental states. In Taiwan or Japan, for example, the role of American advisors and finance was central to counteract excessive top-down decision making (Johnson, 1987). Indeed, Taiwanese "institutions were accountable not only to the executive but to the checks of the Americans as well" since "aid dispensing bodies institutionalized a direct role for American actors that placed checks on [the ruling] KMT discretion" (Haggard & Zheng, 2013, pp 240–241). Overall, therefore, it wasn't that critique or technical advice were absent, it was that the strictures, incentives and pressures governing bureaucrats led to such policy input being ignored. Indeed, as already underlined, relative to its level of resources, the Rwandan bureaucracy is quite capable (Chemouni, 2017, 2019). Thus, the key issue was the lack of bureaucratic independence, which meant that policy inputs flowed entirely in one direction, from a small circle around the president. Shortcomings in project management, such as superficial due diligence or the absence of detailed independent feasibility studies, were driven by a desire to achieve quick results, not a lack of capacity. Limited capacity is secondary in explaining the sector's outcomes.

This analysis therefore demonstrates the importance of the relationship between the bureaucracy and political leadership. In Rwanda, the bureaucracy largely acted as an echo chamber to government's stated ambitions. For the most part, the bureaucracy did not have a level of independence whereby civil servants could critically reflect on the goals and implementation of policy and challenge political leaders. This situation is markedly different from Johnson's (1982, p 316) analysis of the Japanese developmental state where "the politician reigns and the bureaucrats rule" or from the situation in Taiwan, where foreign advisors were central in challenging decisions made by the presidency. The remaining question is whether issues exposed by the electricity sector bear significance in Rwanda's wider trajectory, or whether they are only a blip in the country's otherwise impressive results. After all, capacity for learning and change existed in the electricity sector. For instance, the excessive 2012 megawatt generation target was eventually recognised as extravagant and subsequently revised. In addition, in 2016 a new PPP law, accompanied by new official guidelines in 2018 for governmental agencies, aimed to address the problem of unsolicited bids and inconsistent and uncoordinated negotiations with the private sector. This fits a broader literature on Rwanda that notes instances of learning and adaptation among its centralised policy-making elite (Booth & Golooba-Mutebi, 2014; Chemouni, 2017). Nonetheless, the literature on Rwanda has also emphasised that this capacity to learn is far from systematic and has led to a significant waste of resources and opportunities (Behuria, 2018). Similarly here, adaptation unfortunately did not prevent the country from being locked into high-energy costs for the next two decades, as most PPAs were agreed before reforms of the PPP negotiation occurred.

This calls attention to the more fundamental questions of how adaptation can happen under lack of bureaucratic independence. The instances of change in the electricity sector demonstrate that adaptation is subject to Rwanda's wider policy design and implementation issues. Change happened only after the Presidency, and often the President himself, were convinced, as epitomised by the revision of the electricity production targets detailed above. Once top politicians and civil servants have mustered their courage to highlight problems,

the President sometimes allows change, often while berating civil servants for not delivering development correctly. While this allows the President to appear above politics and reproach, diverting blame to subordinates, adaptation remains ad hoc and erratic. This is arguably a problematic, costly and unsustainable way to adapt. It does not constitute a system for bureaucrats to have sufficient autonomy to correct course. In addition, under the present conditions, adaptation remains hampered by officials' fear of speaking out, as this could appear as criticism of President Kagame, given his personal involvement in key policies like electricity-generation targets. The analysis here demonstrates that the increase in electricity production in Rwanda is undoubtedly impressive, ending black outs, providing hospitals and schools with electricity, and laying the necessary basis for future industrialisation. Yet it also highlights that policy adaptation needs to be institutionalised and the independence of civil servants fostered for such a trajectory to be lasting.

6 Conclusion

The concentration of power among members of the executive branch of government and senior members of the ruling party, and the corresponding relative weakness of the bureaucracy, created the conditions for failed development in the Rwandan electricity sector. Technocrats (and foreign advisors) struggled to oppose or challenge politicians' key policy decisions, even when they were known to be removed from reality. This resulted in a singular focus on large-scale megawatt building without thought of demand needs, consumer tariffs or an individual plant's performance. Arguably, this has locked Rwanda into a high-cost electricity system and risks significant indebtedness. In explaining this outcome, this article contributes to the literature on the role of state capacity in development. We argue that a more accurate understanding of bureaucratic capacity should clearly identify the relationship between rulers and bureaucrats. Such analysis remains largely absent from conceptualisation of the ideal developmentally oriented bureaucracy, which rather centres on quality, cohesiveness, autonomy and social embeddedness. The Rwandan bureaucracy appears to tick these boxes: it is a Weberian bureaucracy, cohesive and insulated from societal pressure, largely following meritocratic recruitment. And yet this did not prevent the range of problems that arose in the electricity sector. Our analysis calls for the unpacking of 'bureaucratic autonomy' as a concept, in order to distinguish between autonomy from society and autonomy from political leadership as, currently, the two understandings of autonomy are lumped together (cf Evans, 1995; Fukuyama, 2013, p 358). Instead we put forward the concept of 'bureaucratic independence' narrowly understood as independence from politicians, which allows bureaucrats to deploy their professional expertise and experience in policy making and implementation. This creates a dilemma, however: how to maintain accountability and subordinate the bureaucracy to legitimate political leadership, while avoiding its complete subordination. Francis Fukuyama (2013) has suggested that that a sweet spot exists between a micro-managed and an unaccountable bureaucracy, whereby the political leadership sets broad orientations and then lets the bureaucracy deploy its expertise in implementation. This Rwandan case shows that such a sweet spot is difficult to reach: where does agenda setting start and implementation begin? Should the setting of generation targets, or the soliciting of resources (for instance from donors or via international loans) count as agenda setting or implementation and should such activities therefore exclude political leaders? Premised on a more fluid understanding of direction-setting and

implementation, we assert the importance of achieving Svara's (2001) ideal of a complementary bureaucracy in developmental states, whereby bureaucracies have the independence to deploy their technical expertise in policy processes, constructively critiquing ambitions and jointly undertaking implementation.

Through this main argument, the article also invites us to go beyond the literature's focus on regime types or on the distribution of power in the polity (the 'political settlement'). The Rwandan case, which epitomises an authoritarian regime with a dominant settlement, ie one with a cohesive and powerful ruling coalition, shows that this category is not an automatic producer of broad social development. Policy processes are also dependent upon the distribution of power between the bureaucracy and the ruling party. A 'dominant settlement' can take a long-term perspective and effectively implement projects. But without checks against decision making and the inclusion of technical expertise and critique, such implementation may create deep problems. Interestingly, the issues observed in the electricity sector can be observed elsewhere in Rwanda. For example, the ambitions of the ruling party to quickly expand education resulted in policies skewed towards quantitative targets, despite the reservations of some civil servants, and severely undermined education quality in the country (Williams, 2017).

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