The Resource Curse in Timor-Leste\(^1\)

*A work in progress. By Charles Scheiner\(^2\), 29 March 2022.*

**Abstract**

After restoring independence in 2002, Timor-Leste established a rigorous system to manage oil and gas revenues and activities, based on international best practice. Policymakers hoped that it would protect the small nation from the ‘resource curse’ which afflicts countries that depend on exporting non-renewable wealth. Within five years, petroleum exports were financing 85% of the state budget and comprised 75% of GDP. By 2022, with its known oil and gas reserves nearly depleted, Timor-Leste has made little progress in diversifying into a sustainable economy. This paper will explore what happened and try to explain why well-intentioned legal and structural measures were not sufficient to avert the ‘paradox of plenty.’

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\(^2\) Charles Scheiner has been a researcher at the Timor-Leste Institute for Development Monitoring and Analysis (La'o Hamutuk, an independent, non-partisan, Timorese civil society research organization) since 2001. He specializes on the effects of oil and gas extraction on the people of Timor-Leste, including economics, governance, environment and fiscal management. He has written and presented widely on Timor-Leste’s experiences, and advocates for sustainable and equitable policies.
Introduction

Indonesia, with support from the United States, Australia and others, invaded and brutally occupied the small neighboring Portuguese colony of Timor-Leste in 1975. Although undersea oil and gas reserves were one factor motivating the attempted annexation and ensuing humanitarian catastrophe, that element of the resource curse is beyond the scope of this paper, which will explore the impacts of oil and gas dependency on the sovereign Democratic Republic of Timor-Leste.

Soon after Timor-Leste restored its independence in 2002, the new nation proceeded to establish a strict legal system to manage oil and gas activities and revenues. Building on international best practice and informed by the experiences of other countries, the nation hoped to avoid the resource curse that afflicts many nations where resource extraction is a large part of the economy. This “paradox of plenty” often causes people in countries with large nonrenewable resource reserves to have lower quality of life than those without such wealth. Although several dozen countries had larger oil and gas reserves than Timor-Leste, the small country had very little other economy and hoped to use the windfall of nonrenewable assets to move its development forward.

The resource curse, sometimes called “Dutch disease,” has been described from various perspectives, including macroeconomic, human rights, conflict, political, governance, budgetary and psychological (Karl 1997; Collier 2010; Ross 2018; Humphreys et al 2007; Barma 2021). This paper does not try to deconstruct it analytically, but uses the term more broadly to include negative outcomes related to dependency on exporting nonrenewable extractive resources. Rather than the academic approach to Timor-Leste taken by some researchers (John et al 2020; Lundahl and Sjöholm 2019), this paper draws mainly on primary sources and first-hand observations.

Policy-makers and civil society in Timor-Leste were aware the resource curse early on. A government discussion paper called petroleum “the devil’s excrement”, noting that “many petroleum producing countries is associated with negative developments like: poverty ..., conflict ..., corruption and unrepresentative government” (Ministry of Planning and Finance 2004). One NGO responded that “Th[is] description of the curse ... does not mention some of the worst manifestations of the ‘devil’s excrement.’ Nearly all petroleum-revenue-dependent countries experience artificially high prices, substitution of imports for locally produced items, and neglect of non-oil sectors of the economy” (La’o Hamutuk 2004).

In 2005, as Timor-Leste was enacting its systems into law, money began to flow in from offshore oil and gas production. It peaked seven years later, and by the end of 2021 had totaled US$23.8 billion – a large amount for a country with only 1.3 million citizens and a $1.6 billion annual non-oil GDP.

Timor-Leste did a lot of things right, but, as its producing oil and gas fields near depletion, it faces significant hurdles in transitioning to a sustainable economy.

This paper will look at four phases of Timor-Leste’s petroleum history: creation of regimes and commencement of oil extraction, rising revenues and expectations, decline from peak production, and today, discussing contracting, revenue management and governance. In conclusion, it will examine what has and hasn’t worked, and some of the reasons why.
Starting in a good place

Timor-Leste created its petroleum management systems before its own large-scale oil and gas production began. Its citizens, having lived through centuries of colonialism and foreign military occupation, and a 24-year brutal war for independence, highly valued peace, sovereignty and their new constitutional democracy. Although, as explained below, the post-conflict, post-colonial, fragile context exacerbated some of the resource-dependency-related problems, people were determined to move forward.

Following two years of UN-run transitional administration, the country was blessed with international good will and advisors. The nation had no foreign debt and negligible local corruption. Known oil and gas reserves were far offshore, minimizing proximate impacts on communities and the environment.

In this promising context, Timor-Leste’s First Constitutional Government, led by Prime Minister Mari Alkatiri, established what was expected to be a safe and durable petroleum and financial regulatory regime “for the benefit of current and future generations.” It included the following by the end of 2005:

Production-Sharing Contracts (PSCs) with international oil companies would use a common template, with public tenders, published contracts, and no signature bonuses or other special fees which could create mechanisms for favoritism or corruption. Every project would have the same tax rules\(^3\) (República Democrática de Timor-Leste 2005b; La’o Hamutuk 2005; La’o Hamutuk 2022b).

