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**The Mining Boom in the Sahel Region:  
Will the Development last?**

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**Alain Antil**

*February 2014*



**Sub-Saharan Africa  
Program**

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Ifri  
27 rue de la Procession  
75740 Paris Cedex 15 – FRANCE  
Tel : +33 (0)1 40 61 60 00  
Fax : +33 (0)1 40 61 60 60  
Email : [ifri@ifri.org](mailto:ifri@ifri.org)

Ifri-Bruxelles  
Rue Marie-Thérèse, 21  
1000 – Bruxelles – BELGIQUE  
Tel : +32 (0)2 238 51 10  
Fax : +32 (0)2 238 51 15  
Email : [info.bruxelles@ifri.org](mailto:info.bruxelles@ifri.org)

Website : [ifri.org](http://ifri.org)

## About the author

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Alain Antil is a researcher and head of the Sub-Saharan Africa Program at Ifri.

He teaches at the Institut d'Études Politiques of Lille and at the Institut Supérieur Technique Outre-Mer (ISTOM). Alain Antil obtained his Ph.D. in political geography at the University of Rouen.

Prior to that he was associate researcher at the Laboratoire d'Étude du Développement des Régions Arides, collaborated for the International Crisis Group and regularly contributed to the revue Sciences Humaines. He is a specialist of the Sahel region and has worked more specifically on social and political issues, security and terrorism and traffics in the region.

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# Introduction

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The Sahel, often discussed on account of its problems and crises – in particular recently, in view of the crisis in Mali – is in actual fact experiencing a new positive economic era, like the rest of the African continent. For the five countries of the Sahel region we shall be examining – Mauritania, Senegal, Mali, Burkina Faso and Niger – this favourable evolution, although it varies from country to country, is based on booming extractive industries.

In order to understand this dynamic trend, it is necessary to place it in the broader context of mining industries evolution worldwide. It is particularly important to appreciate this, if we are currently confronted by a new super cycle regarding raw materials. We also need to analyse the reasons why this zone – like a large proportion of the continent – has so far been lagging behind with regard to exploration work.

After considering the global situation, we shall look in more detail at each of the above-mentioned countries so as to establish where their accessible resources are and their exploitation potential. Indeed, if the future for mining in the region clearly depends on the resources found there, the industries will not be able to develop in a sustainable way unless political and fiscal conditions are favourable. So, once the existence of resources has been established, the countries under discussion need to put in place strategies for attracting investment and realizing their potential.

Growing numbers of prospecting permits in the Sahel should not blind us to the patterns of activity and strategies employed which are not all above board and raise deeper questions concerning the type of development that is possible for these countries. In fact two debates are currently raging in the region in relation to mines. The first is the issue of fair distribution of resources and the second involves the way in which the mining economy can contribute to the development of these countries at both national and local level.

Thus, as well as the geological and technical issues that need to be taken into account, mining also includes an important political and social dimension. It involves huge capital investment undertaken by companies that are often foreign ones, so that prospecting for future mining activity often exacerbates the debate on the type of development the countries of the Sahel region wish to have and on their economic independence.

# Rapid Expansion of Mining in the Sahel: Mirage or Reality?

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## ***Boom in the mining sector in Africa in the last ten years***

While the three decades before the current one had been characterised by inadequate investment in mining and by more or less static prices for the main products of that industry, the first decade of this century was marked by a revival of demand and investments on an international scale. In this situation Africa benefited, as did other continents, from more rapid investment as can be seen from the table below.

**Table 1: Expenditure on Exploration in 2000 and 2008**  
(in billions of dollars)

<b>Date</b>	<b>World</b>	<b>Africa</b>	<b>% of Africa</b>
<b>2000</b>	2.6	0.3	12%
<b>2008</b>	13.8 <sup>1</sup>	2.5	15%

Source: African Union: Mineral Resources and Development in Africa, 2011, Addis Ababa, p. 33

Yet, African countries, with the exception of South Africa, remain mining countries of only secondary importance<sup>2</sup>. With approximately 15% of exploration budgets being spent in Africa in 2009<sup>3</sup>, the continent was then positioned between Australia (13%) and Canada (16%)<sup>4</sup>. As a consequence of this position of an

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<sup>1</sup> Exploration expenses had fallen to 7.7 billion dollars in 2009 but had taken a new start in 2010 with 11.7 billion.

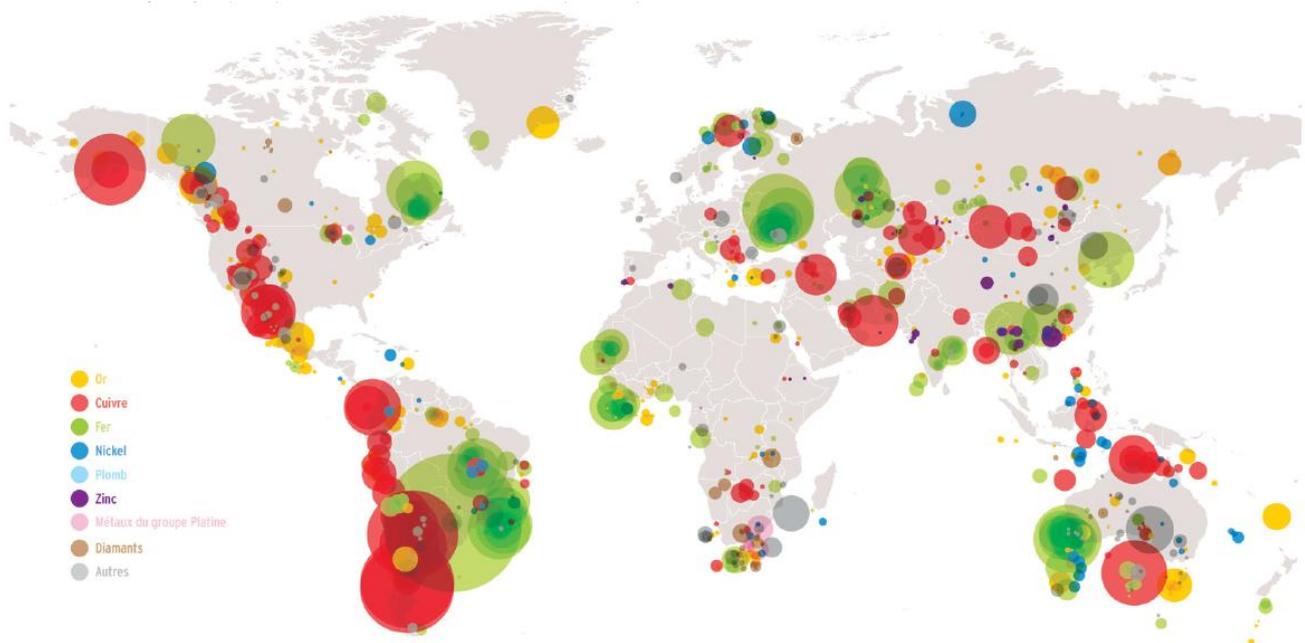
<sup>2</sup> See: Appendix 1.

<sup>3</sup> Apart from uranium.

