

Radioactive Revenues at the Heart of the Sahara

Uranium in Niger: Curse or Blessing?

Uranium is a rare and powerful commodity; symbolically, it could hardly be a more potent symbol of the promise and potential of the modern world. Throughout Nigerien history, the power of uranium revenues has dictated economic policy and remained a potent captivating myth motivating political change among established politicians and opposition groups alike. But in a tragic irony, the exploitation of this radioactive substance has mutated Nigerien society, as the patterns of the resource curse have shaped the country's economic, political, and social development for the worse.

What is the “resource curse?” This phenomenon suggests that countries endowed with abundant natural primary commodity resources such as oil or precious minerals often experience worse economic and political outcomes than those with fewer natural resources. While there is significant disagreement among scholars over the definition of the resource curse, there are several negative outcomes that are relevant. First, countries with high proportions of primary commodity resources in their GDP tend to have slower GDP growth than others and suffer from severe “boom and bust” phases.¹ Second, natural resource wealth tends to increase corruption and motivate authoritarianism.² And finally, countries with significant primary commodity wealth are more likely to have violent internal conflict.³

Niger appears to fit this pattern: Despite significant mineral wealth, largely in the form of uranium – the country had the seventh-largest uranium production in the world in 2022⁴ -- the country is extremely poor and suffers from political dysfunction and violent conflict. Niger ranked 189th out of 193 countries on the Human Development Index,⁵ was considered an “authoritarian regime” on the 2023 Economist Democracy Index,⁶ and suffers from ongoing violent conflict.⁷

Indeed, uranium mining has been a central force in determining the fate of the nation, with significant economic, political, and social impacts. This paper analyzes the influence of uranium mining on Niger's national development over time and argues that uranium mining has been more of a “curse” than a “blessing” for the country.

Economic enclaves and “Dutch disease”

Uranium was discovered in Niger by the French mining company Areva (now called Orano) in 1957, three years before the country became independent from France, although uranium production did not begin until 1971.⁸ Uranium is a particularly difficult resource for a

poor country to benefit from without external investment; as the commodity requires advanced technology and significant capital to make it useful as a power source and is among the most heavily regulated in the world, it is even more difficult for a country to develop a domestic nuclear program than domestic fossil fuel refining facilities.⁹ Thus, Niger has had an asymmetric bargaining position vis-à-vis France and multinational corporations, leaving the country with little way to benefit from its resources other than to accord mining rights to foreign actors. This asymmetry has left the country vulnerable to neocolonialism and reliant on the cooperation of foreign governments and companies, notably France, which in turn has generated political resentments and repeated turmoil over contract renegotiations, to be explored further in the next section.¹⁰

As a result, the uranium sector in Niger has historically operated as an economic enclave separated from the rest of the regional economy. The uranium extraction process is operated by foreign companies and the product is shipped to importers for enrichment outside Nigerien borders, providing limited opportunities for Niger to benefit from value-adding processes or invest in industrialization and domestic energy production.¹¹

Nevertheless, uranium mining does provide some significant economic revenues for the Nigerien state and acts as an important labor provider and investor in the regions near the mines. Revenue is derived chiefly from a mining fee (5.5% of the value of the extraction) and a volume-based extraction tax collected by the Nigerien government.¹² In 2010, export values totaled over 348 million euros, representing more than twice the total development assistance received the same year.¹³ These revenues represent an important source of income for a government with a weak tax base and few productive industries. Indeed, windfalls from high uranium prices in the 1970s helped finance a major development push, with the Nigerien government launching schemes to bring irrigation, fertilizer, and improved seed varieties to the Nigerien people.¹⁴

Furthermore, the mines employ numerous local people; the French mining operator Orano (formerly called Areva) reports having 900 employees in the area, 99% of which are Nigerien, and highlights its investments in mining towns such as Arlit and Akokan and financing of development projects.¹⁵ While limited in scale and often questioned by locals and critical reporting, these contributions cannot be ignored.