All revenues received by Timor-Leste from oil and gas-related activities go directly into a sovereign wealth fund called the Petroleum Fund (PF), based on a Norwegian model. The PF is independently managed by the Central Bank and invests in hundreds of tradable overseas financial instruments. Withdrawals from the PF would fill the “non-oil fiscal deficit” in the state budget, and the Fund was intended to stabilize expenditures, buffering state spending from fluctuating oil prices and production.

Interest and dividends from Petroleum Fund investments are re-invested in the PF, and money can only be withdrawn with Parliamentary authorization. An Estimated Sustainable Income (ESI) rule limits withdrawals to 3% of the balance in the PF added to the inflation-adjusted value of expected revenues from petroleum projects with approved development plans. This permanent income model was expected to be sustainable in perpetuity, although exceptional withdrawals of more than ESI are allowed if Parliament accepts the government’s justification that they are in the long-term interests of Timor-Leste.

As a further safeguard, the Petroleum Fund cannot be used as collateral for borrowing (República Democrática de Timor-Leste 2005a). Although international lenders encouraged borrowing to fill the “financial gap” they expected because oil revenues would arrive too slowly to pay for the state apparatus and economic development, the government declined to do so.

In 2003, the Prime Minister addressed the founding conference of the Extractive Industries Transparency Initiative (EITI) in London (Alkatiri 2003). The Petroleum Fund was then set up to be

\(^3\) Unfortunately, the contracts for the two largest fields, signed in 2003 to replace illegal occupation-era agreements, were not subject to these rules.
an international model of transparency, publishing regular reports on its income, outgo and investments (La’o Hamutuk 2022c; Banco Central de Timor-Leste 2022).

The government enacted local content rules in hopes that future jobs and subcontracts in the oil industry would help underpin Timor-Leste’s economy, although realists did not expect this to be significant (La’o Hamutuk 2008).

**For a few years, many things worked well.**

Timor-Leste’s oil and gas production and global energy prices surged after 2005, and the country’s annual petroleum revenues were far higher than expected, exceeding $2 billion by 2008 and peaking at $3.3 billion in 2012, nearly three times non-oil GDP (see Figure 1).

In 2005-2006, independent Timor-Leste held its first licensing rounds for new oil and gas contracts, awarding six PSCs through a transparent public tender (La’o Hamutuk 2006a, 2006b).

Management of the Petroleum Fund followed the spirit and the letter of the established rules. Because the PF was entirely invested in bonds issued by foreign governments, it was the only sovereign wealth fund in the world which didn’t lose value in the 2008 global financial crisis. PF managers avoided short-sighted investment decisions and maintained a diverse portfolio.

Because petroleum income exceeded expectations, the financial gap never opened. The state began borrowing in 2012, but foreign debt totaled less than $100 million at the end of 2017 (although loan agreements totaling $400 million had been signed).

In 2010, Timor-Leste was the third nation in the world to be certified as compliant with EITI, publishing annual reports. The National Petroleum Authority, Central Bank and Ministry of Finance regularly reported petroleum revenues and PF investments, setting up websites on procurement and budget execution. Revenue Watch compared 41 resource-rich countries on natural resource governance and Timor-Leste ranked 12th -- the best in Southeast Asia (Revenue Watch 2010, 16).

In 2011, Timor-Leste created a state-owned petroleum company, TimorGAP, E.P., to enable the government to participate in joint ventures and to sit on both sides of the negotiating table. Although it was less transparent and had a wider mandate than some had recommended, its scope and activities were limited (TimorGAP 2022; La’o Hamutuk 2007, 2022d).

**Revenues and impatience increase**

After civil unrest and a return to precarious stability, Timorese voters elected a new government in 2007. Led by Prime Minister Xanana Gusmão, they adopted an ambitious National Strategic Development Plan 2011-2030. It promised to use oil money to transform Timor-Leste into a moderate-to-high income country. However, the plan is aspirational, with no costing or details.

Oil companies did seismic research and drilled test wells in areas contracted in 2006, but by 2019 none of them had found commercially viable oil or gas, and all but one had been relinquished. No public bidding rounds for new exploration were held between 2006 and 2019.

From 2008 on, Government leaders gave less attention to governance and more to spending money. With annual oil and gas revenues exceeding a billion dollars, they thought the state budget was too low. Government spending escalated rapidly, from $0.3 billion/year in 2005-2007
to $1.1 billion/year in 2011-2013. Much of the money paid for physical infrastructure, especially national roads, power plants and transmission lines.

When Indonesia destroyed Timor-Leste’s electricity system in 1999, they ‘provided’ an opportunity to build modern, renewable, decentralized electricity infrastructure with solar and wind power generated throughout the country. Instead, decision-makers opted for a 19th century design -- centralized, oil-fueled plants and a national grid – which cost more than twice as much to build, reaches only ¾ of the population (La’o Hamutuk 2017). About $75 million of public money is spent to import fuel every year, opening avenues for legitimate and corrupt businesses (Tribunal da Recurso 2021b).