<sup>4</sup> According to Metal Economics Group (2010) quoted by Louis Maréchal: "How can African mining resources be placed at the service of sustainable development?" in *Secteur Privé et Développement*, No. 8: "The Mining Sector – a Lever for Growth in Africa?", January 2011, p. 3.

underexplored region, Africa – as can be seen from the map below – presents with still fairly limited proven reserves. This map clearly shows that the continent (with the exception of South Africa and a few other countries) is to a large extent underexplored. It also demonstrates that the continent remains a mining frontier, where major discoveries are still to come. In addition, during the 1990s the proportion of the continent involved in producing ores had fallen from 16.6% to 10%.

**Map 1: Geographical Location of the Main Ores in 2010  
(proven reserves)**



Source: Raw Materials Group (2010) reproduced from *Secteur Privé et Développement*, No. 8: “Le secteur minier, un levier de croissance pour l’Afrique?”, No. 8, January 2011, p. 17.

The next decade was only the beginning of real investment by the international mining players in the continent. After that, even if there exist proven reserves of various ores in Africa, as we shall see below, it would be misleading to take these figures literally, precisely because exploration work and, on a wider scale still, geological mapping of numerous ores are still evolving<sup>5</sup>.

Mining output in the African continent accounted for 11.6% of world production in 2008, as opposed to Asia’s 28.8%, Latin America’s 23.7%, Oceania’s 14% and North America’s 11.3%<sup>6</sup>. Not only was Africa the world’s leading producer of platinum, cobalt and

<sup>5</sup> Africa, on a par with Siberia, is the world’s least thoroughly explored region.

<sup>6</sup> Source: Union Africaine: *Les ressources minérales et le développement de l’Afrique* 2011, Addis-Ababa, p. 30.

diamonds, but in 2008, according to the Bureau of Geological and Mining Research (BRGM), among other things, it disposed of<sup>7</sup>:

*“30% of the world’s bauxite, 60% of its manganese, 75% of its phosphates, 85% of its platinum, 80% of its chrome, 60% of its cobalt, 30% of its titanium, 75% of its diamonds and almost 40% of its gold”.*

Other publications continue to speak of Africa as a continent disposing of a third of the world’s mineral resources. Nevertheless, these estimates are to a large extent speculative in that they compare geographical areas which have not yet all been explored with the same degree of thoroughness.

Furthermore, the existence of enormous deposits which have been known about for decades does not mean that they are going to be easy to exploit. The manganese deposit in Tambao, in the North of Burkina Faso, discovered back in the 1960s, is a good example. The country set up the Tambao Mining Company<sup>8</sup> (Somitam) as far back as 1975, but the deposit is still not being exploited because of the need to complete an essential and costly rail link to join up with the Abidjan-Ouagadougou line. In fact, whoever eventually starts exploiting the deposit will not be able, unassisted, to provide the infrastructure and transport network required to ship out the minerals. In the second half of 2012, Vasil Frank Timis, representing African Minerals Ltd, officially announced that he had obtained the mining permits and that, in a private/public partnership with the State of Burkina Faso, he had committed himself to build part of the infrastructure. A specialist from that sector confirmed that the contract had indeed been supplied, thanks to the good relations the businessman enjoyed with political circles in Burkina Faso<sup>9</sup>. It was also discovered a few months later that another company, the General Nice International Mining Co. had already signed an agreement with the Burkina Faso government in 2010 for the same deposit and was lodging a complaint with the Paris Chamber of Commerce and Industry (CCI) for breach of contract<sup>10</sup>. Here, as we can see, a layer of political ‘shenanigans’ complicates still further the question as to how profitable the deposits might be.

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<sup>7</sup> See: *Ressources minérales et développement en Afrique*, Document d’orientation stratégique, 2008, Paris, p.8.

<sup>8</sup> Cf. Jean-Pierre Bejot: “Burkina Faso is re-launching its mining sector” – a survey that appeared in three parts on February 12, 13 and 14, 2013 on the following information site: <[www.lefaso.net](http://www.lefaso.net)>.

<sup>9</sup> Oral information received in the course of a conversation in November 2012 in Paris.

<sup>10</sup> “Burkina Faso: Tambao, la pression monte à Ouagadougou !” in *Africa Mining Intelligence*, No. 287, December 11, 2012.

## ***Developments – are we in a super cycle?***

The development of mining in a country cannot, obviously, be merely analysed on the basis of its reserves. It is essential that the exploitation of those reserves should be profitable for the operator, which means that a range of conditions have to be met: the legal, political and security systems need to be reliable, prospects for transporting the ores away from the mines at a reasonable cost must be realistic and, finally, the prices for the ores in question in the world markets have to be favourable.

Before the colonial era, there had already been some mining activities in Africa. Mention could be made of the gold-mining that had been going on in the Bouré and Bambouk<sup>11</sup> regions since medieval times, iron mining in Yatenga (Burkina Faso) or the tin-mining on the Jos Plateau in Nigeria. The exploitation of minerals speeded up and was industrialized at the time of the two World Wars, when certain types of production contributed to the war effort. Organizations were set up by the colonialists to promote prospecting for mineral resources or to exploit them. In France<sup>12</sup>, the Mining Bureau of France Overseas (BMFOM) was set up in 1948. Between World War II and the gaining of independence for the countries involved, mining companies appeared and various types of infrastructure were built to transport output away from the mines. The first decades after independence saw certain economic entities turned into State companies, which would achieve variable results – but often disappointing ones, particularly as a result of insufficient investment in infrastructure as well as in research and development<sup>13</sup>. During the 1980s, these countries also found themselves plunged into crises of sovereign debt, which led to various kinds of intervention and “recommendations” from international financial institutions.

Indeed, in the late 1980s and early 1990s, the World Bank stated that<sup>14</sup>:

*“Africa benefits less than Latin America or Asia from exploiting mining resources in order to stimulate its growth; the private mining companies hold it back by investing less than 5% of world expenditure on exploration there. In Africa more than anywhere else, the proportion of the value of production reinvested in*

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<sup>11</sup> Both situated on the frontiers of Mali, Senegal and Guinea.

<sup>12</sup> On this aspect, see: Pierre Legoux and André Marelle: *Les mines et la recherche minière en Afrique Occidentale Française*, histoire et témoignages, Paris, L’Harmattan, 1991, 361 pages.

<sup>13</sup> Cf. Union Africaine: *Les ressources minérales... op. cit.*, p. 31.

<sup>14</sup> Cf. FIDH: *Mali: L’exploitation minière et les droits humains*, September 2007, p. 30. See : <[www.fidh.org/IMG/pdf/MI477f.pdf](http://www.fidh.org/IMG/pdf/MI477f.pdf)>.

*prospecting is minimal: 1% as opposed to 10% elsewhere”.*

The World Bank and multilateral donors strongly recommend that numerous African countries should try and attract new investors. More than 35 countries therefore proceeded to modify their mining code during the 1990s and early 2000s to make themselves more attractive through significant fiscal exemptions for foreign mining companies<sup>15</sup>. In reality this has often led to negotiations and customized fiscal regimes, dispensatory conditions for certain large enterprises, which mean that States are infringing their own mining code.