However, the broader effects of the uranium sector on the Nigerien economy have been crippling. Uranium dominates the national economy, representing 75% of the total export value in 2011.¹⁶ As a result, the well-known “Dutch disease” effects where a commodity boom leads to inflationary effects which result in other sectors of the economy suffering from insufficient investment have been very much present in the Nigerien economy.¹⁷ Additionally, dramatic commodity fluctuations have led Niger to struggle with a heavy debt burden, most notably in the 1980s, unable to finance its government without debt restructuring and support from outside lenders.¹⁸

Overall, while uranium extraction has provided revenues to a small number of Nigerien actors, it has reduced opportunities for other economic sectors to develop and led the country into a commodity-dependence trap which has been very difficult to escape. The results can be seen in the country’s middling economic performance: Niger’s GDP per capita is among the very lowest in the world, even lower than neighboring landlocked countries in the Sahel such as Mali, Chad, and Burkina Faso.¹⁹

Uranium exploitation and political authority

As uranium extraction has played a key role in Niger's economic history, so too have discourses around uranium revenues been a major factor in Nigerien political development. Before uranium extraction began in 1971, Niger's economy relied primarily on groundnut and livestock exports. It is important to note that Niger was a one-party state before uranium extraction began, so pre-uranium Niger was not a democracy. However, by 1971 members of the party were calling for multiparty elections. In 1974, three weeks before the party's first national congress in 15 years was scheduled, military officer Seyni Kountché suspended the constitution, dissolved the *Assemblée Nationale*, and banned all political organizations. These events took place in the context of rapidly growing uranium revenues which were producing an increasingly large proportion of national GDP, especially after 1973.²⁰

During the initial years of rule, the Kountché government engaged in severe repression of civil rights, jailing opposition members and dismantling civil society groups.²¹ However, a crash in uranium demand beginning in 1979 created an economic crisis for the government. As the resource base shrunk, the government decided to seek new methods of legitimacy, resulting in the creation of the *société de développement* in 1979 which sought to engage grass-roots participation in the political and economic development of the country. Local *conseils de développement* were created among the Nigerien populace to solicit participation in policy discussions and popular consensus from the public, although the parameters of discussion were quite restricted. Though the regime government loosened repressive measures on the population during this period, the military did not relinquish power until multi-party elections were organized in 1990.²²

The 1990s were marked by relatively stable (low) uranium prices and a transition to multiparty democracy, interrupted by Tuareg rebellions and periods of military intervention until Mamadou Tandja was elected in 1999 via free and fair elections. Under his rule, uranium exploitation was expanded, and global uranium prices rose precipitously, starting in 2003 and peaking in 2007.

In 2007, Tandja accused France of instigating a Tuareg rebellion, expelled Areva's head of operations, and demanded an increase in the fixed price France paid for Nigerien uranium and to let Niger sell a proportion of uranium itself. France agreed to the terms. In 2008, Tandja launched a campaign called *Tazartché*, aiming to change the constitution to allow Tandja to stay in power for a third term and hand over more power to the executive branch. Tandja used his successful negotiation of higher prices as a key argument to legitimize his remaining in power, although he was ousted by a coup in 2010.²³

By 2010, global uranium prices had significantly declined from the 2007 peak, although they remained higher than in the 1990s or before. The rest of the decade was again marked by generally stagnant or declining uranium prices and a transition back to democratic rule, including a peaceful transition of power between the Issoufou and Bazoum governments, despite attempted coups and insecurity due to neighboring conflicts in Libya and Mali. Global uranium prices began to steadily rise again around 2020-2023, although Niger remained locked into lower prices due to its agreements with Areva despite renegotiations.²⁴

In July 2023, a military junta overthrew the civilian government and expelled French security and diplomatic missions from the country, citing frustration with underdevelopment and neocolonialism. While this coup must be seen in the context of deteriorating regional security conditions and previous, related coups in Mali, Burkina Faso, and Guinea, the grievances related to uranium exploitation and the perceived opportunities for enrichment are still relevant. Indeed, one of the most consequential actions the junta has taken is to raise the price of uranium from 0.80 euro/kg to 200 euro/kg.²⁵

