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## **From Megaproject to White Elephant: Lessons from the Philippines's Bataan Nuclear Power Plant**

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# From Megaproject to White Elephant

## Lessons from the Philippines's Bataan Nuclear Power Plant

Drawing from recent literature on white elephant projects, this article examines the case of the Bataan Nuclear Power Plant (BNPP)—the paradigmatic example of a white elephant project in the Philippines. The BNPP megaproject had massive implications for the country's fiscal standing and long-term economic prospects, offering lessons for future projects of this size and significance. By revisiting the BNPP's problematic history as well as the continuing infrastructure governance challenges in the post-Marcos period, this study outlines the repercussions of such dynamics for the Philippine government's "Build, Build, Build" infrastructure program, the most ambitious since the Marcos era.

**KEYWORDS: BATAAN NUCLEAR POWER PLANT · INFRASTRUCTURE DEVELOPMENT · MEGAPROJECTS · RENT-SEEKING · PUBLIC-PRIVATE PARTNERSHIP (PPP)**

Over the past four decades, underinvestment in Philippine infrastructure has been one of the economy's most persistent development constraints. Between 1980 and 2009, spending by the Philippine government on public infrastructure averaged a paltry 2.1 percent of GDP annually, even while the country's ASEAN-5 neighbors (Indonesia, Malaysia, Singapore, and Thailand) invested at levels more than double, if not triple, this figure (Joint Foreign Chambers 2010). The resulting inability of the Philippines to meet its infrastructural needs has been borne out by crises that have been experienced by consumers and businesses over the years—from the power and water crises of the 1990s to myriad transport dilemmas that have hounded recent administrations (Sicat 2016).

Neither has the parlous state of the country's infrastructure gone unnoticed by international observers. In 2014, amid rising episodes of “carmageddon” and other infrastructural challenges in the country's urban centers, a commentator from the *New York Times* described Metro Manila as “plagued by power failures, chronic water shortages, an antiquated telecommunications system, deteriorating roads and bridges, and a subpar airport” (Whaley 2014, B3). In a similar vein, the World Economic Forum's (WEF) global competitiveness index in 2016 ranked the Philippines as having the worst overall quality of infrastructure in the entire Southeast Asian region, with the country suffering particularly in terms of basic transport infrastructure such as roads, ports, and airports (cf. Komatsuzaki 2016). This ranking was in fact a further decline in the country's infrastructure competitiveness relative to its neighbors in 2013, when the Philippines ranked fourth out of the five ASEAN countries included in the same index at the time (World Economic Forum 2013, cited in Komatsuzaki 2016, 7).

The administration of Pres. Rodrigo Duterte has vowed to change this situation and has pledged to usher in a “golden age of infrastructure” by delivering what its senior officials have called the “most ambitious infrastructure program in the history of our country” (Cepeda 2016). Colloquially known as “Build, Build, Build” (BBB), the government's infrastructure investment program plans, as expressed by the government's economic managers, to raise the Philippines's infrastructure-to-GDP spending ratio from 5.3 percent in 2017 to 7.5 percent by 2022 (De Vera 2017a). Moreover, not only will BBB entail a boost in infrastructure spending in general, but it will also spearhead a major expansion in terms of

the ambition and scale of its flagship projects (seventy-five as of June 2018), relative to those of previous administrations.

Indeed, the cost of the average priority infrastructure venture planned by the Duterte administration (P30 billion) is nearly three times that of the administration of Pres. Benigno Aquino III (P11 billion), with a significant number of such projects consisting of region-linking transport initiatives such as large-scale railways and island-linking bridge projects. For financing such ventures, the government has also steered away from modes of delivery balanced across public–private partnerships (PPPs) and from local and international financing. Instead it has favored funding from domestic public sources and overseas development assistance (ODA), particularly from the Chinese and Japanese governments (Mendoza and Cruz 2017).<sup>1</sup> Even the forms of PPPs to be undertaken by the government have been recalibrated toward a new “hybrid PPP model,” which will see government-led construction of projects followed by private sector-led operations and maintenance (De Vera 2017b). Against most administrations since 1986, which have progressively carved out a larger role for the market and civil society in economic governance, this strategy for financing and constructing large-scale infrastructure arguably comprises the most aggressive and government-heavy approach to infrastructural development since the end of the dictatorship period in the 1980s (Mendoza 2017).

The advent of what could prove to be the single largest surge in public infrastructure spending since the Marcos era has fed intense discussion and debate. For the most part, BBB has received broad support from the business community and the rest of the public, given the sordid state of Philippine infrastructure and the critical constraints it poses to the country's development. Since the announcement of the program in 2017, however, more and more ink has been spilled on whether the realization of BBB would lead to the country being ensnared in a “debt trap”; which of the different modes of BBB's implementation (i.e., ODA, PPPs, local financing) promises the best outcomes for infrastructural development; what the drawbacks of the said program would be on macroeconomic trends concerning the Philippines's trade balance, exchange rates, and level of inflation; and whether the government possesses the effective capacity to ensure that the administration's infrastructure promises are brought to reality (Mendoza and Cruz 2018).

Although given the unprecedented size and scale of the infrastructure ventures being proposed by the administration as well their government-

heavy mode of implementation, it is relevant to revisit the case of the Bataan Nuclear Power Plant (BNPP), a public infrastructure megaproject initiated and completed during the administration of Pres. Ferdinand Marcos well over three decades ago. More than any other single venture during the Marcos regime, the BNPP exemplifies the challenges and risks of developing large-scale infrastructure projects in the Philippines, risks that often lead such ventures to becoming underperforming, anomaly-ridden, and socially wasteful white elephants. As argued in this article, far from being a mere historical curiosity, the BNPP episode brings to the fore various drivers of government failure in Philippine infrastructure development that have persisted well into the post-dictatorship period.

At a total estimated cost of almost US\$2 billion (ABS-CBN News 2016), the BNPP was meant to be the first nuclear power plant in the Philippines and Southeast Asia. Created in response to the 1973 oil crisis, the BNPP was then expected to boost electricity generation in the Philippines by 1,200 megawatts (MW)—an output equal to three 400-MW, coal-fired power plants. Nevertheless, it did not generate a single watt of commercially accessible electricity since its completion in 1987. From the onset until the end of its construction, the project was plagued by fundamental questions concerning its soundness as well as the integrity of the process with which it was planned and implemented.

In what follows we briefly discuss the available international literature on white elephant projects, highlighting some of the key factors behind the failures of these megaprojects. We then turn to the BNPP as an example and, in separate sections, examine its historical underpinnings, touch on the political economy of its project management and implementation, and elaborate on the corruption issues that plagued this megaproject. A final section discusses the implications of our conclusions on white elephant projects and the BNPP on the infrastructure program of the present administration, emphasizing the inherent vulnerability of large-scale infrastructure projects to rent-seeking behavior.

### **Understanding White Elephant Projects**

In contemporary public policy literature, white elephants are described as large-scale, socially unprofitable investment projects that have turned into heavy burdens for businesses and/or governments tasked with their maintenance (Robinson and Torvik 2005). Such unproductive megaprojects

crowd out investments in lower risk, more socially beneficial projects and may impose considerable challenges in their wake, including the filing of legal cases; the incurring of a large debt; and the shouldering of economic, environmental, and opportunity costs. Due to its nonroutine nature as well as the unprecedented magnitude of the costs, risks, and benefits associated with them, successfully implementing a megaproject remains a daunting task, requiring a strong, supportive economic and financial environment, political will, and effective institutional mechanisms to underpin its realization, all the while preventing (or controlling) corruption and arbitrary political dynamics in decision making (Altschuler and Luberoff 2003; de Bruijn and Leijten 2008).