It looked as if these strategies were going to prove successful, because – as we saw earlier – the first eight years of the new century saw a substantial increase in mining investment in Africa. Yet these investments served to stimulate, in addition or perhaps first of all, a regular appreciation in prices for the main ores. Certain economists did not hesitate to start talking about a new super cycle in mining. A super cycle is a tendency over a long period of several decades of rising prices for ores linked with the economic development of a certain part of the world.

Alan Heap<sup>16</sup>, for example, has been speaking ever since the middle of the 2000s about a lasting super cycle in the mining industry because of strong Chinese growth. He singles out two super cycles in recent economic history: one between 1885 and 1915 in step with the industrialization and accelerated urbanization in the United States, and the other between 1945 and 1975 associated with the reconstruction of the European and Japanese economies and also with their extremely rapid expansion<sup>17</sup>. These analyses involving copper and the lasting impact of economic expansion on prices during several decades have now shifted to other ores like aluminium, lead, nickel, tin and zinc<sup>18</sup>.

As these analysts see it, a new mining super cycle started at the beginning of the 2000s linked to Chinese demand, as its economy and urbanization were expanding very rapidly. The country is indeed currently the world's leading importer of aluminium, lead, tin, nickel, copper and iron. This super cycle explains why mining investment, while it is felt that there is going to be regular demand over several decades, is gathering pace worldwide and why Africa has also gained from this, which gives perspective to the actual impact of the liberal policies promoted by the World Bank.

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<sup>15</sup> *Ibid.*

<sup>16</sup> *Cf. China: The Engine of a Commodities Super Cycle*, March 31, 2005, Citigroup. See: <[www.fallstreet.com/Commodities\\_China\\_Engine\\_03321.pdf](http://www.fallstreet.com/Commodities_China_Engine_03321.pdf)> (consulted in February 2013). *Cf. also*: Bilge Erten and José Antonio Ocampo: *Super-cycles of commodity prices*, ONU / DESA, Working Paper No. 110, February 2012, 29 pages.

<sup>17</sup> On this subject, *cf. Union Africaine: Les ressources minérales... op. cit.*, pp. 26-29.

<sup>18</sup> *Ibid.*, p. 28.

Nevertheless, the 2008 crisis marked a clear break in the steady appreciation in prices for mining output, which had been observed since the beginning of the 21<sup>st</sup> century. Some people see this break as the premature end of the super cycle, particularly if the growth rate in China's GDP no longer reaches 10%, as had been the case during the last 20 years, but rather tends now to remain stable between 5% and 8%. At the same time, various other voices assert that the slowing down in Chinese demand is only temporary. Indeed Chinese demand is not only tied up with the requirements of its economic model for industrial exports but also with domestic demand which is steadily growing (urbanization, more infrastructure and housing, acquisition of private cars, etc.). Furthermore, the demand for mineral ores is also driven by the transformation of emerging economies<sup>19</sup> and by the rapid urbanization of other developing countries<sup>20</sup> in Africa, Latin America and South Asia.

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<sup>19</sup> Cf. AGF: *Ressources naturelles : au-delà du "super cycle"*, 2011, 8 pages.

<sup>20</sup> Which ought to dampen the effects of the current slowing-down (early 2014) in the growth of the emerging economies.

# Differences in the Potential of the Countries in the Sahel region?

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Although they are neighbours and share certain mining regions, as in the case of Senegal and Mali in relation to gold, when it comes to expertise, the five countries discussed in this article find themselves in very different situations, both in terms of their potential and also of the degree to which they are land-locked and the history of their national mining industry. The five countries have equipped themselves with more attractive mining codes<sup>21</sup> and some of them are now enjoying the support of follow-up or consolidation projects for the mining sector from the World Bank<sup>22</sup> (PRISM in Mauritania, PADSEM<sup>23</sup> in Senegal). They have also experienced – as elsewhere in Africa – a notable increase, even though it varies from one country to another, in the number of companies which have arrived to undertake exploration work.

## *Mali and Senegal, limited hopes*

Mali, which benefits from a mining code favouring investment<sup>24</sup>, is now the third most important producer of gold in Africa after South Africa and Ghana. Mali's gold production represents 95% of the country's mineral production. In addition to that mining activity, certain other resources have been known about, in some cases for decades, but have not been exploited, mainly because of Mali's land-locked situation and the underdevelopment of transport infrastructure. Gold has been well developed, precisely because it is one of the ores which are not expensive to transport and which does not require high-quality infrastructure. Diamonds, for instance, have been discovered by gold miners (small-scale) in the Kéniéba region. Some deposits of kimberlite have been found, some of which contain diamonds, but

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<sup>21</sup> Senegal 2003, Mali 1999, Niger 2006, Mauritania 2008, Burkina Faso 2003 (and most likely there will be a new one in 2013).

<sup>22</sup> Conversation with Abderrahmane Ould Daddah, assistant director of PRISM (Project for the Institutional Consolidation of the Mining Sector) in Nouakchott, which took place in November 2012.

<sup>23</sup> Project for Support of the Development of the Mining Sector.

<sup>24</sup> See: Appendix 2: sheet on Mali.

none of them have been followed up by commercial exploitation<sup>25</sup>. The Mbendi website is compiling a project for a diamond mine in Kéniéba<sup>26</sup>. The other mineral resources in the country are bauxite, iron ore, limestone (some of which could be exploited so as to produce cement<sup>27</sup>), manganese, nickel, phosphates, tin and uranium<sup>28</sup>. The Extractive Industries Transparency Initiative (EITI) has drawn attention to reserves of kaolin, ornamental stone, gypsum and other ores<sup>29</sup>. The *Adrar des Ifoghas* region, situated in the North-East of Mali, contains a volcanogenic deposit<sup>30</sup> in Tessalit. Also in the North there are some phosphate deposits in the Tilemsi Valley, which the Canadian company, Great Quest Metals, was planning to exploit before the events in 2012. There is a deposit of 1.1 billion tons of bauxite in three zones between Kéniéba and Bamako. Mali has limited resources of iron ore: the richest known deposit is in Balé and contains 146 million tons with a 50% iron content. The EITI's 2010 report<sup>31</sup> also drew attention to research relating to pegmatite containing lithium. All in all, Damien Deltenre<sup>32</sup> reports that in 2012 – apart from gold-washing – there were 9 mines in production in Mali employing 12,000 people.

In December 2012, Senegal had already issued just over 40 prospecting permits<sup>33</sup>. The mining potential of that country seems to be the most modest in the zone. There are gold and iron resources in the South-East of the country, in the Kédougou region.

The Falémé iron reserves are estimated to amount to 750 million tonnes. In 2007, an agreement to exploit them had been signed with the company Arcelor-Mittal, but to start mining would

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<sup>25</sup> See: <[www.mbendi.com/indy/ming/af/ml/p0005.htm](http://www.mbendi.com/indy/ming/af/ml/p0005.htm)>.

<sup>26</sup> See: <[www.mbendi.com/facility/f0wi.htm](http://www.mbendi.com/facility/f0wi.htm)>.

<sup>27</sup> Validation report of the EITI, September 2010:

See: <[eiti.org/files/Mali-2010-EITI-Report.pdf](http://eiti.org/files/Mali-2010-EITI-Report.pdf)>.

