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Niger: A State Rich in Uranium

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Abstract

The Republic of Niger is a very poor country, but expecting a second uranium boom. The pursuit of raw materials by northern and emerging countries has allowed Niger to generate significant financial revenues. Furthermore, this recent competitive climate characterized by a redistribution on the geopolitical and economic landscape, has resulted in the end of the French monopoly over *yellowcake* (uranium ore concentrate) exports. The dominating Areva group has been undermined by the arrival of Chinese companies keen to exploit Africa's oil and mineral wealth, resources which are essential for the development of the Republic of Niger.

In order to understand these new challenges and the current balance of power struggles pertaining to Nigerien uranium, this article analyses the impact of exploitation on Niger's domestic and foreign politics as well as on its economy. Finally, it considers the effects on Niger of the Fukushima nuclear power plant incident.

The kidnapping on 16 September 2010 of seven Areva and Satom (a subsidiary of the Vinci Group) employees, which was claimed by the Salafist brigade of Al Qaeda in the Islamic Maghreb (AQIM), thrust the Republic of Niger into the political and media spotlight. This commando-type operation at the Arlit mining site was followed four months later by a similar operation, this time in the heart of Niger's capital, Niamey. While four of the seven hostages are still being held in northern Mali (three were released in February 2011), the two young people abducted from a

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restaurant in Niamey were probably executed by their captors as they were pursued at the Malian border by the Niger army supported by French troops.²

Among the poorest countries in the world, Niger rarely features in the headlines, except for the dramatic periods of drought which regularly affect the population, leading to solidarity campaigns, and for *coups d'état* impacting the country's political life. The most recent of these *coups d'état* (February 18, 2010) deposed President Mamadou Tandja who had modified the Constitution in order to remain in power (Grégoire 2010). Since then, the chain of historical events has accelerated at a rapid pace. The latest event was the election of Mahamadou Issoufou as president of the republic, after an election that took place under conditions of transparency and respect for democracy (March 12, 2011).

The task facing the ninth Niger president will not be easy. Among other things, he will have to address the insecurity resulting from the presence of AQIM in Mali's territory, which was "refueled" by western hostages in Niger. He will also need to eradicate the criminal economy (trafficking of all kinds, starting with drugs) now widespread in the Sahara region, and attempt to lift the country out of underdevelopment. The renewed interest shown by the international community in Niger's uranium deposits, and the revenues the country hopes to realize helps facilitate the task. However, the economic situation is equally murky. Due to the recent emergence of China, now Niger's second largest trading partner behind the former colonial power, a repositioning of geopolitics is underway as French hegemony is challenged. The Areva group has for over forty years imported more than 120,000 metric tons of Nigerien uranate to supply French nuclear power plants. However, the monopoly is now disputed by China, which, like other emerging countries, covets Africa's oil and mineral resources. The accident at the Japanese Fukushima power plant, following the March 11, 2011 earthquake, was factored into this new geopolitical and economic rivalry. This event caused a sudden fall in the price of uranium on the spot market and led several countries, particularly in the northern hemisphere, to come under public opinion pressure and question the relevance of their nuclear programs. The uranium sector is, therefore, going through a turbulent period.

To understand the issues relating to the exploitation of Nigerien uranium and the new balance of power, it is appropriate to look back in time and to analyze the impact of uranium on the country's economic and political life, at home and abroad. Since 1968 uranium has played a major role in these areas.

2. According to another version, one of the young people was killed by his captors while the other died in a clash with French forces who were trying to free them.

Nigerien Uranium Mining Background

Beneath the surface of the Sahara region many raw materials are found (oil, natural gas, and minerals) discovered during the first European exploration expeditions. Geologists started their exploration while geographers mapped this vast desert. Although landlocked, these natural resources were coveted by colonial powers worried about ensuring energy independence. Also, these resources spurred rivalries in the partition of West Africa. Britain dreamed of creating a Cairo-Cape Town axis while France wanted to connect the Atlantic (Dakar) with the Red Sea (Djibouti). The Berlin conference (November 1884-February 1895) organized the division of Africa among the European states. The Sahara was given to France and Great Britain, Spain took possession of Western Sahara, and Italy took Libya, after expelling Turkey (1912) which had occupied it for three centuries.

After this distribution was complete, exploration campaigns intensified in the hope of discovering oil reserves. The geologist Conrad Kilian (1898-1950) was one of the first to see the importance of oil in the Algerian and Libyan subsoil (Boissonnade 1982). Subsequently (1956), French companies like *Compagnie française des pétroles Algeria* (CFPA) discovered, after several years of research, an important oil field at Hassi-Messaoud and gas reserves at Hassi-R'Mel, which they put into operation. On the eve of independence for Algeria and the Sahelian countries (Mauritania, Mali, Niger, and Chad), French political circles, believing that the Sahara was geologically comparable to Canada or Siberia, envisaged to separate it from these countries in order to keep it within the French fold through the establishment of the *Organisation commune des régions sahariennes* (Common Organization of Saharan Regions) (Bourgeot 2000). If the pretext began as an assumption that the fragmentation of the Sahara would impede the organization of the overall economy and coherent administrative management, the ulterior motive was to ensure that France kept its supply of hydrocarbons, as well as Algerian iron, coal, and manganese. Uranium was still at the stage of a promising prospect in the Hoggar and Aïr massifs. Another reason for France retaining the Sahara was to keep its nuclear testing areas. Beginning in 1960, France conducted a series of nuclear tests in the region of In Ecker (southern Algeria). The dream of a French Sahara disappeared with the Evian agreements (1962) following the National Liberation Front (FLN) leaders opposing the partition of Algeria. However, France continued nuclear tests until 1966 and the CFPA operated the Hassi-Messaoud wells up until their nationalization in 1971.