In addition, the government spent to “buy peace,” paying generous pensions to veterans of the independence struggle and compensating people affected by the 2006 unrest. However, as Figure 1 shows, oil production declined after 2012 and revenues fell rapidly, although the state budget continued to increase for the next four years.

**Figure 1: Petroleum prices, production, revenues and state expenditures**

Withdrawals from the Petroleum Fund paid for nearly all the escalating state spending, exceeding the Estimated Sustainable Income in every year except 2013, when $700 million in unspent withdrawals were carried over from the previous year. During 2010-2015, the state withdrew more than $6.1 billion from the PF, 54% more than the ESI, financing 89% of state expenditures. Although the government formally justified the unsustainable withdrawal levels, it did not explain why every year was exceptional.

Nevertheless, thanks to rising oil prices and favorable investment returns, the balance in the Petroleum Fund grew from $2 billion in 2007 to $17 billion in 2014. Oil revenues began to decline after 2012, although non-oil (domestic) revenues were still enough to finance about 1/5 of the state budget (see Figure 3). Budget execution was often less than appropriations, and the PF-financed “surplus” was carried over from one year to the next.

In 2011, after extensive public consultation, the government persuaded Parliament to revise the Petroleum Fund law. They weakened the ESI spending guideline, sought higher returns by shifting
investments from bonds to riskier equities, and allowed 10% of the PF to be used for collateral for loans. By 2014, 40% of the PF was invested in the volatile global stock market.

The current situation

Timor-Leste today is largely a peaceful, democratic country under rule of law. It has had four constitutional changes of government. No foreign powers have intervened militarily, and internal political conflicts are resolved without violence. Democratic practice thrives, and people enjoy their civil and political rights. All identified cases of corruption have been under $20 million; many of the perpetrators have been tried and sentenced. Compared with the other fragile states in the ‘g7+’ group that Timor-Leste initiated, the country is doing exceptionally well.

International governance scorecards rank Timor-Leste about average globally, albeit better than most other Southeast Asian or post-conflict countries. Some, such as the Corruption Perceptions Index, show slow but steady improvement (Transparency International 2022), while others, including the EIU’s Democracy Index, Varieties of Democracy and the Bertlesmann Transformation Index, show a slight decline in recent years (Economist Intelligence Unit 2022; V-Dem Institute 2021; Bertlesmann Transformation Index 2022). With oil money still available, the country is a stable, middling democracy.

As a small, inexperienced government with billions of dollars, Timor-Leste attracts con artists, although few multi-million-dollar corruption cases have come to light. In 2009 the fictitious Asian Champ Investment Company offered benefits to Timor-Leste in return for an investment of $1.2 billion from the PF. The Central Bank and the Investment Advisory Board realized that the offer was too good to be true, preventing the scam. Nevertheless, its main Timorese supporter remains in a key position, and its Malaysian principal just signed an agreement to build a major tourist resort in Timor-Leste (La’o Hamutuk 2012; República Democrática de Timor-Leste 2021).

In 2009, Norway recruited Nigerian-American Bobby Boye as a petroleum tax advisor in Timor-Leste’s Ministry of Finance, where he gained confidence by (falsely) accusing petroleum companies of cheating on their taxes. Boye then persuaded the Ministry to pay millions of dollars to his nonexistent law firm. Eventually, U.S. courts convicted Boye of fraud and imprisoned him for more than five years. His incorrect tax advice led to protracted negotiations, and Timor-Leste had to return more than $250 million to the companies (La’o Hamutuk 2021c, 2021d). The repayments were not done through the state budget, but, less transparently, by deducting them from incoming oil and gas revenues.

Although a growing middle class in the capital Dili has benefited from government spending, little has changed for the impoverished, rural, agricultural majority. Most intermediate targets in the 2011-2030 Strategic Development Plan have not been met, and a long-overdue evaluation and revision of the plan has just begun.

Three new onshore and three new offshore oil and gas exploration contracts have been awarded since the 2006 bid rounds, all without public tenders. Timor-Leste has a century-long history of petroleum prospecting, and most companies believe it is unlikely that commercially viable fields are waiting to be discovered. Therefore, the inexperienced national oil company TimorGAP, sometimes in partnership with small companies who have never undertaken a successful oil and gas project, is part of all the post-2006 contracts (La’o Hamutuk 2022b).
In 2019, Timor-Leste opened its first tender for new oil exploration in 13 years. After two extensions, it closed in April 2022. Seven companies\(^4\) bid for six of the 18 blocks on offer, as shown in the following map. Near all the area in the eight offshore blocks which nobody bid on had previously been explored and relinquished.