<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*

<sup>30</sup> A deposit of metal sulphide, mainly Cu-Zn, associated with certain types of volcanism.

<sup>31</sup> Validation report of the EITI, September 2010, *op. cit.*

<sup>32</sup> Cf. *Gestion des ressources minérales et conflits au Mali et au Niger*, GRIP Analysis, December 2012, p. 3: "These are for the Goukoto and Loulo mines (RandGold Resources, United Kingdom, 80%), Kalana mines (Avnel Gold Mining, Guernsey, 80%), Koudiérans mines (Wassoul'or, Mali, 55% and Pearl Gold AG, Germany, 25%), Morila mines (Anglogold Ashanti, South Africa, 40% and Randgold Resources, United Kingdom, 40%) Sadiola mines (Anglogold Ashanti 41% and IAM Gold, Canada, 41%), Segala Tabakoto mines (Endeavour Mining, Canada, 80%), Syama mines (Resolute Mining, Australia, 80%) and Yatela mines (Anglogold Ashanti 40% and IAM Gold, 40%). The Mali government has a 20% share in each of the mines (except at Sadoula, where its share is only 18%).

<sup>33</sup> The passage which follows was made possible essentially thanks to conversations held in Dakar in December 2012, in particular with Modiene Guissé, Director of the office of the Senegal Ministry for Mines, and with Alioune Sarr, Director of the Division for the follow-up and facilitation of projects for the Head office of the Mines and Geology Department. Finally, this Department has published a brochure listing, completed with location, all the known mining resources in Senegal: *Ressources minières du Sénégal*, Ministry for Mines in Senegal, 47 pages.

require 750 kilometres of railway track, a port for ore-tankers at Bargny-Sendou as well as setting up a steel works to supply the country's needs. The Senegalese government cancelled the contract with the company in June 2012 on the basis that work was proceeding too slowly, which the company justified with reference to the fact that the extent of the resource announced by the government had been overestimated, and that the project would then not be profitable<sup>34</sup>.

Major activity to explore for gold is going on in Eastern Senegal: 30 exploration permits have been issued to a variety of companies. The Sabodala gold mine currently owned by the Canadian company Teranga Gold Corporation has been in production since March 2009 (reserves of 1.63 million ounces). Two other projects for industrial exploitation could see the light of day near the Goulouma deposit (3 million ounces) discovered by the Oromin Joint-Venture Group (OJVG)<sup>35</sup> and the Massawa deposit (4 million ounces) discovered by the company Rangold Resources. The other resources are mainly phosphate of lime in the Matam region (80 million tons spread across three sites). A public Senegalese company – the company for the Study and Production of Phosphates in Matam (SERPM) – should by now have been exploiting those deposits so as to produce fertiliser, but it was privatized a year after its creation. The aluminium phosphates in the Thiès region (an estimated 80 million tonnes of reserves) are being exploited by the Senegalese company for Thiès phosphates (SSPT). Finally the big mining project of recent years is the setting-up of a company which is going to open up a dune zone North of Dakar, so as to mine the heavy minerals hidden beneath its sands (in order of importance: ilmenite, zircon and rutile). It is a project led by Grande Côte operations SA<sup>36</sup>, which brings together the Australian company Mineral Deposits Limited and the French company Eramet<sup>37</sup>. The mining concession was issued in 2007 for a period of 25 years (renewable). The Senegalese government, as specified by law, holds a 10% share. The mine was due to start production in April 2014 and it is expected to process 48 million tons of sand per year. This project will necessitate the construction of 1,200 kilometres of rail track and also a port terminal.

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<sup>34</sup> The International Arbitration Court in Paris decided in favour of the State of Senegal in September 2013, anticipating that the compensation would be specified later.

<sup>35</sup> A company whose headquarters are in the British Virgin Islands. Since December 2013 the majority share has been held by a Canadian company, Teranga Gold Corporation.

<sup>36</sup> This passage is based on a conversation which took place in Dakar in December 2012 with Bruno Delanoue, Deputy General Director of the project.

<sup>37</sup> Cf. a brief description of the project:

See: <[www.eramet.com/projets/grande-cote-senegal](http://www.eramet.com/projets/grande-cote-senegal)>.

## ***In Niger, uranium remains predominant***

Uranium represented 70.8% of Niger's total exports in 2010. Yet its contribution to the country's GDP only rose to 5.8% that same year. Investments are therefore focused mainly on research and mining uranium and gold. Uranium is the substance most in demand: in 2007 it accounted for 76% of all permits issued for research and production together; gold occupies second position with 19%; other substances, which include coal, account for 5% of the remaining permits<sup>38</sup>. In 2010 the mining exploration permits still valid number 139 (there were 6 in 2000, 131 in 2007, 159 in 2008 and 158 in 2009)<sup>39</sup>. Niger<sup>40</sup> possesses a gold mine currently in use: the Samir Hill site (in the South-West of the country) with an output of 67,000 ounces per annum, run by the Société des Mines du Liptako (SML), 80% of which belongs to a Canadian company, SEMAFO SA and 20% to a Niger State company, Société du Patrimoine des Mines du Niger (SOPAMIN). Production has been decreasing in recent years, but in March 2010 the company announced that it had discovered two new deposits<sup>41</sup>. The other minerals being produced (see: Appendix 3) are coal, gypsum and limestone. It is the Société Nigérienne de Charbon d'Anou Araren (SONICHAR), set up in 1975, which mines the coal in the Aïr Plateau in the North of Niger (see: Appendix 4). The State owns approximately 70% of this company. Lastly, it is clear that uranium constitutes the principal mining resource and is the focus of everyone's attention. Up until 2007, the French company Areva was the only one mining uranium at the Akouta and Arlit sites but, at the behest of President Tandja, Niger opened up its mining territory and the number of mining concessions went up from 6 to 158 between 2000 and 2009<sup>42</sup>. Areva still remains the main operator<sup>43</sup>:

Areva is the main shareholder in the Compagnie Minière d'Akouta (COMINAK) with a 34% share. The COMINAK mine at Akouta produces around 2000 tonnes of uranium a year.

Areva is the main shareholder in the Société des Mines de l'Aïr (SOMAIR) with a 63.4% share. In 2009 its total production for the year was 1,808 tonnes of uranium.

<sup>38</sup> Cf. the EITI report "Niger 2010", published in June 2012:

See: <[www.itieniger.ne/document/3eme\\_itie\\_niger\\_2010.pdf](http://www.itieniger.ne/document/3eme_itie_niger_2010.pdf)>.

<sup>39</sup> *Ibid.* p. 5.

<sup>40</sup> Cf. *Guide for Extractive Industries in Niger*, 2012, openoil.net, 177 pages.

See: <[openoil.net/wp/wp-content/uploads/.../Niger-Oil-Almanac-fr.pdf](http://openoil.net/wp/wp-content/uploads/.../Niger-Oil-Almanac-fr.pdf)>.

<sup>41</sup> Cf. USGS: *2010 Minerals Yearbook*, 2011, pp. 282.

<sup>42</sup> Cf. Damien Deltenre, *op. cit.*, p.5.

<sup>43</sup> Cf. *Guide for Extractive Industries in Niger...*, *op. cit.*, pp. 68-69.