Uranium ore was essential for the manufacture of atomic bombs, and for the supply of nuclear power plants. France installed these plants on its own soil

for electricity, which became the reason for a series of exploration campaigns. In the early 1950s, a geologist from the Department for Geology and Mineral Exploration from the Office of the High Commissioner of French West Africa identified the presence of uranium in the Agadez region of Niger. The French Atomic Energy Commission (CEA) and the Bureau of Geological and Mining Research (BRGM) undertook more extensive reconnaissance, first using land-based motor vehicles in 1956 and later going airborne in 1960. These programs resulted in the discovery of ore deposits at Arlit, Akokan, Azelik, Madaouela, and Imouraren. In addition to oil, the presence of uranium in the Saharan subsoil was confirmed, an equally strategic energy source for northern countries. However, unlike the oil, uranium was concentrated in Niger where it is mixed with sandstone in the Tim Mersoï sedimentary basin located on the western edge of the Aïr Mountains.³

The decision to mine the Arlit deposit was made in 1967. The bold gamble of installing a mining industry in a remote desert environment⁴ was successful since Niger has become one of the top exporting countries for *yellowcake* (uranium concentrate or uranate). In 2008, it was the fourth largest producer country (3,300 metric tons/year), representing 8.7% of global production. Only Canada (25%), Australia (19%) and Kazakhstan (13.5%) ranked ahead of Niger.⁵ Operations were, however, marked by a series of conflicts between, on the one hand, various presidents of the Republic anxious to take full advantage of the export potential of the precious ore with the Areva group, and, on the other hand, Niger and the Tuareg rebellion.

An Unequal Contest: Diori Hamani and the French Atomic Energy Commission (CEA)

Diori Hamani, the first president of the Republic (1960-1974), attached great importance to this new industry. It was, in his opinion, the only one able of allowing the country to develop. Established in 1968, SOMAIR (*Société des mines de l'Aïr*),

3. Uranium has been discovered in Mali (Falea and Kidal regions), but has not yet been exploited.

4. Cotonou, the port through which inputs pass (reagents, materials, etc.) and where the uranate is exported, is 2,500 km away.

5. These countries contributed more than 88% of world production. It is difficult to estimate their reserves due to the complexity of assessing them and to their strategy which consists of not disclosing them in order to maintain prices at a high level while providing enough information about their production capacity to attract investors.

operated open-pit mines and began producing its first metric tons of uranate in 1971 (400 t). In 1974 production reached 1,100 metric tons, followed by a record amount of 2,350 metric tons in 1981. SOMAIR is owned by the French group Areva NC with a 63.5% capital share and the remaining, 36.5% capital share, owned by the *Office National des Ressources Minières du Niger* (ONAREM). As with *Compagnie des mines d'Akouta* (COMINAK), the company was initially dependent on the CEA. In 1976, both were integrated into a subsidiary, *Compagnie générale des matières nucléaires* (COGEMA) becoming, in March 2006, Areva NC (Nuclear Cycle), a 100% subsidiary of Areva France.

With the intention of obtaining a fair price for the sale of his country's uranium, and reassured, in 1972, by the international situation characterized by a sharp rise in the prices of oil and raw materials soaring in the middle of the decade, President Diori Hamani asked France to index the price of uranium on the kilowatt-hour produced from oil. This would bring significant financial returns to Niger, in the order of 50 million CFA francs per metric ton instead of the 5.5 paid to the national investment fund (Salifou 2008). During tough negotiations, the French delegation led by the Minister for Industry Yves Guéna determined that the Nigerien Head of State demand were unacceptable, with the CEA seeking to limit the financial effect of mining in Niger on the overall project profitability. A final meeting aimed at a compromise scheduled to take place in Niamey on April 18, 1974 never took place. The army led by General Seyni Kountché ousted President Hamani from power during Easter weekend (April 15, 1974).