At times, the institutional mechanisms adopted for the purpose of governing megaproject implementation can have significant trade-offs with regard to open and participatory decision making. Leading analysts of white elephant episodes have underscored tendencies in which crucial megaproject decisions—which may have implications for entire municipalities, cities, and regions—are undertaken in unaccountable and exclusionary fashion (Flyvbjerg et al. 2003; Kennedy et al. 2011). Usually adopted on grounds of commercial and technical goals, exclusive governance regimes surrounding such projects have proliferated, either in the form of secretive, unsolicited PPP arrangements between corporate firms and state organizations; special parastatal agencies; informal, closed-door networks of bureaucrats, business elites, project consultancies, and technical experts; or cosmetic “participation” and “transparency” exercises in which citizens are denied real institutional leverage to influence critical project processes (Swyngedouw et al. 2002). Moreover, especially with regard to megaprojects that are land intensive and occur in densely populated areas (e.g., transport projects, urban redevelopment projects), the implementation of such ventures can also breed social tensions particularly by intensifying sociospatial divisions through the eviction of marginal populations and gentrification-driven displacement (Strauch et al. 2015; Kennedy et al. 2014). In fact, the imposition of such significant social costs by white elephants is oftentimes coupled with a parallel “enclosure” of decision-making control, partly to mitigate the effects of resistance by local actors against project-implementation processes (Samara et al. 2012).

To be sure, the undertaking of specific megaprojects despite their potential social costs may still be justified if their implementation will reap

more social benefits than costs over time and if those whose lives are disrupted by the development of projects will be adequately and fairly compensated for the losses they will be made to endure. Yet, even the determination of such expected costs and benefits remains vulnerable to fundamental issues. For one, a wide range of megaprojects have been criticized for their inability to deliver upon expected goals, in spite of the huge financial and nonfinancial costs attached to them. A major consideration that has commonly hounded such megaprojects is that of their inherent and high risk of failure—a feature of megaprojects that is usually aggravated by their long-planning horizons, the complexity of their components, their vulnerability to unforeseen “black

**Table 1. Arguments and solutions in three major explanations for megaproject underperformance**

	<b>STRATEGIC RENT-SEEKING BEHAVIOR</b>	<b>MISALIGNED AND UNDERDEVELOPED GOVERNANCE</b>	<b>DIVERSE PROJECT CULTURES AND RATIONALITIES</b>
Arguments	Project promoters and contractors regularly engage in intentional rent-seeking behavior (underestimating costs, overestimating benefits) to get non-viable projects approved.	Misaligned or underdeveloped governance arrangements result in problems related to an inability to handle the emergent turbulence and risks inevitably associated with megaprojects.	Diverse and often competing cultures and rationalities subject projects to problems relating to internal ambiguities and misunderstandings, as well as frictions in day-to-day management practice.
Solutions	Legal requirement for thorough ex ante risk analysis and management plan; role of politicians limited to formulating and auditing public interest objectives; various ex ante measures to improve accountability of project decision making	Conscious design and creation of mechanisms at the project’s front-end that enhance ex post governability; mechanisms must be appropriate to the particular context of the project	Conscious design and creation of a shared culture at the project’s front-end, supported by governance mechanisms, to encourage collaborative and coordinated behavior

Source: Sanderson 2012, 437

swans,” and the large spectrum of stakeholders and interests generally involved in their implementation (Flyvbjerg 2014). But while these risks are common to such undertakings, a range of other drivers are also generally involved such that the inherent risks to individual megaprojects eventually result in their becoming white elephants. For instance, in a meta-analytic study of the megaproject literature, Joe Sanderson (2012) clustered and compared three alternative explanations of megaproject (under)performance. Table 1 summarizes these three alternative perspectives, namely (1) strategic rent-seeking behavior; (2) misaligned and underdeveloped governance; and (3) diverse project cultures and rationalities.

### Strategic Rent-Seeking Behavior

The first explanation holds that promoters and contractors may engage in deceptive activities (e.g., overestimating project benefits, underestimating costs, and maintaining an optimistic bias with regard to the project schedule) in order to secure contracts (Flyvbjerg 2008; Wachs 1989). The law on contracts is a formidable force in the legal system, and contracts in general should be honored. However, prior to their execution, contracts can be tarnished with fraud, deceptive practices, or at least flawed and misleading assumptions and expectations. To provide one illustration, Bent Flyvbjerg et al. (2005) find that demand forecasts for transportation projects are generally erroneous, with passenger forecasts often overestimated in as many as nine out of ten projects (the average overestimation ranging up to 106 percent). As a result, they also find that a similar proportion of projects falls victim to significant cost overruns. Although these faulty cost–benefit estimations are not explicitly attributed to the contractors’ conscious effort to win contracts, there is little doubt that these miscalculations have likely distorted the decision-making process in project evaluations, in the process creating significant stakeholder losses. The reason for such dynamics, in line with Sanderson’s (2012) perspective, is that these deliberate adjustments can be part of efforts to strategically misdirect ex ante evaluations of megaproject feasibility in favor of supporting them.

Studies also suggest that megaprojects may be instrumental in advancing politicians’ and contractors’ vested interests, whether or not at the expense of collective goals. One example that is often evident in white elephant projects is that of corruption, with business representatives colluding with public officials to win contracts or actively seeking out individuals with

close relationships with public officers.<sup>2</sup> At the same time, James Robinson and Ragnar Torvik (2005) also contend that white elephants are a type of inefficient redistribution, which becomes politically attractive when public support seems elusive. Simply put, lobbying for megaprojects is politically rational despite their social inefficiency because such large-scale projects can be used to produce and distribute patronage rents, which in turn can be credibly committed by a small set of well-positioned politicians (*ibid.*). Such perverse incentives may help explain the so-called “megaproject paradox” — more and more megaprojects are being implemented and lobbied for despite the wealth of studies that provide evidence of large investment projects suffering from poor implementation, high costs, and subsequent poor performance (Flyvbjerg et al. 2003).

### Misaligned and Underdeveloped Governance

The second explanation views the underperformance of megaprojects as an outcome of incoherent, inappropriate, or underdeveloped governance arrangements, which make them incapable of handling risks, shocks, or other sources of turbulence that are likely to arise in the course of implementation (De Meyer et al. 2002; Winch 2001). This perspective on megaproject failure boils down to the capacity of governance arrangements put in place to handle or manage change as well as to strengthen collective action mechanisms for more streamlined operations.

As various observers have noted of megaprojects in urban contexts, the governing capacities of public authorities can be too “fragmented” and managerially underequipped to undertake such ventures on their own, necessitating the formation of coalitions between critical actors within the public and the private sectors (Mossberger and Stoker 2001; Shatkin 2011). Across time, by forming stable patterns of interaction between stakeholders, realigning the preferences of participants, and organizing the provision of needed governance resources, such collaborations tend to coalesce into a durable project governance regime, manifested in terms of a relatively stable group with access to institutional resources as well as observed rules, norms, and policies in making decisions (Stone 1989). Yet these processes, in turn, raise the challenge of overcoming constraints to intersectoral cooperation and maintaining such cooperation amid the variety of risks, opposition, and challenges that emerge in the process of megaproject development.

Compared with the rent-seeking explanation, the failure of megaprojects in this view is traced less to self-interested behavior prior to the commencement of a project and more to the inability of proponents to deftly navigate the variety of internal and external obstacles and collective action problems that such projects eventually run into (Sanderson 2012).