Exploitation of the Imouraren deposit is due to start in 2014. With its uranium resource estimated at 180,000 tonnes, Imouraren will be the largest open-cast uranium mine in West Africa and the second largest in the world. In 2009, Areva announced that the annual uranium production at its Imouraren site would rise to 5,000 tonnes over at least 35 years.

Apart from the French company, from now on there will be other enterprises in Niger's uranium sector as well<sup>44</sup>. The main ones will be Homeland Uranium Inc. (a branch of the Canadian company, Homeland Energy Group), which holds eight concessions for exploration, and the China National Nuclear Corporation (CNNC) via its Sonima branch<sup>45</sup>, which has been running the uranium mine at Azelik and has been in production since 2010. Production is due to reach 1,000 tonnes a year in the long term.

### ***Burkina Faso and Mauritania, the two countries with the most promising future***

Burkina Faso is a country in which mining production is still of only secondary importance, as can be seen from the table below. Only gold, which has become its main export and overtook cotton in 2009, is important. Over a few years the country became the fourth most important producer in the continent. Gold production rose by around 83% between 2009 and 2010, from 13 to 24 tonnes: by 2011 it had reached 32 tonnes and is estimated to have been between 40 and 42 tonnes in 2012<sup>46</sup>. The current value of this metal can also help to explain this "gold fever"<sup>47</sup>.

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<sup>44</sup> See: Appendix 5.

<sup>45</sup> 37.2% for SinoU, branch of the China National Nuclear Corp., 24.8% for Zhongxing Joy Investment Corp. (ZXJOY Invest is a Chinese investment company), 5% for Trendfield (a Chinese mining exploration company based in the Virgin Islands) and 33% for the State of Niger. Cf. Damien Deltenre, *op. cit.*, p. 5.

<sup>46</sup> For the two last figures, cf. "Burkina Faso: la soif de l'or" in *Jeune Afrique*, March 12, 2012.

<sup>47</sup> The value of an ounce of gold rose from \$300 in 2002 to over \$1,200 in June 2010. Despite a clear drop since 2012, an ounce of gold was still worth \$1,270 in February 2014.

**Table 2: Mining Production in Burkina Faso between 2006 and 2010**

BURKINA FASO <sup>4</sup>						
Cement		30,000	30,000	30,000	30,000	30,000
Dolomite	cubic meters	3,000	3,000	3,000	3,000	3,000
Gold	kilograms	1,571 <sup>3</sup>	2,250 <sup>3</sup>	7,633 <sup>3,5</sup>	13,181 <sup>3,5</sup>	24,104 <sup>3,5</sup>
Granite	cubic meters	300,000	300,000	300,000	300,000	300,000
Manganese:						
Ore, processed		--	--	--	--	40,000
Mn content		--	--	--	--	18,000
Phosphate rock:						
Gross weight		2,400	2,400	2,400	2,400	2,400
P <sub>2</sub> O <sub>5</sub> content		650	650	650	650	650
Pumice and related volcanic materials		10,000	10,000	10,000	10,000	10,000
Salt		5,000	5,000	5,000	5,000	5,000
Stone, marble		100,000	100,000	100,000	100,000	100,000

Source: USGS: 2010 Minerals Yearbook, *op. cit.*, p. 44

Yet 300 prospecting permits were issued during the last decade<sup>48</sup> and the country could be in a position to see its mining sector develop rapidly. In 2010, at least 60 international firms were involved in mining exploration and exploitation, in particular Australian, Canadian and South African companies<sup>49</sup>. More than 600 permits are currently assigned. In relation to gold mining, these include permits issued to the Canadian companies High River Gold Mines Ltd., IAMGOLD Corp. and Semafo Inc., the British companies Avocet Mining plc and Cluff Gold plc and another company, Mining Corp., based in the British West Indies<sup>50</sup>. Volta Resources Inc (Canada) meanwhile is developing a project for copper and gold in the Gaoua region, where production is due to start in 2014.

Burkina Faso also has large phosphate and manganese deposits<sup>51</sup>. The Kiéré mine (in the North of the country) has been in production since 2009 run by Burkina Manganèse S.A., a branch of the American firm AMC Corp. The mine experienced certain problems in 2012 regarding the quality of the ore. We referred above to the reserves at Tambao, estimated by the Burkina Faso authorities at 19 million tonnes. In addition, the Swiss company Glencore has a 50.1% share in a mining project for zinc at the Perkoa site (135 km west of Ouagadougou), the Australian company Blackthorn Resources a 39.9% share and the Burkina Faso company, Nantou Mining a 10% one. The project in question has just embarked on production and its resources have an estimated life of 12 years<sup>52</sup>. In addition, the phosphate reserves at Kodjari have been known about since the 1970s and also those of limestone at Tiara and Dioungko. The EITI report of 2009 drawn up by KPGM has also pointed out the

<sup>48</sup> Cf. Conférence des Nations Unies sur le commerce et le développement: Examen de la politique d'investissement Burkina Faso, 2009, p. 32.

<sup>49</sup> Cf. USGS: 2010 Minerals Yearbook, *op. cit.*, p. 41.

<sup>50</sup> *Ibid.*

<sup>51</sup> See: <<http://eiti.org/fr/burkina-faso>>.

<sup>52</sup> Cf. "Burkina Faso: la mine de zinc de Perkoa entre en production", in *Jeune Afrique*, January 22, 2013.

existence of nickel, iron, graphite, lead, pyrites and antimony<sup>53</sup>. One of the obstacles to these fine prospects could be the racketeering and corruption which are rampant in the leadership of Burkina Faso, which is evidenced in the mere fact that 600 exploration permits have been issued.

Finally, Mauritania is definitely the country in the region where the economy is going to be transformed most rapidly into a real mining economy<sup>54</sup>. Mining production has existed in Mauritania since the 1960s. The company Miferma<sup>55</sup> began mining for iron at the Kedia d'Ijill site (near the town of Zouérat) in 1963, Micuma (Copper Mine of Mauritania), which would become the Société minière de Mauritanie (SNIM – Mining Company of Mauritania) in 1967, started exploiting the copper reserves near the town of Akjoujt in 1970, but stopped doing so less than ten years later. Miferma, which turned into SNIM after being nationalized in 1974, would become the symbol of the Mauritanian economy. Today SNIM is still the flagship of the Mauritanian economy and the largest private employer in the country. A 78.35% share of the company belongs to the State and it produces more than 10 million tonnes of iron a year.

**Table 3: Mining Production in Mauritania**

Commodity <sup>2</sup>		2006	2007	2008	2009	2010
<b>METALS</b>						
Copper in concentrate		5,031	31,956	33,073	37,000	37,000 <sup>3</sup>
Gold	kilograms	322	2,251	6,254	8,030 <sup>1,3</sup>	8,300 <sup>3</sup>
<b>Iron ore:</b>						
Gross weight	thousand metric tons	10,658	11,817	10,950	10,275	11,500
Iron content <sup>*</sup>	do.	6,930	7,680	7,120	6,680	7,480
Steel, crude <sup>*</sup>		5,000	5,000	5,000	5,000	5,000
<b>INDUSTRIAL MINERALS</b>						
Cement		273,963	409,513	322,419	339,977	340,000 <sup>*</sup>
Gypsum		45,222	49,229	44,428	36,928	70,694 <sup>*</sup>
Salt		310	420	570	455	450 <sup>*</sup>
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Petroleum, crude	thousand 42-gallon barrels	11,168	5,517	4,422	4,104	3,005 <sup>3</sup>

Source: 2010 Minerals Yearbook, *op. cit.*, p. 294.