**Figure 2: Current and future oil and gas exploration contracts**

![Map showing oil and gas exploration contracts]

Sources: Autoridade Nacional do Petróleo e Minerais 2018; La’o Hamutuk 2020, 2022b.

Note: Cross-hatched green lines show seismic exploration. Small circles are previously-drilled test wells. The red line at lower right is the 2019 Maritime Boundary with Australia.

The only verified significant oil and gas reserve is the offshore Greater Sunrise field, which was discovered in 1974. The area is shared with Australia and was subject to a bitter, prolonged maritime boundary dispute which was settled in 2019. Sunrise development waited for the boundary to be resolved, and is still stalled because many in Timor-Leste insist that the gas be piped to Timor-Leste’s south coast for liquefaction and export, and no one will finance that option.

In May 2018, when shifting political coalitions delayed enactment of the 2018 state budget, government withdrew $70 million from the Petroleum Fund without Parliamentary authorization. This probably illegal act was not contested in court, but all subsequent withdrawals have asked for and received Parliamentary approval.

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\(^4\) TimorGAP and ETO from Timor-Leste, Dravida (India/UAE), Supernova (Netherlands), HTS (Kazakhstan), Eni (Italy) and Santos (Australia). The last two are the only established companies with successful projects in Timor-Leste.
In 2018-2019, the government proposed revising the Petroleum Fund and Activities Laws to weaken the ESI guideline, allow 5% of the PF to be invested in domestic petroleum operations (previously it could only invest in financial instruments outside the country), reduce judicial oversight of petroleum sector contracts and require oil companies operating in Timor-Leste to use less economical practices. Despite opposition from some Parliamentarians, the President and the courts, many of these amendments were enacted, enabling the PF to be ‘invested’ in Greater Sunrise (Scheiner 2020).

Because Sunrise joint venture partners ConocoPhillips and Shell believed that a pipeline to Timor-Leste was not commercially optimal, they sold their 56.7% share of the Sunrise project to TimorGAP in 2019 for $650 million, which was borrowed from the Petroleum Fund. This was not in the state budget, and, having grown to more than $736 million with accrued interest, is now one of the Petroleum Fund’s investments, even though it is not tradeable and may never be repaid (La’o Hamutuk 2021f). Annual repayments (more than $100 million/year) won’t be due until 2027.

In mid-2020, Sunrise joint venture partner Woodside Petroleum, recognizing that the project may never be developed, revalued it at zero (Evans 2020). A few months later, TimorGAP’s auditors told them to write down the value of their share to zero. Although the Ministry of Finance incorporated this revaluation when they calculated the Estimated Sustainable Income for the 2022 state budget (Ministry of Finance 2022a, Final Book 1, page 49), the Central Bank still includes the non-zeroed Sunrise loan in the PF balance (Banco Central de Timor-Leste 2022). This confusion held up the 2020 Annual Reports of TimorGAP and of the Petroleum Fund (which is the responsibility of the Ministry of Finance), illegal delays which were lamented by the Audit Court when it reviewed the state accounts for 2020 (Tribunal de Recurso 2021a, 13). TimorGAP published its report nine months late in March 2022, but the PF one is not published as of this writing.

Oil revenues dropped drastically after their 2012 peak, and, as Figure 3 shows, Timor-Leste has probably already received more than 99% of the total revenue it will get from Bayu-Undan and the two smaller fields which have been in production. Although BU revenues increased in late 2021 and early 2022, this will not last long, and the spike in global oil prices from the Ukraine war will not help much because current production is low. Furthermore, although converting other petroleum reserves to cash might provide additional revenues, their commercial viability is not assured.
In mid-2021, the Santos company drilled the first wells in Timor-Leste in four years: three infill production wells in the nearly-depleted Bayu-Undan field which may extend its life by a year or two. These wells have not significantly increased production, but have slowed its inevitable decline, and rising global oil prices boosted revenues. Santos, operator of Bayu-Undan and its linked LNG plant in Australia received the greatest benefits: extending Bayu-Undan production will delay field decommissioning and keep the LNG plant running until not-yet-developed fields in Australia can provide feed gas to it (Santos 2022).

A small Australian company, Carnarvon, drilled a test well in the offshore Buffalo field at the end of 2021, but results were not commercially viable. Other speculative projects are being discussed, and some could emerge from the current bidding round, but they are too uncertain to estimate results. Nevertheless, if Bayu-Undan infill and the planned onshore projects achieve their proponents’ optimistic targets, they might bring in about $1 billion to the state treasury, less than Timor-Leste received in a single quarter in 2012, enough to cover six months of today’s state spending (Scheiner 2021, 16).

In August 2021, the balance in Timor-Leste’s Petroleum Fund, buoyed by slow budget execution and inexplicably ebullient financial markets, reached an all-time high of $19.7 billion (including the Sunrise loan). From its creation through the end of February 2022, the PF has received $24.3 billion in petroleum revenues and $3.8 billion in interest and dividends on its investments, and the unrealized value of the investments has increased by $4.9 billion. The government has withdrawn $13.6 billion from the Fund (far above ESI, which totaled $8.3 billion), which paid for 87% of state spending.
By the end of 2021, $243 million in foreign loans had been received, out of $559 million contracted (Ministry of Finance 2022a), and more loan agreements are expected soon (International Monetary Fund 2021). Debt service consumes about 0.6% of the state budget, but this will double in 2023 when some grace periods expire.