### Diverse Project Cultures and Rationalities

Lastly, the third explanation relates to the multiple and sometimes conflicting discourses, cultures, and rationalities that revolve around the handling of particular megaprojects (e.g., Atkinson et al. 2006; Clegg et al. 2006). Such frictions are especially likely to occur when project implementation is undertaken not by a single major implementing agency but rather by a coalition of actors spanning the public and private sectors and at different institutional scales of decision making—multi-actor arrangements that can be breeding grounds for misunderstanding, misinterpretation, and internal friction in implementation activities. If left unaddressed, these conflicting rationalities may result in coordination failures that may then hamper project development. Although contestations may strengthen the positioning of individual actors within megaproject arrangements or the currency of certain discourses or perspectives concerning particular megaproject issues, they can also foment internal strife that can forestall project operations and processes. Project failure, according to this perspective, owes less to rent seeking and the inadequacy of institutional arrangements to cope with risks and more to internal ambiguity and friction in day-to-day project operations, which can underpin scenarios of internal gridlock and incoherence, low morale, and misaligned incentives for individual, group, and project advancement.

In accordance with these alternative explanations, this case study uses Sanderson’s (2012) framework in assessing the setbacks of the BNPP from its planning stage to its completion in order to draw insights about general challenges to megaproject development in the Philippines. It is contended that, at certain points in the historical development of the BNPP, various factors highlighted by these explanations came to fore and interacted, leading to the failure of the BNPP. Throughout these periods, the politicization of project development and decision-making processes to benefit particularistic interests played a core role in ultimately rendering the BNPP a white elephant.

## The Background and Challenges of the Bataan Nuclear Power Plant

At the time of the BNPP's inception, demand for energy in the Philippines helped fuel interest in developing nuclear power. For one, the Philippine economy was growing appreciably in 1976 (i.e., prior to the economic collapse in the early 1980s), and sufficient energy supply to meet increasing energy demand was deemed essential to escalate this growth further (Beaver 1994). Similarly, nuclear power was becoming commercialized and increasingly popular as an alternative source of energy. In fact, the Philippine Atomic Energy Commission (PAEC, now known as the Philippine Nuclear Research Institute), formed in 1958, already explored the idea of creating a nuclear power plant before the global oil shocks in the 1970s. Meanwhile, beginning around the time he had declared martial law in 1972, then President Marcos launched a government investment program centered on public and quasi-public infrastructure, which at that time was unprecedented in terms of its ambition. Justified as necessary to realize promises of higher economic growth, public sector fixed investment escalated rapidly from 2 percent of the Gross National Product in 1972 to 6.5 percent in 1976. In the aftermath of the 1974 oil shock as well as declining world prices in commodity exports, much of this investment spending was financed by means of external debt (De Dios 1984; Dohner and Intal 1989).

Similar to other large-scale infrastructure projects in road building, irrigation, and energy during this period (Sicat 2011), long-term loans from international sources, particularly the US, were integral in the construction of the BNPP. Up to 60 percent of the entire BNPP cost was debt-financed with the aid of the US Export-Import Bank (Butterfield 1978; Boyce 1986). Given the size and scope of the project, the government was expected to carry it out in a systematic, organized, and cost-effective manner. Accordingly, it was critical to work with contractors possessing the technical capacity as well as the technology to handle such megaprojects (Abrenica 2004). The ideal outcome was that looming energy challenges would be solved with the least strain on government finances and with the greatest possible social returns.

Actual developments in the megaproject, however, turned out very differently. A series of events culminated in the creation of a nuclear power plant, but its entanglement in social, economic, and political issues ultimately led to its failure. Persistent concerns of the public regarding

nuclear power—notably in the wake of widely known disasters (e.g., the Three Mile Island nuclear plant accident and the Chernobyl disaster in 1986)—compounded by allegations of large-scale corruption, hounded the megaproject almost from the very beginning, paving the way for its becoming a white elephant.<sup>3</sup> Sanderson's (2012) framework provides a straightforward way to examine some of the various factors undermining the implementation of the megaproject.

### Strategic Rent-Seeking Behavior

There were two competing contractors for the BNPP—General Electric (GE) and Westinghouse, both of which had comparable services. GE employed a conventional approach that included contextual assessment, nuclear seminars, nuclear exposure trips, and a formal proposal for the building of two 600-MW nuclear reactors for approximately US\$700 million; for its part, Westinghouse employed a business strategy common to the Philippines: wielding existing social or political ties to get ahead in contract negotiations (Beaver 1994; Dumaine 1986). In this case, their business strategy involved hiring Herminio Disini, Marcos's golfing partner, as their sales agent (Bello et al. 1983). Disini's wife was also the first cousin of Imelda Marcos, so that Disini's political connections gave Westinghouse a strong advantage over GE. Westinghouse justified Disini's hiring as a strategy to minimize negotiation costs. Hiring a local agent to assist in contract negotiation seemed rational as it could help reduce nonfinancial costs (e.g., language barriers, educating foreign negotiators on Philippine culture and negotiation processes) (Beaver 1994).

The BNPP contract was finally signed in 1976, approximately two years after project negotiations took place. Originally, Westinghouse proposed to build two nuclear reactors for a reported cost of US\$500 million (US\$200 million less than GE's proposal). However, by the time the contract was signed, the cost had escalated to US\$1.1 billion for a single reactor, equivalent to a 120 percent increase in cost as compared to what had been previously reported.

Critics expressed contempt over the ballooned power plant cost. Indeed, calculations of the National Computer Center revealed that the single BNPP reactor was overpriced by at least US\$75 million compared with similar Westinghouse plants being constructed at that time in Yugoslavia, South Korea, and Taiwan (Butterfield 1978). Westinghouse,

however, claimed that the increase in cost was due to project risks (e.g., volcanic and seismic activity) and additional facilities to house plant workers (Beaver 1994).

As per Sanderson's (2012) framework, strategic rent seeking as an explanation of megaproject underperformance involves conscious tweaking of project proposals in order to win project bids. In the BNPP case, however, Westinghouse's success in winning the BNPP contract entailed more direct efforts at wielding political ties rather than highlighting the prospective economic benefits from the project. This turn of events supports David Kang's (2002) assertion that political considerations took precedence over efficient policy choices during the Marcos dictatorship, which in turn exacerbated the economic challenges faced by the country in the last years of the regime. Along this line, table 2 presents the reported amount of government-assumed loans granted in favor of Marcos's alleged cronies. As seen in the table, government-assumed loans linked to the BNPP, via Disini and the National Power Corporation, ranked highest in the list, amounting to US\$795 million. Meanwhile, ten of Marcos's alleged cronies reportedly accounted for US\$3.3 billion of government-assumed loans, equivalent to roughly 12 percent of the US\$26.7 billion total debt accumulated during Marcos's twenty years as president (Alconaba 2016). Such figures suggest that a considerable portion of debts incurred by the Philippines during the Marcos administration was dispensed to benefit only a select few.

### Misaligned and Underdeveloped Governance

Westinghouse allegedly awarded subcontracts to two of Disini's companies without bidding (Beaver 1994). The lack of stringent project rules and policies boomeranged against Marcos when news on these anomalies spread. In turn, Marcos reportedly handled the issue by taking hold of Disini's companies, temporarily halting the project construction and making mainly rhetorical gestures toward cancelling the contract with Westinghouse (ibid.). Such sketchy agreements, which seemed to lack the formality and rigor expected of megaprojects, might have reinforced the reported corruption that happened in relation to the project.