The SNIM is currently engaged in setting up a project aimed at doubling its production by the end of the decade by starting to mine new deposits. Mauritania is due to become a major iron producer because growing power of SNIM will go hand in hand with a project of the Xtrata company, one of the largest mining companies in the world, which eventually plans to produce 50 million tonnes of iron a

<sup>53</sup> Cf. KPGM: *ITE Burkina Faso, Rapport sur les procédures convenues relatives aux recettes minières perçues par l'État pour les années 2008, 2009, 2011*, p. 13.

<sup>54</sup> Cf. Mohammed Fall Ould Bah: "Économie mauritanienne: des stratégies d'endettement aux licences d'exploration et d'exploitation minières", a contribution to the conference *Le Sahel en 2012: évolutions, sécurité et Développement*, organized at Ifri, on June 22, 2012.

<sup>55</sup> Iron Mining Company of Mauritania which, after it was nationalized, became National Industrial and Mining Company (SNIM).

year at three sites which include Guelb El Aouj and Askaf<sup>56</sup>. The Société Arabe des Industries Métallurgiques (Samia) is a joint venture involving SNIM and the Industrial Bank of Kuwait, which is mining gypsum deposits, according to Ahmed Taled Mohamed, a technical advisor at the Ministry for Mines and Oil<sup>57</sup>. Other minerals being mined include quartz by the Mauritanian company Mauritania Minerals Co. in a locality near Nouadhibou. Copper from the Akjouit region is being mined by Mauritanian Copper Mines, which makes up 80% of the company First Quantum Minerals Limited. Gold is also mined there – 2.5 tonnes in 2010 as opposed to 5.7 tonnes by the country's first producer, the Canadian company Kinross Gold Corporation, established in the Nouadhibou region (Tasiat project).

Apart from the phosphate resources at Bophal (on the Senegal River) Mauritania is known to have other minerals, in particular cobalt, uranium, rare earths, coal, diamonds, manganese and fluorspar. On June 12, 2012, the country had issued 276 permits allowing companies to prospect for a variety of minerals. On two occasions in November 2010 and October 2012<sup>58</sup>, Mauritania organized a fair at Nouakchott aimed at attracting investment (Mauritanides 2010 and 2012). Recent discoveries of gas will enable the country to supply electricity – using gas-powered electric power stations which are due to be built in the next few years – to its flourishing mining sector and also to supply electricity to its neighbours, notably Senegal and Mali.

It appears that there is not going to be another “geological scandal” in the Sahel and that the zone no longer harbours a new Guinea-Conakry or a new Democratic Republic of Congo. At the same time the mining sector in the region is dynamic and holds out promise. Senegal, given that its proven resources are not large, and Mali, because of its political and security problems and its lack of access to the sea, are not going to be front-rank mining nations in Africa. In Niger, exploration efforts are focused on uranium: eventually the country will be one of the world's leading producers. Hopes are pinned, in the short term, on Burkina Faso, which has a fine range of resources and a railway at its disposal which links the capital with the port of Abidjan. Nevertheless, the country suffers from its access problems and also from bad governance, which holds back the development of its mining potential, as can be seen from the problems associated with the Tambao deposit. Mauritania, for its part, has the chance to combine a coast with two ports, major reserves and mining experience with SNIM going back a long way, which has made it possible to train up several generations of employees and high-quality management cadres.

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<sup>56</sup> These are situated near F'Dérick in the same zone as the SNIM mines.

<sup>57</sup> During a conversation in Nouakchott in November 2012.

<sup>58</sup> Conversation with Mohamed Yahya Ould Hamoudy, Director of the Mines Police in Mauritania, which took place in Nouakchott in November 2012.

# The Mines in the Sahel: a Key to Development?

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## *The mines: what added value do they bring to the national territory? The Senegal Debate*

An important debate was taking shape in Senegal in December 2012 and it is a debate which is truly relevant to many African countries. In effect, as we were assured by Alioune Sarr (from the Office in charge of mining in Dakar<sup>59</sup>), it is commonly believed now that mines bring in little revenue and that the Mining Code of 2003, which is of little benefit to the State, needs revising. This revision is currently underway<sup>60</sup> and it will even be supported by the World Bank. Indeed the World Bank itself is in the process of revising its mining doctrine and encouraging countries to reappraise their mining codes in such a way as to work towards re-fiscalization<sup>61</sup>. It is not enough to attract investors, particularly by means of tax exemptions and fiscal dumping, because mining projects only bring in little added value to a country. It is, for example, extremely difficult to ask a country, which is aiming at the world market, to process part of the ores on the spot, because Senegal does not give the best possible guarantees (in terms of providing an electricity supply or a skilled work-force) to be in a position to produce manufactured goods at a competitive price.

The debate in Senegal is bringing back to more general discussion the subject of the fair sharing out of mining revenue and, in addition to that, the benefits in the short or medium term for the country from mining activity. This debate is clearly a very lively one in the whole of the country's eastern zone.

The advantages are numerous: - financial spin-off; - influx of hard currency; - contributions towards setting the country free from its debt; - job creation; - new infrastructure; - training of managers and

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<sup>59</sup> During a conversation in December 2012.

<sup>60</sup> The Commission given the task of carrying out the revision had not yet submitted its findings, when we were writing this article in February 2014.

<sup>61</sup> Cf. Conversation with Pascal Fourcaut and Nicolas Moussard, who were Head of the Regional Economic Service and Economic Advisor at the French Embassy in Dakar respectively, in December 2012.

qualified individuals in a wide range of professions; - opportunities for setting up sub-contracting companies locally<sup>62</sup> and so on. These are however often counter-balanced by the concomitant problems involved: - an enclave economy, which does not have knock-on effect; - local impacts affecting sanitary and ecological conditions; - the influx of major amounts of hard currency, which can prove counterproductive at the macro-economic level; - the question as to the sharing out of profits, which leads to producer regions feeling at a disadvantage; - the “allocation of new resources to priorities relevant to development, which have not always been the subject of a national debate or placed under adequate control”<sup>63</sup>; - the appointment of expat workers to a major share of the newly created jobs, when the national labour market – or the local one to a still greater degree – are not in a position to supply qualified people for highly specialized posts in the mining economy; - social and regional tensions; - the supplying of guerrilla warfare by certain mining economies (gold, diamonds or coltan in particular). The list is very long.

How can the benefits of an activity, which by its very nature is highly localised and transient, be spread over time and territory? The first condition is quite obviously that the States involved should negotiate fairer mining contracts. The African Union document<sup>64</sup> emphasizes that the actual extent of benefits from extraction activity coming into the States involved is less in the African continent than elsewhere, notably because the States are incapable of taxing major profits or of participating in extraction industries.