Because TimorGAP’s Sunrise and Tasi Mane projects may never happen, and its other contracted areas are unlikely to produce substantial revenue, the national oil company is searching for a mission. In addition to operating retail petrol stations, the state oil company will become the main importer of diesel for power plants. Although it has produced hardly any income, TimorGAP’s subsidy from the state budget quadrupled in 2021, to $66 million. When the Government proposed to reduce it to $35 million for 2022, the Minister of Petroleum and Mining persuaded Parliament to add $27 million more. These subsidies are provided through lump-sum public transfers, so the budget does not specify how the money will be used and they are 100% executed.
Transparency laws remain in force, although few people use or understand the published information and data is increasingly harder to access. Timor-Leste’s strong initial commitment to EITI and contract transparency has weakened. EITI certification was briefly suspended in 2017, the local EITI website has shut down and the most recent report is for 2018. The country did not improve on the Open Budget Survey between 2015 and 2019, although most Southeast Asian countries’ did (International Budget Partnership 2020). Its rank on the Resource Governance Index dropped from 12th in the world in 2010 to 43rd in 2017 (Revenue Watch 2010; Natural Resource Governance Institute 2017).

In 2022, Timor-Leste adopted a new budgetary process based on program-based budgeting (República Democrática de Timor-Leste 2022b; La’o Hamutuk 2022a). Some aspects may improve planning and oversight, but the new law requires less transparency than its predecessor, creating opportunities and challenges for citizens engaging with the budget process. Although it was developed with advice from many international specialists in public financial management, the new system does not address fundamental issues discussed in this paper, and fails to recognize the unique characteristics of petroleum export dependency.

Because the state budget is supported by petroleum and investment revenues, other economic development has been limited, and the entire economy relies on state spending. Although about half of the $16 billion spent by the state in 2008-2021 left the country to pay for imported goods and services, the remainder has been the principal driver of ‘non-oil’ GDP, which totaled $17 billion during those 14 years (see Figure 6). The top two segments, almost entirely funded by state spending, determine the GDP’s rise and fall; productive sectors are virtually stagnant (General Directorate of Statistics 2021; International Monetary Fund 2021).
Money from the Petroleum Fund has a rentier effect. Many entrepreneurs seek rents (usually government contracts), rather than invest in productive commercial activities. Outside of the large subsistence farming sector, about half of the formal labor force in Timor-Leste works either for the state or for contractors paid by the state. Private sector jobs have been declining since 2014 (General Directorate of Statistics 2019), although the working-age population is growing rapidly. The peak of the post-war baby boom has just entered the labor force (United Nations Development Program 2018).

**Where Timor-Leste is headed**

Because exporting petroleum wealth has funded Timor-Leste for almost a generation, most politicians and citizens hope to continue to convert nonrenewable assets into cash forever, and are in denial that this is impossible. This political/psychological ‘resource curse’ has impeded difficult changes in policy that are essential to avoid economic collapse.

People don’t want to acknowledge that the quality of their lives could become much worse. Although the country still has high monetary and multi-dimensional poverty and malnutrition, oil revenues boosted its Human Development Index from 2002 to 2010, when it ranked 128th (of 189 nations). By 2020, its rank had fallen to 141 (United Nations Development Program 2020), having dropped more since 2015 than every country except Venezuela and Yemen. With inadequate attention to education, health care and economic diversification, the decline could get worse.

Due to the Indonesian occupation, no oil or gas wells were drilled onshore in Timor-Leste between 1972 and October 2021, when the Feto Kmaus test well was drilled by the privately-held Australian start-up company Timor Resources. The company is still analyzing the results, while it drills more wells in 2022. However, their optimistic estimate of the total reserve is equivalent to five months of Bayu-Undan production at its peak.

Petroleum advocates in industry and governments are joining the global push for ‘Net Zero’ to greenwash or avert the climate consequences of continuing fossil fuels extraction. In Timor-Leste, Santos would like to use the soon-to-be-depleted Bayu-Undan reservoir to store carbon dioxide
released by natural gas extraction from carbon-intensive fields in Australia. Although the CCS project will not capture all of the CO$_2$ which will be released from these reserves, it might provide regulatory and public relations cover for the companies, as well as a little income to Timor-Leste. Timorese civil society calls it “Carbon colonialism” (Santos 2022; Evans 2022; Robert 2022; La’o Hamutuk 2021e).