International events also provided major shocks that shaped public perceptions on the safety of nuclear power plants. For one, the 1979 Three Mile Island nuclear power plant accident raised questions on the safety

**Table 2. Ten largest government-assumed loans of Marcos's cronies, in US\$ million**

MARCOS CRONY	RELATED COMPANY	AMOUNT (US\$ MILLION)
Herminio Disini	National Power Corporation (NPC)	795
Members of the Cojuangco family	Philippine Long Distance Telephone Company (PLDT)	654
Benjamin Romualdez	Manila Electric Company (MERALCO)	370
Rodolfo Cuenca	Construction Development Corporation of the Philippines (CDCP)	323
Roman Cruz	Philippine Airlines (PAL)	321
Roberto Benedicto	NASUTRA/PHILSUCOM	265
Jose de Venecia	Landoil Resources Corporation	165
Alfredo Montelibano	Planters Products	159
Roberto Ongpin	National Investment and Development Corporation (NIDC)	157
Geronimo Velasco	Philippine National Oil Corporation (PNOC)	123
<b>TOTAL</b>		<b>3,332</b>

Source: IBON 2004, 5

of nuclear power, causing Marcos to order a three-person commission to reevaluate the safety of the BNPP. The commission's feedback was negative, noting that the plant had an old design and notable safety issues. Even Librado Ibe, who headed PAEC at the time, was initially not convinced that the construction of the BNPP should continue. Yet in April 1979, he reversed his position, and the PAEC issued the permit for the construction of the nuclear portion of the plant (Dumaine 1986).

As per Sanderson's (2012) framework, misaligned governance systems seemed to pertain to internal project arrangements that were not robust enough to manage shocks and uncertainties adequately. The BNPP case, however, showed that these misaligned and underdeveloped governance systems were closely linked with the rent-seeking behavior of stakeholders pursuing their vested interests. In this way, the politicization of project



implementation, such as in the subcontracted construction of the plant to Disini's companies, thus created a whole new problem when anomalies were unearthed and caused public outrage.

### Diverse Project Cultures and Rationalities

Finally, one should note that there were essentially two competing discourses on the BNPP case. One side was supportive of its construction, adopting the view that it could help sustain the Philippines's economic growth by contributing a major source of energy to the country. The other was opposed to its construction, citing issues related to its safety and security and linking the BNPP to US influence over Philippine policymaking (Bello et al. 1983).

Issues of safety and security plagued the construction of the BNPP. For one, accounts noted that there were considerable geographical hazards in the site. The National Power Corporation (NPC) chose the site for reasons that have not yet been fully disclosed to the public. However, perfunctory analysis would suggest that Bataan's proximity to Manila and other large provinces was a major factor because Luzon was the targeted priority consumer for the plant. Initially, NPC asked for the assistance of the International Atomic Energy Agency (IAEA) and Ebasco, a New York-based international firm, for a feasibility study on the location (Dumaine 1986). The IAEA initially recommended Bagac, Bataan, but Ebasco in turn recommended a location farther from the shore due to concerns concerning tidal waves and the sea level. The location that the parties agreed upon was Napot Point in Morong, Bataan, a few kilometers away from Bagac.

Construction in Morong was halted when concerns regarding its location resurfaced. It was then learned that the site was near an active volcano, Mount Natib, which is near the same mountain range as that of the famous Mount Pinatubo, which erupted in 1991 (Volentik et al. 2009). Although the area does not sit on an active fault line, the risk could not be completely ruled out in the Philippines. Toward this end, a geological study by Prof. Alfredo Lagmay and colleagues (2012) published by the Geological Society of London provided evidence that the proximity of the BNPP to Mount Natib rendered its location geologically unsafe on account of volcanic hazards.

In the end, the BNPP project remained contentious, even among experts and consultants who were tasked to assess various issues that emerged

throughout the implementation of the project. The lack of consensus appeared to have transpired not simply because of management-related disputes but also due to varying and conflicting stakeholder political interests which impinged on sound project decision making.

### **The Aftermath: Corruption, Debt, and the Long-Term Burden on the Philippine Economy**

The challenges in the development of the BNPP contributed to stronger public perceptions against government-led megaprojects, against debt financing, and against the use of nuclear energy. To begin with, no one was successfully prosecuted for the corruption behind the BNPP. Although the Presidential Commission on Good Government (PCGG) filed cases against Herminio Disini and Ferdinand Marcos, these cases faced numerous delays. Counter motions filed by Disini in the Supreme Court prior to his death stalled matters even further. However, the Sandiganbayan (2012), a special appellate court handling corruption-linked cases, finally ruled on the BNPP, demanding that Disini reconvey an amount of approximately US\$50 million—a decision affirmed by the Supreme Court (2010a, 2010b, 2013). However, Disini's death in 2014 left the reconveyance of this amount in uncertain terms. The corruption case behind the BNPP was one of many filed in the country against the Marcoses and their cronies but to no avail, reflecting what some analysts consider to be low conviction rates against grand graft and corruption (Quah 2010).

The BNPP case has also contributed to the impression that debt is damaging to the economy. Although some level of debt in principle could result in economic growth and other development impacts, the accumulated amount of Marcos-era debt, partly due to the BNPP, generated considerable public pessimism. Because the BNPP accounted for the largest single debt transaction in the country's history, it fostered an impression that debt could be a tool for the few to gain at the great expense of the broader public interest. Unsurprisingly, a number of prominent advocates have underscored the BNPP episode as part of their rallying cry against corruption and high debt payments. The Freedom from Debt Coalition (FDC) and IBON Foundation Inc. are among the civil society groups that have regularly invoked the BNPP episode in their campaigns for the cancellation of illegitimate debts (FDC 2007, 2013; IBON 2004, 2005).<sup>4</sup>

Supporters of these campaigns have argued that creditors should be held liable for debts granted to dictatorships or oppressive regimes, such as

what transpired during the Marcos dictatorship. Former Chief Justice of the Supreme Court Reynato Puno echoed this perspective in his speech during the tenth National Convention of the Integrated Bar of the Philippines: “Foreign creditors knew or had no reason not to know that the loans will be used for some illegitimate purpose like supporting notoriously brazen kleptocratic military regimes. These creditors need not be paid because they are parties to the crime” (IBON 2005, 2). In other words, creditors who lent money irresponsibly to fund questionable or “fraudulent” megaproject deals (AFRODAD 2007; IBON 2005) are deemed partially responsible for eventual megaproject and white elephant mishaps (Hanlon 2006).

The issue of the BNPP’s debt burden is further exemplified by the considerable strain placed by the project on the country’s resources. From 1987 to 2007, the Philippines paid the BNPP-incurred debt annually, with the debt owed totaling roughly US\$2 billion. In order to reduce the amount of the debt, a portion of the balance was converted into Brady bonds in 1993. With some debt restructuring, the government was able to retire the outstanding amount in 2007, ending the payment for the BNPP that year (fig. 1).<sup>5</sup> By this time total principal payments for the BNPP had risen