This is exactly what Alioune Sall reports in connection with the Senegal example. He underlines, for example, that the companies, in particular those involved in the sphere of gold production, know how to profit from periods of tax exemption by keeping production periods to a minimum or by buying second-hand material so as to cut down the periods necessary for recouping costs. In addition, he pointed out that it was regrettable that the State did not make the most of the opportunities it has for acquiring 25% of the shares in the mining companies which install themselves in the country<sup>65</sup>. As Pascal Fourcaut<sup>66</sup> confirmed to us, fiscal questions in Senegal and the surrounding area are going to be of central importance: States have sought to exempt mining activities from taxes to an enormous extent during the last wave of mining codes, but the tax system is the most reliable means for retaining added value. As Mark Curtis<sup>67</sup> has

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<sup>62</sup> Cf. Bureau of Geological and Mining Research (BRGM): *op. cit.* p. 5.

<sup>63</sup> *Ibid.*, p. 40.

<sup>64</sup> *Les ressources minérales et le développement de l'Afrique*, *op. cit.*, p.37.

<sup>65</sup> When a mining project is set up, a national law firm is created – a branch of a foreign company (large or small) in which the State of Senegal receives 10% of the shares for free. In addition, the State has the opportunity of acquiring in addition another 25% of the shares: it takes precedence.

<sup>66</sup> In a conversation at the French Embassy in Dakar, *op. cit.*

<sup>67</sup> Cf. “Une fiscalité juste et transparente pour un secteur mineur au service du développement” in *Secteur Privé et Développement*, No. 8, *op. cit.*, p. 18

pointed out, the low level of taxation in the sector has made it impossible for African States to profit from the ‘explosion’ in prices registered between 2000 and 2008. The Director of the Office for Senegal’s Minister for Mines, Modienne Guissé<sup>68</sup>, indicated that the President, Macky Sall, during a Council of Ministers in June 2012 outside the capital, asked for a detailed review of the mining sector.

At the same time, an industrialist underlines the risks stemming from such a policy<sup>69</sup>:

*“The current government is tempted in view of budget considerations to remove the fiscal part of the code, bringing the taxation system into line with the other activities. It would be a mistake, for instance, to make a company pay VAT or customs dues during the exploration phase. It would be an economic aberration, because during that phase – by its very nature – all the companies are doing is spending money. It is important that Senegal should avoid taxing investors too heavily when they are prospecting or building their infrastructure. Otherwise this will send negative messages to other potential investors. It is important not to forget that, at this point in time, Senegal has so far only succeeded in attracting two large companies: Sabodal Gold Operation and Grande Côte operations SA. In addition, if the State of Senegal were to increase unilaterally taxation levels, that could end up at an arbitration tribunal such as the Paris Chamber of Commerce.”*

When considering the debate on the fair sharing out of resources, there are several points, which need specifying with regard to the strategies used by different types of players in the mining sphere. In general, the foreign companies admit that in the African continent the level of benefits they accrue are usually higher than elsewhere, because – as they would argue – the risks they run are greater (security, political and legal instability). This, incidentally, is an argument which is to be heard in other sectors of the economy as well. This argument would appear to reflect the actual situation (which, however, can vary from one country to another) but also the fact that the major companies are often dealing with States which have very limited room for negotiation. Viewed from another angle, the States concerned are often unable to insist that their standards for social and environmental responsibility (SER) are respected for lack of expertise.

For the States, it is very important that several major companies should establish themselves in the country – a situation which can also reassure and attract other investors. For this to happen they are often ready to offer particularly favourable conditions to the trailblazers.

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<sup>68</sup> In a conversation in Dakar, *op. cit.*

<sup>69</sup> In a conversation at Dakar in December 2012.

Another game the States do not appear to have mastered is the tempo with which a resource is being exploited. Sometimes, as has recently been the case with gold, it is in companies' interests to speed up production, while in other situations, as has recently been the case in relation to uranium, companies prefer to reduce production when prices are too depressed. This 'game' – perfectly understandable from the companies' point of view – is damaging for the States concerned, because it can lead to major variations from year to year, which are difficult to predict. On the other hand, the major companies generally show more respect for standards (social, environmental, anti-corruption) than other players (the smaller companies) because as their image suffers, this will work against them and can sometimes influence the course of their future activities.

Smaller companies (the middle-sized ones) are appearing more and more frequently in sub-Saharan Africa. As in the oil industry, their strategies can differ from those adopted by the major ones. These enterprises usually take more risks. They carry out exploration work and when they have estimated the scale of the resource in question, they start linking up with larger partners or are bought up by the larger players because they do not have the financial capacity or sometimes the technical skills to move on to the production phase. Some of these middle-sized companies specialize, as is the case in the oil world, in a more speculative strategy. They obtain prospecting permits and carry out the legal minimum of activities within the allocated area<sup>70</sup>. They hope eventually that the prices for the resource in question within the allocated area will rise, so that they will be able to sell the permit on to another company which has the capacity to both explore and produce with appropriate added value. Indeed, behind the increasingly wide issue of mining concessions which can be seen right across the Sahel region, there lie hidden perfectly opportunistic strategies of companies which have no link with mining, as we shall see from the Mauritanian example.

## ***Moving from National to Local***

Usually, as has been emphasized by Isabelle Greig in connection with Eastern Senegal<sup>71</sup>, agreements signed with mining companies have been drawn up without any consultation with local communities regarding the envisaged production. As she reminds us,

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<sup>70</sup> The mining codes stipulate that in return for the granting of a prospecting permit, the companies benefiting from it should embark upon effective prospecting. Yet, in reality, control by the State, which sometimes – as in the case of Mauritania – comes complete with a police for mines, is rather random.

<sup>71</sup> Cf. "Le Sénégal Oriental à l'aube du développement minier", in *EchoGéo*, No. 8, 2009, p. 4.

the decentralization of Senegal, which took place in 1996, theoretically gave local communities certain rights in connection with the management of local resources. Yet, in reality, these rights are not exercised. The State only transfers 2% of the budget to local communities<sup>72</sup>.

The economic spin-off at local level is often very limited. The balance-sheet of activity in the gold industry speaks for itself<sup>73</sup>. Gold-mining is an activity which requires a high level of capital investment. However, it, creates only a small number of jobs and results in only a few if any social changes on the spot. In Mali, the total number of jobs in the mines in 2007 came to 12,000<sup>74</sup>. The gold is exported to South Africa and Switzerland to be refined. Article 25 in Mali's Mining Code lays out companies' obligations with regard to local development<sup>75</sup>. The company Morila SA, for instance, has built several classrooms and schools and two mosques in the four communes near the gold mine which it operates. It has also financed the electrification of a maternity hospital. Yet gold mining has led to a fair number of problems locally as well. Morila SA estimated that only 20% of its employees are from the four nearest communes. In other words the work at the mines has attracted an influx of workers from inside the country and from abroad. The presence of numerous single men has led to a new wave of prostitution and a more rapid spread of HIV<sup>76</sup>. In other gold mines in the country, the use of certain products for treating gold (such as cyanide) is proceeding without any study of the impact on health or the environment. The State does not undertake analyses of that kind and has to put up with studies carried out by the mining companies.