While a direct connection between the two events cannot be established with certainty, it is very likely that the French intelligence services got wind of what was going on in Niamey, where the French army was oddly quiet during the coup. Indeed, the Elysee's Africa bureau, then headed by Jacques Foccart, was always aware of what was happening in Africa, especially in Niger where it intervened in the negotiations.⁶ The possibility of collusion cannot be formally ruled out, despite official denials and lack of evidence. This theory seems to be reinforced by the official communiqué issued on the occasion of the official visit to Niamey (France was not pleased) by Colonel Kadhafi a few days earlier (March 7, 1974). The text refers to the signing of a "defense and security treaty under which each party agrees to defend the other in the event of aggression, whether direct or indirect" (Baulin 1986). In addition, Libya is committed to supporting Niger economically, affected by drought, and even to take a share in the uranium industry. This Niger-Libyan

6. A former military officer from the Ministry for Cooperation explained to me that France was "always" warned of an impending coup d'État as witnessed during the ousting of General Ibrahim Baré Maïnassara.

rapprochement and the will of President Hamani to get a better price for uranium exports probably contributed to his downfall. His inability to solve the food crisis caused by drought in 1973-1974, which led to the suffering of his people, was the main reason for his removal.

Seyni Kountché and the Ephemeral First Uranium Boom

Immediately after the seizure of power by the military, production increased (4,120 metric tons in 1980) through the establishment of the Cominak (1978) under pressure from the oil crisis of 1973-1974, which prompted France to turn, even more so, toward nuclear energy. As with Somair, the Areva NC group is the main shareholder, holding 34% of capital, ahead of Onarem (31%), Japanese investors (25%), and Spanish (10%) investors. Conducted in the form of an underground mine, the initial investments (54 billion CFA francs between 1974 and 1978) were much higher than those made for Somair (18 billion between 1968 and 1976) (Gregoire 2010). However the ore extracted has a higher uranium content due to the greater depth of the mine (200-250 meters compared to 80).

Coupled with the increase in the price paid by France, which went from 5,000 CFA francs per kg (1971) to 24,500 (1980), the increase in production allowed Niger to achieve significant revenue inflows. From around 11 billion CFA francs in 1971, the state budget reached 93.8 billion in 1982. Uranium accounted for more than 80% of the country's exports and 50% of state revenue. This was timely in terms of taking over from peanut exports. Peanut farming had been the lifeblood of the country since independence, but declined following the drought of 1973-1974, as farmers abandoned peanuts in favor of food crops.⁷ It allowed for the removal of tax measures that greatly relieved farmers and ranchers weakened by drought, upgraded salaries of civil servants (the minimum wage rose from 4,680 CFA francs in 1970 to 13,500 in 1978) and equipped the country with infrastructure (schools, clinics, roads, and wells). Traces of that first uranium boom are still visible, with many administrative buildings dating from that period, both in Niamey and in the interior of the country. With the benefit of hindsight, we can say that the situation in Niger had improved and that the country was not a victim of the Dutch disease which often means the exploitation of resources undermining the national economy, social cohesion, and institutions. Without condoning the authoritarian regime of General Seyni Kountché, it has to be recognized that uranium helped the development of the country and that the

7. Up until then peanuts and livestock accounted for 65.5% of its exports (1972).

Head of State, who benefited from a favorable set of circumstances, endeavored to make the most of it, affirming his determination to sell the precious ore to “even the devil.”

The euphoria proved to be short-lived due to the downturn in the market. Industrial countries adapted to the oil crisis, while public opinion showed their distrust vis-à-vis nuclear energy (Raynaut 1990).⁸ Stakeholders in the sector brought about a readjustment through the sale of surpluses so that the world market went into reverse. The price of a pound of uranium fell from \$40.75 in December 1979 to \$27 a year later. The decline continued in 1981 (13%). From 1989, the dismantling of the Soviet Union following the fall of the Berlin wall, deregulated the market even more with countries of Eastern Europe selling their production at low prices. In this context, primary production was weakened, leading to the closure of mines and underinvestment in those operations hit by the recession in 1983, as was the case in Niger. A victim of “Dutch disease” due to lower demand and a fall in prices, the country was subjected to strict restructuring by the Bretton Woods institutions in order to reduce high levels of debt. As a result, uranium played a secondary role in the national economy, even if it did enjoy a resurgence in competitiveness with the 50% devaluation of the CFA franc (1994), despite an increase in supply costs (40%). Until recently, it was no longer the main financial resource being surpassed by re-exports of cigarettes to Nigeria, Algeria, and Libya (in 1993, mining accounted for 3.9% of GDP according to the Statistical Yearbook for the fifty years of Niger independence, 2010).⁹

Uranium and the Tuareg

Disadvantaged by the natural conditions of the Sahel-Sahara geographical situation (an area terrain with little rainfall making it unsuitable for agriculture and difficult for livestock), the Agadez region benefits from a subsoil which is rich in ores (cassiterite, coal, and uranium). To the extent that these deposits are in the Tuareg territory, local people believed that they were entitled to get most of the benefits, however, it had not turned out that way. The opening of mines, in effect, caused an influx of Hausa and Djerma populations originally from the south of

8. The establishment of a third mining company, the Tassa-Taghalghe mining company, was therefore abandoned.

9. In 1995 Sobimex which was involved in the re-export of U.S. cigarettes to Algeria and in particular to Libya had a turnover (50 billion CFA francs) which was higher than that of Cominak (Gregoire 2010).