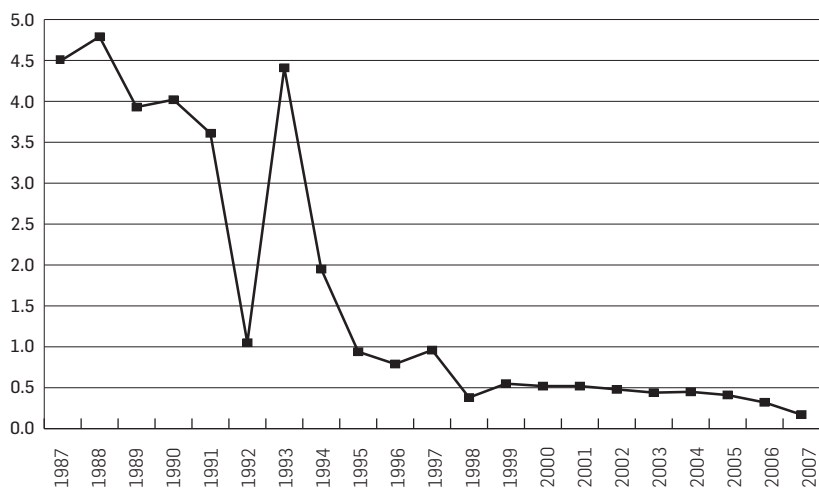


Fig. 1. BNPP debt payments relative to annual government spending, 1987–2007

Source: Bureau of the Treasury 2006

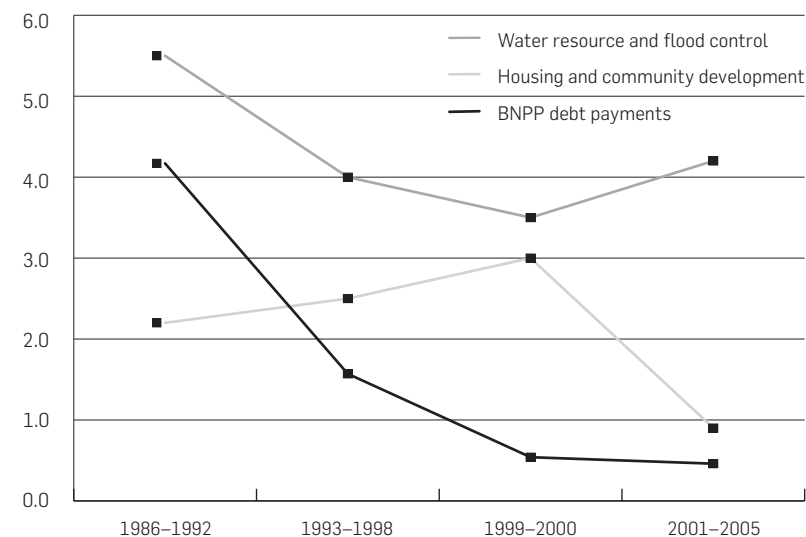


Fig. 2. BNPP annual debt payments and sectoral shares of national government expenditures on water resources and flood control and housing and community development, 1987–2005

Sources: Diokno 2010; Bureau of the Treasury 2006

to US\$1.2 billion, and the total interest payments had reached around US\$690 million. Expressed as a percentage of government expenditure, the BNPP payments peaked at 4.36 percent of annual government spending in 1988, registering 4.06 percent in 1993, and subsequently declining after that year. The spike in 1993 could be attributed to the debt restructuring program of that year.

To place the magnitude of the BNPP debt in perspective, it is worthwhile to compare the average level of BNPP payments made during each of the immediate post-Marcos administrations (e.g., Aquino 1986–1992, Ramos 1992–1998, Estrada 1998–2001, Arroyo 2001–2010) and the average payments for selected infrastructure sectors per administration. During the first few years of payment, the average share of BNPP debt payments was considerably larger (4.17 percent) than that of public expenditures for housing (2.20 percent) and only marginally smaller than that of water resources (5.50 percent) (fig. 2). Although the share of BNPP decreased considerably throughout the 1990s, the average

share of BNPP spending from 1993 to 1998 was still quite large at 1.57 percent, before decelerating even further from 1999 onwards.

Yet the long-term opportunity costs of the BNPP are even more starkly illustrated by comparing its total financial cost (P56.5 billion) with budget allocations for selected social services in 2014 (table 3).<sup>6</sup> For one, it was considerably greater than the 2014 budget allotment for the

**Table 3. BNPP cost relative to 2014 budget allocations (in P billion) for selected social services**

ITEM	BUDGET	DETAILS
<b>Bataan Nuclear Power Plant</b> Cost: P56.5 billion		
<b>Education</b> (P61.5 billion)		
Construction of classrooms	44.6	construction of 43,183 new classrooms, including 15,619 classrooms for senior high school for 2016; repair of 9,502 classrooms; procurement of 1.6 million seats; installation of 13,586 water facilities
Hiring of teachers	8.6	hiring of 33,194 teachers and 1,500 principals
Procurement of textbooks and instructional materials	8.3	procurement of 42.6 million textbooks and instructional materials
<b>Healthcare</b> (P51.6 billion)		
Rehabilitation and construction of health facilities	13.3	rehabilitation or construction of 2,871 health facilities, particularly barangay health stations and rural health units
Deployment of health professionals to poor localities	3.0	deployment of additional health professionals, including 131 rural health physicians, 22,500 nurse,s and 3,000 midwives, to provide health services to poor localities
Healthcare insurance premium subsidies	35.3	provision of premium subsidies to 14.7 million poor and near-poor households under the National Health Insurance Program
Relocation of informal settler families	10.2	relocation of 26,367 informal settler families living in danger zones
<b>Agricultural development</b> (P52.7 billion)		programs to increase productivity and income of farmers and fishermen

Source: DBM 2014

construction of basic educational facilities (P44.6 billion), relocation of informal settler families (P10.2 billion), healthcare insurance premium subsidies (P35.3 billion), and agricultural development that included infrastructure development and support for fisherfolk and farmers (P52.7 billion), among others. Despite the time lag in comparison, this finding suggests that the money spent on the BNPP could have been productively allocated to other pressing public investments for development.

At present, the Philippines's ability to operate a power plant remains highly disputed (Berba 2013), due to high nuclear power plant operating costs and in view of recent nuclear plant catastrophes occurring in more advanced countries like Russia and Japan (Lipsy et al. 2013; WHO 2006). Additionally, as the Philippines moves toward integrating the pursuit of energy security with that of promoting environmental sustainability, it has demonstrated a growing preference for natural gas and other renewable energy sources at the domestic level. Indeed, the country is now the world's second largest producer of geothermal energy, with geothermal sources contributing 10 percent of total energy generated in 2014, while hydropower energy contributed 18 percent (US Energy Information Association 2015). Currently, the BNPP plant is still of some use—although not for the purpose of producing energy (fig. 3). It entertains tourists such as media practitioners and students, passing on the lessons of what could have been the first nuclear power plant in Southeast Asia (McGeown 2011) had its development not been riven by rent-seeking dynamics and governance malpractices.

### **Lessons from the BNPP: Ambition, Risk, and Governance in Philippine Megaprojects**

As striking as the challenges of the BNPP and its long-term burden on the Philippine economy have been, the megaproject is still far from being an isolated tale of ambition, rent seeking, and debt. Indeed, since the country's return to democracy, infrastructure development has continued to be exposed to a similar range of weaknesses and vulnerabilities—if to a lesser degree and in different forms than during the Marcos period (Coronel 1998).

#### **Infrastructure governance challenges, post-Marcos**

From the return to democracy until 2010, to take one example, up to 40 percent of funds allocated for road development have been estimated



Fig. 3. The mothballed BNPP, for which the Philippine government has incurred a debt of at least P56.5 billion, exemplifies white elephant risks that continue to hound large-scale infrastructure projects in the country today.