Uranium extraction has historically been a critical aspect of political legitimacy in Niger. Both authoritarian leaders and opposition groups have consistently used claims about their abilities to extract higher revenues from uranium mining as a legitimizing discourse to advance their political agendas. Furthermore, periods of increased revenues from uranium exploitation have often coincided with increased authoritarianism, while periods of decreased revenues have sometimes pushed leaders to engage with the public in search of alternative forms of political legitimacy. The allure of resource wealth provides a clear rationale and legitimizing frame for actors to engage in authoritarianism, as can be seen most recently in the 2023 coup.

Overall, while Niger's turbulent political history and multiple experiments with electoral democracy do not necessarily align with hypotheses that resource wealth results in stable authoritarian regimes, it is clear that political figures have frequently mobilized promises for wealth from uranium extraction to legitimize authoritarianism in Niger. Furthermore, periods of increased revenue from natural resources are often associated with more authoritarian episodes. Thus, while it is difficult to claim that uranium wealth has *caused* political dysfunction in Niger, it makes sense to say that uranium wealth has created *opportunities* for political actors to instrumentalize uranium financial resources and promises to extract more mineral wealth to advance authoritarian interests in the country.²⁶

Environmental degradation and violent conflict

While the political and economic effects of uranium exploitation on Niger are nuanced, the case that mining has led to the degradation of the local environment and provoked violent conflict is clear-cut. Pollution near the mines is quite severe; radioactive dust has been spread over hundreds of kilometers, water sources are contaminated at levels up to 500 times the World Health Organization's threshold for radiation sources, and radioactive scrap materials are frequently used by the local population for construction. The mortality rate due to respiratory infections at Arlit is 16 percent, almost double the national average of 9 percent.²⁷ According to CRIIRAD, an anti-nuclear French NGO, heaps of radioactive waste surrounding Arlit are constantly producing radon, a dangerous gas, and the powerful desert winds disperse fine sands containing heavily radioactive metals, some of which are very radiotoxic if inhaled.²⁸

Mining activities have also disrupted traditional livelihoods and threatened the self-sufficiency of people in the region. A 1990 UNDP study in the mining zones voiced concerns about irreversible damage to sandstone aquifers of the region; according to Areva's own sources, the mining activities had consumed at least 20% of the water in the Tarat aquifer. The study also raised concerns about the dispossession of livestock grazing territories without compensation.²⁹

More recent studies estimated that groundwater levels in the region have sunk from 50 to 300 meters since uranium mining started.³⁰

Given the grave environmental and social damages related to uranium mining, it is perhaps unsurprising that groups in the region have mobilized to demand a greater share of revenues. The nomadic Tuareg people of the Sahara Desert have long felt excluded from the Nigerien state and experienced economic deprivation; many of them also reject their division by international borders, as their traditional territories encompass a wide swath of the Sahara stretching across Algeria, Mali, Niger, and Libya.

In 1990, a Tuareg rebel group under the name Coordination de la Résistance Armée (CRA) began an armed conflict with the Nigerien government, demanding more decentralization and explicitly calling for a share of the revenues from uranium mining in their traditional lands. In response, a peace agreement in 1995 granted 10 to 15 percent of uranium revenues to the North of Niger.³¹

As Tuareg revolts have also occurred in Mali and other countries, it would be inaccurate to portray their revolt against the Nigerien government as entirely motivated by the damages of uranium mining; nevertheless, mining activities are a central and recurring theme in violent conflict in Niger. After the Tandja government signed a deal with the Chinese mining company Sino-U to exploit new uranium deposits in 2006, a new Tuareg rebel group, Mouvement des Nigériens pour la Justice (MNJ) launched repeated attacks on Nigerien security forces protecting uranium mines, even kidnapping a Sino-U executive in July 2007.³²