Niger, to the degree that Arlit and Akokan became “black” towns whereas the Tuareg community was a minority. This exacerbated the feeling of not having benefited from the mining companies, as the Tuareg were under-represented among their employees (SOMAIR and COMINAK employed about 1,500 people in 2010).

It seems that the Tuaregs failed to integrate into these two companies. Nevertheless they enjoyed an abundance of sympathy maintaining certain fascination for the “whites” from French expatriates in charge of Human Resources departments. The latter were instructed to involve local populations in the mining of subsoil resources. This explains why a worker or a staff employee of Tuareg origin was preferred to another candidate of equal competence provided that he met the selection criteria (that is, being in good health and literate). This policy also featured in the choice of supplier companies. The Tuareg quickly proved unreliable partners due to their limited commercial know-how, hence their quick removal from the supply chain. Also, they played a negligible role in mining town economies. The Tuareg community lives at the margins and in other ways (pastoral, caravan, and handicraft) when not at a loose end. This is why they felt excluded from the uranium rent.

The Tuareg rebellion in the early 1990s expressed this feeling of frustration in the framework program (CRA 1994), “The benefits [of uranium] are shared by France and her protégés in power in Niger. . . . Neither the Tuaregs nor their regions have benefited either directly or indirectly from this windfall.” For their leaders, the marginalization relates to the single fact that they have always been excluded from key state positions and positions in mining companies. They were monopolized by Djerma, who have held political power since independence. It is by holding these posts that the Djerma and Hausa have been able to have well-connected businessmen in companies. Again according to these officials, such privileged positions resulted in the removal of Tuareg traders from their supply chains and the under-representation of employees of Tuareg origin in workforces. Finally, they felt that the under-representation of Tuaregs within the state apparatus and companies in relation to their demographic weight was the cause of their economic exclusion.

Tuareg rebels never used force against mining sites as was suggested by their Malian counterparts. For them, such a choice would have been irresponsible, because their aim was not to apply an economic stranglehold on a country in an already dire financial situation. Increasing difficulties would not have served their cause because the state needed money to implement the Ouagadougou peace agreements (April 1995) and uranium remained one of the main income sources. Apart from a few operations which were designed to capture all-terrain vehicles belonging to mining

companies, no acts of sabotage took place on the sites. Therefore, any effects on uranium exports during the conflict were marginal.¹⁰ This is not the case now, where the predictable abduction (Grégoire 2010) of seven expatriates by AQIM has abruptly¹¹ interrupted work on the new mine at Imouraren and forced Areva to secure sites. As the sites are formally open, they will become entrenched camps like those in South Africa and Namibia.

While the Tuareg rebellion advocated federalism, the Ouagadougou peace agreements forced an enrollment in the new decentralization law adopted a few months previously. This law aimed to bring government closer to the people and to fight against poverty by providing the regions with financial resources. Henceforth, article 95 of the new mining code envisages allocating 15% of mining revenues to community budgets in regions where mining takes place, so that they can finance local development. This provision does not prevent the emergence of a new rebellion, like the creation in 2007 of the Niger Movement for Justice (MNJ). The MNJ was intended to be a broader national movement encompassing not only Air and Azawak, but also the Toubou area as well as other Niger populations who sympathized with their aspirations. It would claim an improved implementation of the peace agreements, the establishment of a genuine democracy, and economic measures to bring the country (especially the north) out of the economic slump. The motion also called for the transfer of 50% of mining revenues to local communities. Priority was given to hiring indigenous populations in the mining sector and to ending the “sell out” of uranium mining licenses, and finally the discontinuance of research activities in livestock areas which deprived Tuareg herders of the pasture areas,¹² that is to say their means of subsistence. At the same time local, mostly Tuareg, nongovernmental organizations (NGOs), national organizations like Group for Reflection and Action on Extractive Industries in Niger (GREN),¹³ and international bodies (Greenpeace, CRIIRAD¹⁴) were denouncing the consequences of uranium mining on the environment. For example: groundwater contamination by radioactive substances; massive pumping of groundwater; all kinds of pollution; disappearance of some plant species; and biodiversity degradation. The health of

10. Companies reinforced the protection of their facilities and reorganized the transportation of uranate.

11. The day after the abduction of the Areva and Satom employees, the 600 people who worked on the site deserted it. In May 2011, Areva was considering the return of expatriates on a “voluntary basis” in order to restart construction of the new mine.

12. In particular this was the case in the Tegguida n'Tessoum region where a perimeter was awarded to SinoU, a subsidiary company of the China Nuclear International Uranium Corporation.

13. Think-tank and action group for extractive industries in Niger.

14. Commission for independent research and information on radioactivity.

the population was also a concern: lung and kidney cancers, and respiratory diseases. Areva disputed this accusation by emphasizing the precautions taken and programs related to public health. However, measurement surveys carried out in 2003 and again in 2005 showed that radioactive dust from mines was not properly isolated, that groundwater posed contamination risks, and that the management of radioactive waste was unsatisfactory.