Photo courtesy of Ronald U. Mendoza

to be lost to corruption on average. Likewise, coordination arrangements for transport infrastructure planning and development have been described as a “chaos system,” with dozens of government units oftentimes being involved and economic and technical criteria regularly being sidelined for the political preferences of elected politicians (Co 2010). Not surprisingly, underperforming megaprojects have continued to emerge in the postdictatorship period: special economic zones—particularly Freeports created by legislators and local politicians—have come into prominence as among the most common ventures that have wasted public funding serially, despite generating subpar economic results and unprecedented social costs (e.g., smuggling, displacement) (Manasan 2013). But even more generally,

a 2008 review of seventy-one ODA-funded infrastructure projects found that 73 percent of such projects failed to deliver the economic benefits promised by proponents during the appraisal stages (Landingin 2008a).<sup>7</sup> Across presidential periods, a major aggravator of such lackluster infrastructure project outcomes has been the so-called “divide-by-N” syndrome, typified by the hapless proliferation of airports, ports, special economic zones, higher education complexes, and other public infrastructures in local jurisdictions, usually at the behest of elected officials and with little regard for cost-effectiveness and scale economies. As of 2013, for instance, the Philippines had eighty-seven airports, most of which were only a driving distance of two hours from one another, and 140 public ports, forty of them lacking any traffic (Human Development Network 2013).

Despite the change in form of government, the drivers for project underperformance in the post-Marcos period have remained comparable with those in the BNPP episode and the factors elaborated by Sanderson (2012). Especially, but not exclusively, among government-financed projects, political considerations have been regularly documented to trump sound economic decision making, resulting in an “optimistic bias” in the appraisal of projects (Landingin 2008a) and other complications in their management processes. Unsurprisingly, cost overruns have been a normal occurrence in the development of Philippine infrastructure. A 2015 review of eighty-five public transport infrastructure projects (including those funded by the Japanese government, the Asian Development Bank, and the World Bank) from the 1980s to the 2010s found that overruns plagued more than half of the ventures, with an increasing trend from 1990 to 2004. On average, bridges were found to have had a cost escalation of 11.9 percent from their initial cost forecast, whereas that of roads was 2.7 percent (Roxas et al. 2015). Such post-Marcos infrastructure debacles accentuate the cardinal concern of the politicization of infrastructure project planning and implementation, of which cost-benefit forecasting failures are but a major symptom.

Moreover, just as with the BNPP, large-scale infrastructure projects have been regularly subjected, in the course of implementation, to a variety of risks and shocks that managers had not anticipated, ranging from guerrilla attacks, political disputes, to the 1997 Asian financial crisis (ibid.). Like the BNPP, such sources of turbulence compounded with a mishmash of project-specific governance issues resulted, more often than not, in curtailing overall

performance. As is regularly emphasized by policy experts, government agencies dedicated to formulating and implementing infrastructure projects oftentimes lack sufficient technical capacity in a variety of areas, such as in the development of feasibility studies, contract writing, and the assessment of unsolicited project proposals by private sector entities (Canlas 2017).

Finally, the challenge of navigating through major swings in project discourses and the political climate has also been a protracted challenge, with long-term, big-ticket ventures struggling to survive the emergence of corruption allegations and the unfolding of the political cycle (Landingin 2008b; Ocampo 2010). Public perceptions exerted—and continue to exert—an enormous influence over the development of large-scale infrastructure in the Philippines, since eroded project legitimacy generally serves to heighten political and institutional obstacles toward realizing planned ventures, while lowering the prospects of sustained collective action central to their success.

#### “Build, Build, Build” and White Elephant Risks

The persistence of such challenges raises difficult questions for the Duterte administration’s BBB infrastructure program, especially on whether adequate institutions and safeguards exist for fending off these myriad underperformance drivers. To begin with, since the unveiling of the BBB plans in April 2017, commentators have incessantly evoked comparisons between the administration’s infrastructure drive and that of Marcos’s debt-driven spending blitz in the 1970s. Akin to the Marcos era, some of these critics have maintained that the implementation of BBB may again risk plunging the country into a debt crisis; worsening cronyism in infrastructure development; fostering economic dependency on an economic superpower (this time, on the People’s Republic of China); and paving the way for a series of unproductive, foreign-financed white elephants as has been the case in countries such as Sri Lanka, Myanmar, and Cambodia (Corr 2017; De Lima 2017).<sup>8</sup> That the Philippines has had bad experiences with China-financed infrastructure initiatives during the administration of Pres. Gloria Arroyo (e.g., the overpriced NBN-ZTE project and the fraudulent Philippine National Roads Improvement and Management project) does little to allay such concerns (Malig 2011).

Although some of the concerns raised remain mostly speculative, others, particularly the risk of systematic rent seeking and of engendering new white elephants, can be more than rumormongering. To begin with,

several Chinese firms listed in multibillion peso deals signed during Duterte’s first state visit to China in September 2016 were subsequently found to have been blacklisted by the World Bank for their implication in corruption scandals in other countries (Cabacungan 2016). Even most significantly, research by the Philippine Center for Investigative Journalism (PCIJ) on these same deals has painted a disconcerting picture of the Filipino private sector parties, with a variety of local partner-firms discovered to have had no history in infrastructure construction, miniscule asset bases, no recent operating profit, or no existing or only recently assembled registration records with the Philippine Securities and Exchange Commission. Equally troubling, other local partners to the deals were found to be linked to controversy-ridden projects in past administrations, such as the President’s Bridge Program during the Arroyo period and the Smokey Mountain Development and Reclamation Project under the Ramos administration. “From experience,” said the report, “we know that lopsided and rotten deals litter our government’s dealings with foreign capital, and that the next BNPP, PEA-Amari, or NBN-ZTE might be hiding behind the headline figures” (Cardenas 2017).

Other observers have also suggested that some government measures meant to “fast-track” BBB’s implementation can pry open further opportunities for rent seeking while undermining an array of public-interest regulations. As documented by a September 2017 civil society review of flagship projects for BBB listed by the National Economic Development Authority (NEDA), a number of priority projects have been implemented despite not adhering to standard project protocols—such as securing the endorsement of the NEDA Investment Coordinating Committee or having completed an Environmental Impact Assessment (with only twenty-five of the sixty-one reviewed projects having done so) (Manahan 2017). Moreover, according to the government’s economic managers, a salient feature of planned ODA-financing arrangements for BBB has been that of enabling foreign lenders to “shortlist” contractors (Ocampo 2017). While public officials defending such decisions are quick to argue that “lessons have been learned” from “past mistakes” on “dubious deals” (Pillas 2016, A12), it does not require a great leap of imagination to see how such flexibilities, without robust transparency and public oversight safeguards, can be misused by rent-seeking agents. Although such procedural shortcuts may appear justifiable for accelerated infrastructure development, their benefits must be weighed

against not just the ordinary level of costs entailed by regular infrastructure projects, but also against the exponentially higher risks and potential intergenerational burdens that megaproject failures can bring in their wake. On this same note, the fact that NEDA adopted in 2016 special guidelines for processing China-assisted projects and that these guidelines have been received in mixed fashion by Philippine infrastructure experts (with some deeming them an additional layer of “due diligence,” while others labeling them “express lanes” for favoring Chinese proponents) does little to build confidence that the government has fully internalized lessons from the past (Mendoza and Cruz 2018).

### Safeguards and Governance Gains

If the BNPP’s history provides a vivid illustration of the dynamics by which large-scale infrastructure projects can end up as white elephants in the Philippines, does the nuclear power plant fiasco offer lessons on what preventive mechanisms can be put in place to minimize such failures? On this issue, it is worth returning to Sanderson’s (2012) framework as presented in table 1 and recontextualizing his proposed solutions to the case of the Philippines. To the threat of rent seeking, a range of *ex ante* measures are proposed, including accountability-enhancing measures, legal requirements for risk analysis and planning, and curbs on the direct involvement of politicians. To the threat of misaligned governance, Sanderson suggests the design and creation of context-specific mechanisms for facilitating improved project management capacity as well as the formation of a shared, forward-looking culture and collaborative arrangements in project implementation to address diverse project cultures and rationalities.