Timor-Leste officials also hope for large mining revenues, although current mining consists of harvesting sand and gravel for local construction projects. They would like to reopen marble quarries which operated during the Portuguese and Indonesian periods – the only profitable mineral extraction in the country’s history. A Mining Code was enacted in 2021, and Government is setting up a National Mining Company and a Minerals Fund, creating a mirage that minerals could be as lucrative as oil (La’o Hamutuk 2021b).

Withdrawals from the Petroleum Fund consistently ignore the sustainability guideline, and are often more than the government can spend. During 2015-2021, withdrawals averaged more than double ESI, and the Government expects to withdraw more than five times ESI during 2023-2026 (Ministry of Finance 2022a, Budget Book 1). In 2021, the Ministry of Finance segmented the Petroleum Fund into “liquidity” and “growth” portfolios to enable riskier investments while protecting about one-fourth of the fund in low-risk, short-term, low-return instruments (Ministry of Finance 2021a, 2021b, 2022a).

For several years, independent projections (Scheiner 2015, La’o Hamutuk 2015), which officials now agree are plausible (Ministry of Finance 2022a, Book 1, Figures 17 and 18), have estimated that the Petroleum Fund may be empty in ten years. One Ministry model direly projects “a 77% fall in [state] expenditure in over two years (2030-32), falling from $2.6 billion to $0.6 billion” (Ministry of Finance 2022a, Book 1, page 60).

Policies continue to be based on the blind faith that, because oil money has carried the country thus far, it will continue indefinitely. State budgets and future projects are approved without considering financing sources, future debt service, maintenance, or related medium- and long-term expenses. The Petroleum Fund is seen as an inexhaustible resource.

Many people, following the lead of former Prime Minister Xanana Gusmão, envision the undeveloped Greater Sunrise gas and oil field as part of the Tasi Mane Project (TMP). This megaproject on the south coast will include an oil refinery, LNG plant, offshore gas and onshore oil pipelines, a supply base for offshore petroleum projects, highway, airports, and new towns. It will cost $15-$20 billion to build, although the financial returns are dubious and no investors have come forward (La’o Hamutuk 2019). Timor-Leste has already spent $1.2 billion on it, half of which bought a controlling interest in the Sunrise Joint Venture; the remainder built an airport and part of the highway, both of poor quality and rarely used.

Many analyses of TMP and Greater Sunrise have exaggerated its benefits to justify the project. Tasi Mane’s lost opportunity costs – neglecting other economic sectors which could create far more Timorese revenues, jobs and subcontracts – are overlooked, although investing money in Timor-Leste’s coffee production could create six times as many jobs and six times as much GDP growth per dollar as investing in the TMP (Inder and Qu 2019).

In mid-2020, Prime Minister Taur Matan Ruak appointed new heads of the Ministry of Petroleum and Minerals, the National Petroleum and Minerals Authority and TimorGAP. Although the new leaders promised that Greater Sunrise and Tasi Mane would be reevaluated because previous
studies were biased, political and public pressure has kept things moving in the same direction, and no new studies have been done.

**Figure 7: Money spent, budgeted and required to build the Tasi Mane Project**

(\*million USD\*)

<table>
<thead>
<tr>
<th>Component</th>
<th>Location</th>
<th>Status</th>
<th>Spent through 2021</th>
<th>Budgeted 2022</th>
<th>Budgeted 2023-2026</th>
<th>Estimated total capital cost</th>
<th>Percent budgeted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport</td>
<td>Suai</td>
<td>Constructed</td>
<td>78</td>
<td>3</td>
<td>7</td>
<td>100</td>
<td>88%</td>
</tr>
<tr>
<td>Supply base</td>
<td>Suai</td>
<td>Tender pending</td>
<td>52</td>
<td>2</td>
<td>747</td>
<td>900</td>
<td>89%</td>
</tr>
<tr>
<td>Highway</td>
<td>Suai-Putakai</td>
<td>Mostly built</td>
<td>303</td>
<td>3</td>
<td>14</td>
<td>340</td>
<td>94%</td>
</tr>
<tr>
<td>Highway</td>
<td>Putakai-Beaçu</td>
<td>Not started</td>
<td>3</td>
<td>2</td>
<td>20</td>
<td>1,320</td>
<td>2%</td>
</tr>
<tr>
<td>Airport</td>
<td>Viqueque</td>
<td>Not started</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>75</td>
<td>0%</td>
</tr>
<tr>
<td>Oil refinery &amp; pipelines</td>
<td>Betano</td>
<td>Pending design</td>
<td>5</td>
<td>-</td>
<td>6</td>
<td>1,500</td>
<td>1%</td>
</tr>
<tr>
<td>Gas pipeline, LNG plant &amp; port</td>
<td>Sunrise-Beaçu</td>
<td>Pending design, seeking financing</td>
<td>51</td>
<td>-</td>
<td>21</td>
<td>6,000</td>
<td>1%</td>
</tr>
<tr>
<td>57% share of Greater Sunrise Joint Venture</td>
<td>Offshore</td>
<td>Borrowed directly from the Petroleum Fund</td>
<td>650</td>
<td></td>
<td>650</td>
<td>650</td>
<td>100%</td>
</tr>
<tr>
<td>57% of Greater Sunrise Joint Venture</td>
<td>Offshore</td>
<td>Pending design, seeking financing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6,840</td>
<td>0%</td>
</tr>
<tr>
<td>Administrative and other costs</td>
<td>Dili</td>
<td>Ongoing</td>
<td>90</td>
<td>58</td>
<td>-</td>
<td>500</td>
<td>30%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>1,231</td>
<td>67</td>
<td>815</td>
<td>18,225</td>
<td>12%</td>
</tr>
</tbody>
</table>