On several occasions the MNJ confronted the Niger Armed Forces (FAN) and attacked mining sites, taking Areva employees hostage. They were quickly released. Among them was a Chinese official of the company Sinou, a subsidiary of the China Nuclear International Uranium Corporation. Although it did not disrupt Areva activities, the company was accused of collusion with the rebellion by President Tandja. Thanks to negotiations beginning with Libyan mediation, the MNJ laid down their arms in April 2009 with “the Tuareg problem” still not resolved. Indeed, the surrender was not part of negotiations as in 1995, but gave rise to Colonel Kadhafi providing generous financial compensation to leaders of the movement (they were supposed to share it with their men, but rarely did).

A possible reason for a resumption of hostilities could be that the Tuareg community, and particularly the young people leaving the education system in growing numbers,¹⁵ remain excluded from the benefits of mining activities. The 1,100 direct jobs (heavy equipment operators, technicians, and managers) which Areva intends to create at the Imouraren site, should add between 700 and 800 indirect jobs, and will give rise to very important issues.¹⁶ The group does not intend to practice “positive discrimination,” but will hire people who best meet Areva’s needs. If 80% of the recruitment takes place in the Agadez region, it will not necessarily benefit the Tuaregs. There is even the fear that based on a certain level of qualification, they will not meet the selection criteria. It is, therefore, very likely that they will be under-represented in Imouraren just as they are in Arlit and Akokan, and that many of them will remain unemployed.

The AQIM presence in the area and the development of drug trafficking affect the situation because they offer Tuareg youth, with no direction or prospects other than unemployment, easy money through expatriate abductions or by escorting valuable drugs. In this regard, the criminal economy fills the gap left by the absence of job development programs and economic activities needed to generate

15. Over the last decade, the gross enrollment rate has made significant progress (30.35% in 1997-1998, 67.8% in 2008-2009) as a result of the impact of the “Education for All” program, the action of NGOs, and private initiatives. In the region of Agadez, it increased from 41% in 1997-1998 to 82.3% in 2008-2009 (source: Ministry of National Education, Niamey).

16. The group expects to pay 16 to 20 billion CFA francs in salaries each year in its new mine.

income for the population, even though the Tuareg who join AQIM may not share the Salafist ideology.

The End of the French Exclusive Preserve and the Bursting in of China

The sale of surplus uranium from former Soviet bloc countries resulted in the emergence of a speculative market with short-term transactions between companies and brokers. Thus, the spot rate has grown, from 10% of the total trades in 1980 to 30% in 1990 (Cellier and Robinet 2008). While this speculative fever has stabilized at a level below 15% of trades, the spot market became a benchmark for determining the price paid by multinationals to producer countries in contractual agreements. The latter govern the market, unlike in the oil sector where prices vary based on the price of “black gold.” Thus, every year the price and the amount of production are subject to negotiation between Areva NC, the only buyer, and the Niger authorities.

Despite the danger of nuclear power denounced by environmental groups in Northern countries, uranium became a global issue when the International Atomic Energy Agency predicted an increase of at least 20% in nuclear power worldwide by 2030. In 2010, 440 nuclear reactors were in operation; 450 new reactors will be installed by 2030, including approximately one hundred in China; about forty in Russia; and thirty in South Africa and India (Cellier and Robinet 2008). For their part, the United States has embarked on a civil nuclear program with some 40 reactors planned or proposed. This will make a total of nearly 1,000 reactors requiring a supply of uranium. These projects have had an impact on the fluctuation of the spot market price. Following price stability at historically low levels for almost twenty years (1985-2003), prices started to increase, at first gradually, then a surge in June and July 2007. This was also the case for other raw materials. In Niger, it was accompanied by an increase in production after having stagnated at around 3,000 metric tons. Then it rebounded, rising to nearly 3,900 t in 2010 (2,300 t for SOMAIR and 1,600 t for COMINAK), compared to 3,300 t in 2005.

TABLE 1 – EVOLUTION OF THE PRICE OF A POUND OF *YELLOWCAKE*
ON THE SPOT MARKET

Years	Price in \$
2000	7
January 2003	18
January 2005	20
May 2006	40
June 2007	136
January 2008	75
January 2009	48
July 2010	43
December 2010	60.5
February 2011	73
March 2011	50

In the last quarter of 2010 the upward trend in prices resumed, with an increase of 45%, reaching \$60.50. For experts, such a rebound marks the return of a bull market leading to an increase of more than 30% in 2011, a price of about \$80 at the end of the year thanks to the imminent end of Russian weapon recycling (15% of the current supply), and the construction of new reactors around the world. These prices, which are much higher than in 2000, suggest that a second phase of increased production was underway. The first phase corresponds to the years 1973-1979 and was characterized by the oil crisis and the development of nuclear programs in the northern hemisphere.