The leaders of the MNJ explicitly cited the serious pollution and ecological impacts of uranium mining, as well as poor working conditions in the mines, as the main motivating factors for their attacks. They argued that the region had been marginalized and suffered disproportionately from mining damages, calling for a bigger share of uranium profits as compensation.³³ Since then, Niger's uranium mines have continued to be prime targets for militant groups. In 2010, Al-Qaeda in the Islamic Maghreb (AQIM) kidnapped mine employees in Arlit; in 2013, AQIM exploded a car in the mine; and in 2016, AQIM claimed a rocket attack on the mine.³⁴

Whatever the financial benefits it provides to the Nigerien state and local workers, uranium mining has been a long-standing source of suffering for many Nigerien people, with severe negative ecological, health, and social consequences for the communities involved. While the violent uprisings of Tuareg militant groups and the multinational spread of Islamic terrorism cannot be solely attributed to uranium mining, these sites have surely been a continued source of grievances for these communities and helped justify their causes. Given the demands for increased revenue sharing from militant groups, the promise of uranium wealth has likely been a motivating factor for these groups to engage in conflict.

Additionally, uranium mines also have an important symbolic dimension. Attacks on the mines represent broader frustration with the injustices of colonialism and neo-colonialism, global capitalism, environmental degradation, socio-cultural changes, and unrepresentative, often repressive governance. In this sense, the societal changes associated with uranium extraction and local backlash to these changes can be seen as one facet of a broader "curse" of Niger's marginalization within the global system.

A history of resilience and renegotiation

Overall, the promise of uranium wealth has dominated the economic, political, and social history of Niger. The outsized financial influence of this single primary commodity in a poor country reliant on foreign actors for extraction has applied heavy burdens and distortions that have warped the country's development. "Dutch disease" has made it difficult for other sectors of the Nigerien economy to develop, while the state has become heavily reliant on commodity prices and therefore significantly indebted and vulnerable to boom-and-bust cycles. Periods of rising resource revenues and the discourses surrounding uranium exploitation contracts have created opportunities for authoritarian rulers to employ repression against political enemies, extend their rule, and even seize power from elected governments, stymying good governance in Niger. And the environmental and social damages of mining have caused many Nigeriens immense suffering, which in turn fuels violent conflict.

Sadly, Niger generally fits into the patterns of the resource curse, with the enrichment of some individuals involved in the state or the economic enclave of the mining sector being insufficient to outweigh the negative overall impacts of uranium exploitation in the country.

Cause and effect are hard to disentangle in political and economic analysis. Is Niger's economy truly weak because of the effects of uranium, or, rather, is uranium simply dominant because Niger's economy, as a landlocked country mainly consisting of desert, so weak? Similarly, has uranium weakened the country's political institutions, or is the country's fragile state and authoritarian roots to blame for mishandling its resource wealth? Of course, the answer is both. Effective institutions are critical to benefitting from resource wealth,³⁵ nevertheless, there is significant evidence to suggest that natural resource wealth itself often has deleterious effects on political and economic institutions.³⁶

The people of Niger are not blind to these effects, or naïve about the country's relationship to uranium extraction. On the contrary, Nigeriens have a long history of critical engagement with the resource curse and know all too well that there are no easy solutions. Leaders have attempted a variety of economic models and development strategies, beginning with the *société de développement* in the 1970s, adapting to new structural adjustment and neo-liberalization policies in the 1980s, opening competition to new competitors such as China in the 2000s, and repeatedly renegotiating mining contracts with French companies. Niger has repeatedly rejected authoritarian rulers and elected multiple leaders through free and fair elections since the 1990s, despite the state's vulnerability to coups; leaders such as Issoufou have even spoken explicitly about good governance and overcoming the resource curse. The violent rebellions the country has suffered from can be seen as demands for justice and attempts to renegotiate the place of uranium in Nigerien society, righteous demands unfortunately often expressed in cruel and destructive ways.

All of the ups and downs of Niger's turbulent history with uranium are expressions of an ultimate desire to address historic injustices and turn uranium into an engine of progress for the people of the region. While Niger faces huge challenges today, one thing is certain: The national conversation about uranium is far from over.

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