However, as the BNPP experience has shown, the paramount obstacle to be overcome in the Philippines has been that of the politicization of economic governance processes by particularistic interests—specifically, by that of elected political elites and business figures associated with them. While requiring a variety of *ex ante* and *ex post* measures in infrastructure project management, this problem demands much more than these interventions. Indeed, as political economy scholars of the Philippines have long maintained (e.g., Bello et al. 2014; Kang 2002; Kelly 2000), reconfiguring the nexus between politics, governance, and business will entail nothing less than a continuing realignment of the institutional relationships between the state, civil society, and the private sector and, within the state, between that of bureaucrats and elected officialdom.

As challenging as this goal may appear, nonetheless it is one in which real, albeit limited, advancements have been achieved in the postdictatorship history of the Philippines. It is true that weaknesses in the Philippines’s bureaucratic apparatus remain a pressing concern because of practices such as having political appointees and the presence of institutional bottlenecks that have constrained the agencies’ capacity to deploy resources (Monsod 2015, 2016). Nonetheless, a number of economically focused agencies, such as the *Bangko Sentral ng Pilipinas* (BSP), the Philippine Economic Zone Authority (PEZA), the Department of Finance (DOF), and the Department of Trade and Industry (DTI), have demonstrated an increasing level of programmatic coherence, featuring greater numbers of well-educated civil servants and technocratically oriented senior officials (many of them being accomplished professionals originally from the business and academic sectors), attuned toward promoting national development and addressing needs of investors and the private sectors (Batalla 2016; Alonso i Terme 2015). Although not necessarily consistent in their developmental orientation, such heightened levels of bureaucratic capacity may have been one reason why the aforementioned agencies have all ranked among the top ten public sector agencies perceived to have displayed the best performance in one business executive survey that the Makati Business Club ran in 2015 (Remo 2015). Improving rankings in the World Bank’s World Governance Indicators likewise attest to the institutional effectiveness of such agencies: from placing only in the fifty-sixth percentile of countries in 2005 for perceived government effectiveness, the Philippines rose to the sixty-second percentile in 2014; with regard to its control of corruption, the country moved up from the thirty-fifth to fortieth percentile of countries during the same period (Mendoza et al. 2016). Even the Aquino administration’s much ballyhooed PPP program—although subject to criticisms from figures in both civil society (due to its touted effects on regressivity) (FDC 2011) and the business community (due to numerous delays) (Dela Paz 2017)—was noteworthy for realigning private sector involvement in infrastructure development along transparency, accountability, and good governance lines. Although it is true that the PPP program frustrated many in terms of its outputs,<sup>9</sup> reforms in the same program enabled greater transparency in the bidding and awarding of projects, stronger institutional accountability, and more effective facilitation through a revamped and reorganized PPP Center, relative to that of previous administrations. Such advancements have led the World Bank to recognize

the country explicitly as having “one of the best-performing Public–Private Partnership (PPP) programs in Asia” and have highlighted the PPP program as a model for other countries in the Asia Pacific to follow. Specifically, the program has received plaudits for the rigor of its project preparation and contract management procedures as well as the integrity of its transparency and fair bidding policies (Ang 2015; World Bank 2018).

### The Public–Private Partnership Question

Although the good governance and institutional dimensions of the Aquino government’s PPP program have been emphasized, it should be borne in mind that robust debate persists concerning PPPs as a mode of infrastructure development. PPPs have experienced a resurgence at the global level as a policy mechanism for financing the Sustainable Development Goals—with the outcome document of the 2015 UN International Conference on Financing for Development lauding the “key role” of “tools and mechanisms such as public–private partnerships” and overtly stating that “PPPs serve to lower investment specific risks and incentivize additional private sector finance across key development sectors” (UNDESA 2015). However, such shifts toward “blended” financing modes that combine both public and private sector funding sources have elicited opposing viewpoints.

On the one hand, in its own survey of PPP experiences, the World Bank has underscored that PPPs have oftentimes served to maximize efficiency gains in access to and the quality of infrastructure assets and services, even though empirical evidence of such projects on consumer tariffs, employment, and equity has remained meager (Dinthilac et al. 2016). Similar perspectives have been voiced out by other multilateral banks, such as the European Investment Bank, the Asian Development Bank, the Asian Infrastructure Investment Bank, and the Inter-American Development Bank Group, among others (MDBs 2016). On the other hand, critics have faulted PPPs for their higher cost of capital (because of the greater expense of lending to private entities than to the public sector); the long-term public burdens of PPPs due to these higher debt costs, and the common use of revenue and demand guarantees; the tendencies for the public sector to overcompensate the private sector for assuming greater risk; the entrenched incentives for corruption, misleading forecasts, and commercial confidentiality; as well as the focus of private sector interest in PPPs for projects and services that are more commercially profitable rather

than socially beneficial to begin with (Whitfield 2010; Hall 2015; Romero 2015; Powell 2016). A common issue raised across such analyses is what is averred to be a fundamental tension between the equitable provision of public goods and services and the profit-maximizing incentives faced by commercial interests (Hall 2015).

Even observers who are not necessarily critical of PPPs in principle have stressed the mixed record of such public-private arrangements in delivering quality and accessible infrastructure and public services to citizens. For instance, the International Monetary Fund’s Fiscal Affairs Department has highlighted the numerous fiscal risks that ill-crafted and managed PPPs can bring in their wake, while the European Commission has cautioned against the “affordability illusion” of certain PPP project designs—especially those with large “off balance sheet” components—that can lead public officials to enter into bigger ventures than governments are financially equipped to handle (Queyranne 2014; European Investment Bank 2016). Recently, a comprehensive 2016 review of the empirical literature on PPPs by the UN Department of Economic and Social Affairs has confirmed that PPP projects tend to be more expensive to develop than publicly procured infrastructure; that incentives for bureaucrats to place government’s fiscal liabilities in PPP deals off the balance sheet exist; and that evidence on the provision of better quality services and positive development impacts under PPPs remain inconclusive. Nonetheless, the same review has also noted that PPPs have tended to fare better in the provision of economically focused infrastructure, such as in transport and power provision, compared with those in the social sector (e.g., health, education) and that their performance has hinged most centrally on countries’ possession of an institutional framework that furnishes government units with sufficient capacities for selecting viable PPP projects, structuring contracts, maintaining transparent and comprehensive fiscal accounting and reporting standards, and ensuring appropriate pricing and service quality (Jomo et al. 2016).

This emphasis on the institutional capacity of governments in assessing and undertaking PPPs is key for two reasons. Firstly, it suggests that the more crucial area that must be focused on for delivering affordable, equitable, and quality infrastructure as well as for mitigating risks and unforeseen costs in megaproject development lies less in the particular mode of infrastructure financing in itself than in the possession and buildup of government capacities for implementing those specific development

modes—both in terms of project execution and in guaranteeing that such ventures deliver robust and equitable public dividends. In fact, similar discussions on them have been unfolding in the governance and development literature, which have recognized increasingly that the states' capabilities to implement specific policy regimes can be just as, if not more, important a determinant of sustained development advancements than the specific content of development policies, programs, and projects (Andrews et al. 2016). At the same time, although several such institutional capabilities are likely to be shared across different infrastructure-related government agencies, it nonetheless appears that PPP-related state instrumentalities, for reasons already discussed, have been the subject of considerable institutional reforms and capacity development during the Aquino administration—such as in the upgrading of project development and monitoring facilities and the standardization of contracts (Llanto et al. 2015). Without absolving the Aquino PPP program of concerns over its limitations, a comprehensive effort to support expanded infrastructural development, while minimizing white elephant risks, would benefit more robustly by building, not breaking away, from already existing infrastructure apparatuses that have been consciously designed to counter rent seeking. This point is especially important in light of demonstrated historical difficulties in the enhancement of state capabilities to execute policies and programs across developing countries (Andrews et al. 2016).