*Sources: Ministry of Finance 2022a, 2022b; TimorGAP 2022; Tribunal de Recurso 2021a.*

*Note: This table does not include $561 million in interest to be paid on the loan to buy into Greater Sunrise.*

**Some cautionary signs**

Systematic analysis of the forces, thinking and reasons behind Timor-Leste’s looming fiscal cliff is beyond the scope of this paper. Nevertheless, the following are some of the events, actions and factors which led to this situation.

As described above, the state budget and economy depend on petroleum rents. Because money has been available, people and organizations (including government) who need something would rather buy it than build it. Many things are imported, including essential goods which could have been locally produced, leading to an annual trade deficit of nearly a billion dollars.

Money is more readily spent on some things than on others, and is seen as the solution to every problem. Well-connected people go to overseas schools and hospitals (often paid for by the state), while local education and health care systems remain underfunded and substandard. In 2022, Timor-Leste allocated about 12% of its state budget to health and education (La’o Hamutuk 2022a), less than half of what is considered good practice in developing countries (United Nations Development Program 2011, 123).

It is easier to pay a foreign company to build a large piece of infrastructure than it is to develop local, decentralized capacity to address communities’ needs for rural roads or water supply. The largest expenditures have been to build national roads, electricity systems, ports and airports, which disproportionately benefit the small upper and middle classes, not the rural poor majority. Little attention is paid to management, design, construction quality or ongoing maintenance (World Bank 2021).
Since the Indonesian occupation, U.S. petroleum supermajor ConocoPhillips has been the largest investor in Timor-Leste, reaping billions of dollars from the Bayu-Undan field, which also provided revenue to Timor-Leste. However, the company’s management developed a distaste for Timor-Leste following the unfounded tax evasion allegations, and decided to leave. In 2018 and 2019, they sold their interests in Bayu-Undan and Greater Sunrise to Santos and TimorGAP.

The expansion of Petroleum Fund investments into the global stock market caused returns to fluctuate, and the PF lost money in 2015 and 2018 (La’o Hamutuk 2022c; Banco Central de Timor-Leste 2022). Although foreign advisors promoting this diversification talked about a long-term investing perspective, most politicians, responsible for annual budgets and facing voters every five years, have a shorter planning horizon. (Ryan-Kane 2010, 8-11; La’o Hamutuk 2010, 3-4).

Lessons which could be learned

Although it may be too late for Timor-Leste to avoid the ‘fiscal cliff’ when the Petroleum Fund runs out, it is not too late to reduce the severity and duration of its impacts. In approaching this challenge, it may be useful to identify some underlying factors which brought the country to this point, especially those which were not foreseen when Timor-Leste created its petroleum governance regime 17 years ago. With hindsight, many of them seem obvious.

Anything that is legislated can be revised. A civil society submission on the draft Petroleum Fund Law highlighted the need for strong laws to protect the nation’s resource birthright “from hypothetical ill-intentioned, corrupt institutions and individuals”, encouraging “the current Government to establish structures that protect the people of Timor-Leste regardless of who is in power in the future” (La’o Hamutuk 2004, 8-9). In retrospect, this may be impossible in a democratic society, because even a leak-proof legal system can be perforated by subsequent laws.

Democratic governance works against long-term strategic planning. Politicians can only remain in power if they win the next election, so providing immediate visible benefits takes priority. This ‘front-loading’ policy of spending unsustainably in anticipation of future development helps win elections, but saving money or investing in human resources, which would produce better outcomes in the long run, does not.

A rentier economy is addictive. When one can receive money without doing any work, it is tempting not to work and to act as if the money will keep coming in. Everyone would like to be able to finance their government and economy forever by converting underground and undersea wealth into dollars. Although this finite buried treasure will inevitably run out, many are seduced by the fantasy that undeveloped petroleum or mineral deposits will continue to provide money, even when geology, research, corporate reports to regulators, and potential investors say otherwise (Neves, 2022).

This factor is exacerbated by limited numeracy and scientific knowledge among politicians and citizens, few of whom have had quality formal education. Although a few oil and gas projects (such as Bayu-Undan) produce tens of billions of dollars in revenues, most are much smaller, and the majority of test wells drilled worldwide do not find commercially viable deposits (Westwood Global Energy, 2019).