The accident at Japan's Fukushima nuclear plant has raised questions over these forecasts, with the spot market recording a fall of more than 30% in one week. This event received a lot of publicity and affected international public opinion, increasing awareness of nuclear energy dangers. Germany, which will undoubtedly be followed by other countries (Switzerland, Austria), decided to decommission its fleet of nuclear power stations by 2022. Under these circumstances, the future of uranium seems uncertain at a time when the market should have been experiencing a resurgence in production, with the renewed commitment of the northern countries to civil nuclear energy, a commitment now in question. Moreover, the appearance of new buyers such as China, India, and South Korea begs the question: what will these countries decide to do following the accident at Fukushima? Will the sector be affected to a significant degree or will it recover once emotions settle? It is too early

to say, but countries like France have already indicated that they will go ahead with the installation of new power plants on French soil. As for emerging countries, they are unlikely to reconsider the decision made in favor of nuclear power because their economies need considerable amounts of energy.

In Niger, the globalization of the uranium market resulted in the emergence of new economic powers and put an end to the French monopoly, even if Areva still holds a commanding position. Negotiating with the government to fix the price for a kilogram of uranate became increasingly tense and conditions favored producer countries until the accident at the Japanese plant.¹⁷ Since then, the situation has turned around (in May 2011, the price stabilized around \$58) and the new Niger authorities have no interest in backtracking on previously signed agreements, which is not the case for Areva. These contracts, often called opaque, have long been established as an unequal relationship when stakes are high. Uranium exports once again represent an important source of revenue for Niger: 30% of exports or more than 140 million dollars a year (Cellier and Robinet 2008).

TABLE 2 – EVOLUTION OF THE PRICE OF URANATE PAID BY AREVA
(CFA FRANCS/KG)

Years	Price (CFA francs)
1990	17,500
2002	17,500
2003-2004	21,000
2005	23,100
2006	25,200
2007	40,000
2008	55,000
2009	55,000
2011	70,000

Source: *Statistical Yearbook 2003-2007, 2008 edition, National Institute of Statistics and website.*

After a long period of time (1990s) when a kilogram of uranate was bought at a price of 17,500 CFA francs (i.e., 26.28 euros), the year 2003 marked the first of a series of increases which have since continued. Between 2006 and 2008, Areva had

17. At the end of the agreement, Niger can freely make available a small quota of uranate (300 t) on the international market.

to accept a twofold increase in price. These adjustments were made under pressure from a soaring global price, but also, and above all, from competition becoming a factor for the first time. In power since 2000, President Tandja found himself in a position of strength during negotiations with Areva because, on the one hand, the mining licenses for the deposits at Arlit and Akokan were expiring and, on the other, he intended to proceed with the award at Imouraren where Areva was no longer the only interested party. The Chinese, who have had an embassy in Niamey since 1974¹⁸ and have achieved remarkable economic and diplomatic breakthroughs in Niger and other African countries, were eager to be involved.¹⁹ Under these conditions, in December 2009, Areva agreed to pay 55,000 CFA francs (84 euros) per kilogram of Niger uranium, a higher price than the world price (\$43.50 per pound, or 58 euros per kilogram, at the start of October 2009). Before the accident at the Japanese plant, the set Areva price in 2011 was again reassessed in order to follow the upward movement of the world price.

In 2009, Areva was once again awarded the Imouraren site (although not without difficulty), discovered in 1966 and located halfway between Agadez and Arlit. The French group was in no hurry to sign the operations agreement and was forced to change strategy since it was nearly replaced by a Chinese company. In the bid attempt, Areva was supported by French diplomacy in order to ensure the security of the supply of uranium to France. The scales tipped in their favor in January 2009, thanks to the intervention of President Nicolas Sarkozy. Three months later he made a quick stop in Niamey during which he might have reassured the Niger president of France's neutrality in the ongoing political process.²⁰ The French president stated that "he too had amended the Constitution" after praising the "democracy and stability" of the Nigerien regime. The discretion of the former colonial power with regard to the Nigerien president's projects and France's half-hearted condemnation of President Tandja's political maneuverings seems to confirm this thesis. This French caution is part of African *realpolitik* pursued under the leadership of President Sarkozy. More so than his predecessors, he favors the defense of economic interests at the expense of respect for democracy. The interest not to hinder

18. The Chinese have difficulty in understanding how African States operate. As for their companies, they operate with a total lack of transparency, hence the difficulty in obtaining information from them.

19. The Chinese have difficulty in understanding how African states operate. Africa societies operate with an almost total lack of transparency, hence the difficulty in obtaining information from them.

20. President Tandja was engaged in a constitutional coup in preparing a new Constitution - that of the 6th Republic - to be adopted by referendum so that he could seek a third term as Head of State, something which was not allowed under the previous Constitution.

Areva activities prevailed as Niger ensured, in 2008, one third of the supply requirements of French nuclear power stations. By 2015 Areva Niger will account for 50% of supplies to France.²¹ By waving the threat of China, President Tandja put himself in a position of strength with regard to France, whose influence has weakened. China became a fully-fledged partner starting with Tandja's second term as Head of State (2004). China has the advantage of following a policy of non-interference in the internal affairs of African countries and is not overly concerned with respect for democracy and human rights, which perfectly suited the now-deposed president.