Our preceding discussion is not meant to imply that PPPs are inherently superior infrastructure development options or that a state-led approach should be rejected from the outset. Indeed, for the public sector to take full advantage of various financing and investment opportunities available for infrastructural development, it is essential that institutional capacities are improved across all major infrastructure financing and development modes, whether these are in terms of PPPs and locally or ODA-financed projects. But to undertake a sweeping policy shift away from modes where such capabilities have already been built, to focus overwhelmingly on areas (local and international financing) that historically have been demonstrated to be prone to corruption, cost overruns, and/or project failures (Rosales 2017)<sup>10</sup> will likely aggravate risks that several large-scale infrastructure projects will emerge as white elephants.

In fact, by overloading the project pipeline for these infrastructural tracks—where less internal and external accountability checks have been in

place and to which various shortcut mechanisms have been added—the shift toward a state-heavy infrastructure drive can again sow a more fertile ground for the same rentier dynamics that ultimately hobbled the BNPP and other white elephants in the Philippines. In contrast, as evidenced by strides made in hiking infrastructure spending throughout the Aquino administration—from only 1.8 percent to around 5 percent of GDP between 2011 and 2016 (Montesines et al. 2017)—there is no a priori reason why efforts to accelerate infrastructure spending cannot be achieved within a more balanced infrastructure development framework underpinned by robust institutional capabilities and good governance practices than has been the case with the Duterte administration's approach to BBB.

## Conclusion

Yet the BNPP experience also teaches us a broader lesson that governments, researchers, reformers, advocates, and citizens can take to heart. The debate between the proper balance between the state and the market in infrastructural development is by no means only an academic one, and it will ultimately be settled, not in the boardrooms of technocrats nor the esteemed halls of academia, but in the storm and stress of the public sphere. And should there be evidence that white elephant risks may be more than speculation, it is far better to act preventively than to endure the intergenerational liabilities that arise from failed megaprojects as well as their drawn-out, postproject struggles for accountability. With the scale and risks involved in the Duterte administration's BBB initiative and the likelihood of its megaprojects spilling over into succeeding administrations, the stakes of the new “golden age of infrastructure” have become too high to leave alone to public officials, their contractors, and their financiers, whether local or foreign. In the days ahead, it will be imperative for reformists, advocates, and scholars to maintain vigilance over the formation and implementation of the administration's infrastructure program and engage in nonpartisan movements (not unlike those against the BNPP in the 1980s) to ensure that the Philippine public's long-term interests are best served by the projects.

Although the lessons from the BNPP may not necessarily address all the infrastructure dilemmas that presently hang over contemporary Philippine development debates, policy makers and the public can ignore them only at their own peril. Perhaps they will not be able to divine as much from the story of the austere, mothballed power plant at Napot



Point about how to attain effective, inclusive, and resilient infrastructure for decades to come; but certainly they can tell how reckless ambition in infrastructure development, marred by sclerotic governance and riven by endemic corruption, can drag down a nation's economic fortunes for an entire generation.

## Abbreviations Used

<b>ADB</b>	Asian Development Bank
<b>BBB</b>	Build, Build, Build
<b>BNPP</b>	Bataan Nuclear Power Plant
<b>DBM</b>	Department of Budget and Management
<b>DOF</b>	Department of Finance
<b>DTI</b>	Department of Trade and Industry
<b>FDC</b>	Freedom from Debt Coalition
<b>IAEA</b>	International Atomic Energy Agency
<b>MDB</b>	multilateral development bank
<b>NPC</b>	National Power Corporation
<b>ODA</b>	Overseas Development Assistance
<b>OECD</b>	Organization for Economic Co-operation and Development
<b>PAEC</b>	Philippine Atomic Energy Commission
<b>PEZA</b>	Philippine Economic Zone Authority
<b>PPP</b>	Public–Private Partnership

## Notes

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- 1 Based on findings by Mendoza and Cruz 2017, 88.5 percent of flagship infrastructure initiatives under the Duterte administration were listed as to be funded by ODA; by comparison, under the Aquino administration, ODA had accounted for 49.5 percent, while PPPs and local financing of major infrastructure projects comprised 46.6 percent and 16.3 percent, respectively, of funding for major infrastructure projects.
- 2 For the BNPP case, see Supreme Court of the Philippines 2010a, 2010b, 2013; Sandiganbayan 2012; Paras 1993.

- 3 For a timeline of events related to the BNPP controversy, see *ABS-CBN News* 2009; for more details see Barsky and Kilian 2004; Beaver 1994; Bello et al. 1983; Butterfield 1988; Clarke et al. 1995; PCGG 2012.
- 4 Illegitimate debt, by definition, includes odious and illegal debt as well as debt incurred from losing a war, irresponsible lending by creditors, and loans made for ideological or political reasons (Jubilee USA Network 2008).
- 5 In 1992 the government undertook a debt restructuring that converted commercial bank debts into Brady bonds, enabling commercial lenders/creditors to choose from a menu of instruments including buybacks, discount exchanges for debt stock reduction, and par exchanges at reduced interest rates. This bond was part of the Brady Plan that was introduced in early 1989 (Berthélemy and Lensink 1992).
- 6 There is reason to expect that the real cost of the Bataan Nuclear Power Plant is higher than the figure given in table 3, given that all principal and interest payments have not been fully updated to 2014 prices.
- 7 Interestingly, among the specific projects cited by the 2008 Philippine Center for Investigative Journalism (PCIJ) review as having subpar returns were more large-scale power projects (e.g., extra-high voltage transmission lines for NPC), the second Subic Bay Freeport project, Terminal 2 of the Ninoy Aquino International Airport, and the Mandaue–Mactan Bridge in Cebu (Landingin 2008a).
- 8 Although other major sources of ODA (such as with the Japanese and Korean governments, the ADB, and the World Bank) have been associated with problematic projects in the past, Chinese development assistance still remains outside of the financing paradigm of OECD Development Assistance Committee, which in the past few decades has incorporated standards for transparency, untied aid for low-income countries, anticorruption, policy coherence, and respect for human rights (OECD 2018). By comparison, the Chinese government has typically treated foreign assistance activities— which have been fragmented in terms of their effectiveness across different state ministries, enterprises, and localities— as trade secret and has imposed no good-governance conditions on recipient countries (Zhang 2016).
- 9 Although fifty-three projects were lodged in the PPP pipeline in 2010, only twelve of these ventures were awarded to contractors by the end of Aquino's term in 2016. Moreover, of these twelve, only three were actually completed, on account of uneven agency capacity for processing and appraising projects, a long preparation timeframe, and an inflexible legal framework (Mendoza and Cruz 2018).
- 10 While we do not elaborate upon it in this article, another troubling feature of the Duterte administration's approach toward PPPs has been its welcoming posture to the submission of unsolicited proposals from the private sector, which are subject to a Swiss challenge procedure. As explained in Mendoza and Cruz 2018, such a move not only undermines fair bidding procedures in the Philippine context, but it also raises risks that unviable projects are more likely to be approved for implementation due to the unequal possession of information among original project proponents. During the Aquino administration, agencies were much less open to the submission of such proposals, with some officials even being accused of being “biased” against unsolicited ventures (Reyes 2011).

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