Petroleum extraction and processing involve hardly any Timorese workers or subcontractors, with negligible spinoffs into the local economy. In this highly automated, capital-intensive
industry, oil companies pre-fabricate major components in specialized overseas facilities. Although a few Timorese workers may do manual labor during construction or installation, there are very few permanent positions for medium- and low-skilled workers.

**Private companies take decisions to maximize their profits.** Although a commercially viable petroleum project can benefit both a company and the state, legitimate investors and oil companies opt for the most profitable projects. Furthermore, companies dislike dealing with governments they perceive as unreasonable, as the tax experience with ConocoPhillips demonstrated (see page 15). Other companies or investors, perhaps with less experience or a hidden agenda, may arrive to fill the space ... or may not. Although China has not yet taken advantage of Timor-Leste’s vulnerability, some western politicians and journalists are worried that it could (La’o Hamutuk 2021a).

**The successful independence struggle left a complex legacy.** In 1999, Timor-Leste ousted the Indonesian occupiers in defiance of ‘experts’ around the world who told them it would never happen. In 2018 they transcended ‘expert’ advice again, coercing Australia to agree to a fair maritime boundary. Some Timorese leaders, especially veterans of the independence struggle, now believe they can accomplish anything, regardless of physical or economic realities.

Although the first Prime Minister, who guided the creation of the petroleum regime, was a technocrat who had been in exile during the Indonesian occupation, his successors were leaders of the underground resistance, with different skills than are optimal for democratic governance. (When you are hiding from a murderous occupying army, you can’t practice transparency, conduct public consultations, do extensive research or consider long-term sustainability. You must decide for yourself who to trust.) The attributes of a guerilla commander are not well-suited to managing a peaceful state – but most voters will elect national heroes for as long as they seek power.

Except for a few who went into exile, until 2002 no Timorese person had lived under a government which even pretended to listen to its citizens or to serve the public interest. After they created their own democratic state, political leaders and citizens had to unlearn skills for resisting dictatorship and to learn basic civics practices -- coalition-forming, lobbying, building consensus, seeking public input, listening to people from different backgrounds or parties, making choices based on ‘what’ rather than ‘who.’ Although some progress has been made, historical and personal connections and animosities still often outweigh evidence in policy decisions.

One consequence of prolonged war is pervasive trauma. For more than two decades, most people lived every day with the well-founded fear that an Indonesia soldier was going to kill or torture them, kidnap their family, or burn down their home and farm. In such an environment, it makes little sense to plan for the future – all you can do is survive until tomorrow. These lessons are hard to unlearn, and ‘sustainable development to benefit current and future generations’ sounds more like a cliché than a possibility.

After evicting the Indonesian occupation, Timor-Leste was inundated with international advisors. Many of them perceived Timor-Leste as a ‘tabula rasa’ (perhaps because they first heard of the country in 1999), and ignored Timorese people’s skills, experience, needs and culture. A few years later, as international attention moved elsewhere, even less-qualified advisors got jobs in Timor-Leste. Timorese officials gradually lost respect for ‘expertise’ and began to wonder whether anyone really knows what they’re doing. Timorese officials with limited education and experience
believe that they can do as well as foreign ‘experts,’ often ignoring or rejecting well-founded advice.

Because Timor-Leste achieved their independence and boundary in defiance of conventional wisdom, some expect to beat the odds again by developing petroleum projects that others say are not commercially viable.

Oil and gas has become a patriotic rallying cry. Politicians point out that “Australia got the Bayu-Undan pipeline, so it’s only fair for Timor-Leste to get the one from Sunrise,” regardless of the economic, social and environmental costs, benefits and risks of various options. The undersea gas pipeline is called a kadoras, the Tetum word for a bamboo pipe which brings vital water to a house or farm (derived from the Indonesian word for gift), and many people view it as being a similarly indubitable benefit. The kadoras becomes a goal in itself, rather than one option for the most lucrative, safe and reliable way to process and sell the gas.

**Conclusion**

Timor-Leste is a petro state without much petrol. Although petroleum dependency is not the only source of Timor-Leste’s problems, the easy money and temptations it led to have lasting consequences. Transition from a rentier economy is very difficult.

The main factors guiding policy directions should be scientific and commercial, based on facts and evidence. When patriotic, political, polemical, psychological or partisan priorities dominate decisions, they are often suboptimal, leading to lost opportunities or squandering public resources.

In addition to learning from experience, the dynamics of Timor-Leste are changing. The majority of Timor-Leste’s people were born after Indonesian rule ended in 1999; half the voters in the 2022 election were under 35. Some have had much better educational opportunities and international exposure than their elders did, and have the privilege of weighing the impacts on their children and grandchildren as they make decisions. But generational change and PTSD recovery may take longer than the limited extractive wealth will last (Cardoso 2022).

Although Timor-Leste started with many advantages, the best governance and revenue management practices have not been enough to prevent impending calamitous consequences of addiction to oil and gas money. Its experience shows that many factors in a young, post-conflict, rentier state can overwhelm well-designed measures to support sustainable finances and accountability.
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