The planned investment for the Imouraren mine is 1.2 billion euros, or 650 billion CFA francs, over three years²², with the Imoumaren SA share of 66.65% by Areva, 23.35% by Sopamin (*Société de patrimoine des mines du Niger*) and 10% by the State of Niger. The new deposit, which will be extracted using open-pit mining, is a low-grade ore (0.8 kg of uranium per metric ton). In theory, production should start in 2012 and reach full capacity in 2015, producing 5,000 t of uranate annually for thirty-five to forty years (reserves estimated at 154,000 t). However, Areva is not in a hurry to develop it due to significant debt requiring new capital shareholders before new investments can be made. Furthermore, the group has recently lost the "market of the century" in the United Arab Emirates. The project has been delayed and continues to fall behind, having stopped following the abduction of seven expatriates in Arlit (Areva now hopes to begin operations at the Imouraren mine at the end of 2013). The group must now secure the site as well as two other sites because they will not be creating a mining town, since doing so would require too large an investment, as was the case in Arlit and Akokan. By mutual agreement with the Nigerien authorities, it was decided to install site facilities, with staff working on a rotational basis for a number of days. So they will not live at the mine, but in Arlit (20%) and especially in Agadez (80%), including the expatriate staff. Thus there are three sites to secure.

Meanwhile, a Chinese company, Somina (*Société des mines d'Azelik*), in November 2007 received authorization to operate the Azelik site (Tegguidda-n-Tessoum region) which will produce approximately 700 to 750 t annually (reserves estimated at 13,000 t). The investment is less important than at Imouraren, which will be one of the largest mines in Africa. The ore is, in fact, just below the surface (20 meters deep), but is low-grade and in limited quantities. The first drum of yellowcake was produced when the Azelik site opened (17 March 2011). China

21. Of the 6,000 t of uranium extracted worldwide every year by Areva, 50% comes from Niger (the rest is purchased in Canada and Kazakhstan).

22. The Niger budget, which has increased by over 28.4%, was around 730.6 billion CFA francs in 2009 (503 billion in 2005). In 2011, it was set at 940 billion CFA francs.

received the prize after heavily investing in Niger, particularly in the oil sector, but also infrastructure (construction in the form of the donation of a second bridge across the Niger at Niamey). It should be emphasized that in the coming years China is going to need large quantities of uranium given their target to increase electricity production provided by nuclear from 2.5% to 6% (at the moment coal accounts for 70% of the total). Assuming that China only builds 60 new reactors by 2020, it will need around 24,000 t to operate them (60 × 400), and its uranium production is very low (about 1,000 t). China will also need to secure supply and must seek a degree of independence by diversifying sources. The outcome of the Paris visit by President Hu Jintao (November 4-6, 2010) was marked by a surprising (yet undramatic) turn of events, the signing of a \$3.5 billion Areva and China General Nuclear Power Group (CGNPC) contract. CGNPC, the Chinese electricity giant, will have delivered 20,000 t of uranium over 10 years which will come from the Imouraren mine, where it nearly got the operational license! This surprising contract is perfectly legal because the Areva agreement with Niger allows for open market extraction of Niger uranium.

We have, therefore, witnessed a turning point in Niger history, with the end of Areva's monopoly. This means Niger is no longer the exclusive preserve of France, even if relations remain strong. Niger now has various partners (who are sometimes more generous than the former colonial master), allowing it to rebalance the affiliation with France. In the new context of global competition, Areva can no longer dictate terms to the Nigerien authorities as it did in the past. China was an alternative that President Tandja cleverly used to raise the stakes. But, Canada must also be included since the Canadian company Goviex intends to mine the Madaouella deposit discovered in 1963, and the previously allocation to COGEMA, though they were not developed, and were returned to the public domain. In the short term, five sites (Arlit, Akokan, Azelik, Imouraren, and Madaouella) will be operated by three different companies from different countries, provided that they do not reconsider their plans to build in the wake of the Fukushima accident. The industry has gone from being a monopoly to an oligopoly with Areva remaining dominant in terms of production. The geopolitical redistribution is, therefore, only partial in terms of operation, which is not the case for exploration.

Allocating Mining Licenses: New Income

This new interest in uranium meant that between 2000 and 2009, but especially after 2006, 128 mining agreements or prospecting licenses have been signed by

Niger, according to information collected by the Ministry of Mines. These agreements (each represents 500 km²) have been in existence since 1945 and relate not only to uranium, but also gold, oil, and coal. For uranium, as for oil, the provisions were rarely used until 2006-2007. Today, these licenses number 158 (130 relate to uranium) and cover an area of more than 90,000 km², including the Aïr, Djado, and Tim Mersoï regions²³. They involve more than 40 companies with twelve different countries. These “junior” companies engage in prospecting without proceeding to actual operation, that is to say, without mining the sites discovered due to insufficient financial resources. In the event of promising discoveries, they give up their licenses to powerful multinational “major” companies like Areva and make a healthy profit. In the current environment, these “non-producer juniors” strive to build license portfolios in order to secure their futures.²⁴ By multiplying the number of agreements and “junior” beneficiaries, Niger has expressed interest in diversifying partners. China, India (Earthstone Uranium FZE and Taurian Resources Pvt.), Canada (Orezone Resources, Goviex), the United States, Russia (the Gazprom group), Great Britain, Australia, South Africa, and the Virgin Islands (Indo Energy Ltd.) all obtaining licenses.

They were awarded with a complete lack of transparency, processed solely within the Ministry of Mines. Most of these licenses were awarded in 2007, a year noted for the soaring price of uranium (Table 1), as part of President Tandja’s wish to diversify Niger’s partners and source of funding. These licenses generate royalties for the state every year in levies and land taxes.

Their allocation sparked the interest of President Tandja and also of his entourage, who have been accused by opposition parties of personal gain. Indeed it has given rise to intermediary companies which are under the control of senior officials in the regime who know nothing about extractive industries and who have made money from allocating these licenses at a high price. The most promising areas were the subject of real auctions where the winner offered the highest commission. In other cases, it could be the simple transfers of mining licenses from one “junior” to another (some are ephemeral companies set up for speculative purposes), with the process involving further commissions/kickbacks. These licenses, which were subject to a *de facto* code of silence, were a source of corruption and a real source of income for politicians. This explains how some of them have become rich quickly. It is no coincidence that Ousmane Tandja, the son of the president of

23. Prior to 2006, each company could be allocated no more than four prospecting areas of 500 km² each, or a total of 2,000 km². To work around this constraint, new prospecting companies were set up by foreign corporations.

24. Juniors must undertake prospecting and cannot freeze their licences awarded for three years, renewable three times.

the Republic, was commercial attaché at the Niger embassy in Beijing. Neither was it by chance that several members of the previous Assembly proposed to set up a commission of inquiry into the terms for awarding these licenses which was refused by the Tandja government. He sought to redistribute windfalls to those around him in order to ensure both civilian and army support, and to protect himself against a *coup d'état*.

All in vain, because on 18 February 2010 a group from the Nigerien military ousted President Tandja, putting an end to the 6th Republic and to the political crisis that had shaken the country for months. Although the coup (the fourth in the history of Niger) was condemned by the African Union, international institutions, and western governments, the condemnation was more a matter of principle since it seemed like the only way out of a political crisis which had become a total stalemate. As with the overthrow of President Hamani, the issue of uranium was perhaps not unrelated to the ousting of President Tandja. The annual discussions between Areva and the Nigerien government, due to take place at the beginning of February, had been delayed a month, a parallel to the 1974 coup. Furthermore, President Tandja was preparing to make an official visit to Iran, a country intending to install a nuclear power plant. Even if based on assumptions, it is still a disturbing combination of circumstances.

Control of income from oil and mining, the motivation for the constitutional coup by President Tandja and his entourage, therefore, proved fatal. His fall led to a weakening of the Chinese position and a relative strengthening of France, due to their barely concealed support for the deposed president.

Conclusion: Toward a Second Uranium Boom?

Niger is no longer the exclusive preserve of France, with intrusions not only by China, which does respect the former territorial partitions, but also the United States and Canada who are in search of raw materials. In a region where France previously had exclusive access, this represents a break with the past, emphasizing the emergence of a new African elite calling into question the old ways. This pressure from emerging countries on the French domain is one of the consequences of globalization, where the Saharan Niger appears as a new pole in the race for raw materials and in a new “South-South” dynamic. In addition, the political will of President Tandja diversified Niger’s partners and, of lesser importance to Africa, President Sarkozy, with a serious loss of influence, allowed for new countries to step into the breach, including China, India (which has recently opened an embassy in Niamey), Brazil, and more recently, the United States. These other countries have realized the

energy potential of Niger and its importance in the fight against terrorism due to the AQIM presence in the area.

If there has been a geopolitical and economic redistribution, Niger (with reserves estimated at 216,000 t in 2007) wins, due to the rise in uranium price and the forthcoming increase in production. By 2015 it will be the second largest uranium producer in the world (9,000 to 10,000 t/yr.) behind Canada and ahead of Kazakhstan. This economic upturn, which Nigeriens were no longer expecting, may improve the financial situation of the country, and perhaps lead to a second uranium boom. This optimism must be tempered for three reasons. First, the new authorities cannot allow AQIM to disrupt mining activities, as was the case during the construction of the Imouraren mine. How will they eliminate this threat and who will help them? Secondly, how will the demand for uranium change after the Fukushima accident? Will the market lag or will demand rebound? Will the long-awaited second uranium boom turn out to be only a mirage? Finally, if new money flows into Niger (ranked last in the Human Development Index [HDI] classification established by the United Nations) it is hoped that funds will be used to effectively reduce poverty and not wasted or diverted.

The new president of the Republic, Mahamadou Issoufou, is faced with many challenges and his task will be not easy. We have not heard the last from Niger.

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