The two last paragraphs should clearly not be seen as an indication of the fact that the creation of a mine inevitably leads to a "plague of Egypt" for the local population. On the contrary, the introduction of a mine generates a new range of opportunities, which can be of advantage to the local population (job creation, opportunities for selling new products to workers from outside, the building of schools or other amenities financed by the mining company, benefits from the construction or re-building of communications axes, which will bring down the cost of transport, access to good compensation when a mine expropriates land in the vicinity of the mine...) but it will at the same time give rise to a drop in status for certain people and resentment for others (benefits which go to the State, to people from outside, to other localities in the area...) and sometimes to new worries (regarding health or the environment).

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<sup>72</sup> *Ibid.*

<sup>73</sup> Cf. in particular FIDH (International Federation for Human Rights): *Mali: L'exploitation minière et les droits humains*, September 2007, 51 pages.

<sup>74</sup> *Ibid.*, p. 27.

<sup>75</sup> *Ibid.*, p. 19.

<sup>76</sup> Cf. FIDH: *Mali. L'exploitation minière... op. cit.*, p. 11.

Over and above those frustrations are the difficulties faced by the State when it tries to bring benefit to the region in the wake of this new wealth, through adequate mechanisms for the allocation or re-alignment of resources, and has to rely sometimes on the new mines to provide a certain number of services. The International Federation for Human Rights (FIDH) for example, has drawn attention to a company working in Mali which, under the heading of its policy for social (and environmental) responsibility (RSE), “subsidized”<sup>77</sup> the salaries of the local gendarmes. When a social movement occurred some time later in this company, it was not surprising to see zealous gendarmes paid by this very same company repressed the protests.

## ***Mining in Mauritania***

We shall briefly attempt in this section to place the Mauritanian mining phenomenon in a political context so as to clarify the forces currently to be observed at work and also the fragile nature of the industry’s dynamic. As we remarked earlier the country has a long mining history which began before independence. The existence of a national mining company needs to be looked at again in several registers. First of all, the nationalization of Miferma<sup>78</sup> still remains for many Mauritians – together with the creation of the national currency (Ouguiya) – one of the most powerful acts contributing to the country’s independence achieved during the presidency of Mokhtar Ould Daddah (1960-1978). In addition, that president invested a great deal both in national symbolism but also at home, when he sought to turn SNIM into the heart of the industrialization drive and the country’s development. This push for modernity, however, went hand in hand with agriculture neglect and animal rearing – the economic basis of the country’s traditional power structure, which would challenge the President on several occasions. In addition, SNIM and what came with it – the probable industrialization of the country – were accompanied by a rhetoric about “modernization”, the “fight against retrograde traditional and tribal values” and the “moulding of the new Mauritanian man”.

This aspect of the situation is no mere anecdote, for it is also the paradigm – apart from a few minor differences – which inspires President Mohamed Ould Abdel Aziz<sup>79</sup> (in power since 2008). He is keen to distance himself from an economy of foreign debt, to

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<sup>77</sup> *Ibid.*, pp. 25-26.

<sup>78</sup> On Miferma and the SNIM, see the following two reference works: Pierre Bonte: *La montagne de fer. La SNIM (Mauritanie). Une entreprise minière saharienne à l’heure de la mondialisation*. Paris, Karthala, 2001, 368 pages and Jean Audibert: *Miferma une aventure humaine et industrielle en Mauritanie*, Paris, L’Harmattan, 1991, 216 pages.

<sup>79</sup> This passage draws on a series of conversations which took place in Nouakchott in February and November 2012.

modernize<sup>80</sup> the country (road building has been one of the symbols of the first years of the current presidency) and to combat the “endemic corruption”<sup>81</sup>, which characterizes the functioning of the state and the allocation of procurement contracts. His method of governance is extremely centralized, short-circuiting political and administrative structures more than his predecessors did. Thus, the transformation of Mauritania into a mining economy is – for the President – part of a much wider plan for transforming the country, which is taking shape through the re-building and expanding of road routes and the construction of new towns (such as Termessa, Chami or NBeiket Lahwach) where services can be concentrated and of better quality.

Yet, behind the euphoria generated by the issue of prospecting permits and a real mining lift-off, as outlined in the second part of this article, certain more worrying aspects of the mining phenomenon need to be touched upon. On the one hand, the list of companies which have obtained prospecting permits<sup>82</sup>, reveals that most of these companies are fictitious Mauritanian ones headed by “men of straw”<sup>83</sup> associated with businessmen, who do not have the technical expertise specific to the mining field. A well-connected businessman told us that he was the representative of an Asian company specialized in fishing, which had succeeded in obtaining nine prospecting permits in Mauritania and was seeking to resell them.

This system involving “minimal selection” prior to the allocation of mining concessions to fictitious companies or to companies outside the mining sector is by no means unique to Mauritania: it is worth recalling the 600 odd permits distributed in Burkina Faso. This system of interference can hold back real mining exploration and thus put the future on hold. In Mauritania, apart from that system, there are also several systems for poaching unearned income usually held by “allies” or “protégés” of the President. Companies, which set themselves up in Mauritania, are strongly advised to turn to certain local companies for hiring materials, usually belonging to people “in favour”. Another problem associated with the mining sector is that of the temporary Mauritanian companies which hire the least skilled workers. These companies, which enjoy key political patronage, tend to demand exaggeratedly high ‘cuts’ from the sums spent by the employer, while the workers have to make do with wretched

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<sup>80</sup> Cf. Alain Antil: “Chronique politique 2012: Entre insécurité et émergence d’un modèle de gouvernance” in *L’année du Maghreb*, Vol. IX, 2013, CNRS-Editions. See: <<http://anneemaghreb.revues.org/1956>>.

<sup>81</sup> Apart from that of his political “allies” of the moment.

<sup>82</sup> List obtained from the Ministry for Mines and Oil during our visit to Nouakchott in November 2012.

<sup>83</sup> This expression is used by one of the most astute experts on the Mauritanian economy. This conversation took place in Nouakchott in November 2012.

salaries. In addition, the mining sector is affected by recurrent social demands from the workers and by frequent strikes.

## Conclusion

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The Sahel region, like the rest of Africa, is undergoing a revival of its mining activities. The work carried out during the last ten years shows that the zone – largely underexplored – harbours numerous signs indicating an enormous range of minerals.

This re-launch of activity stems from the coming together of two factors. On the one hand, as recommended by the World Bank, certain countries have reformed their mining code so as to attract FDIs (Foreign Direct Investments) of international mining companies. Since soon after 2000, we have also been witnessing a new mining “super cycle” of sustained demand that will last for decades. China’s economic growth, its urbanization, the growing range of equipment found in Chinese households and the industrial scale of its output have made that country the world’s leading consumer of minerals. While some economists think that a relative slow-down of Chinese growth could affect the demand for minerals, others stress that Chinese demand will not drop and that, in the wake of Chinese demand, the demand for ores from emerging countries will be growing. This is why the issue of mining in the Sahel will become more and more important.

The countries of the Sahel are, however, not all in the same position. Senegal has limited resources; Mali being land-locked and badly governed has benefited little from its mining potential, although it had looked promising, with the exception of its gold mining which is in the hands of foreign companies. Niger is trying to develop first and foremost its potential as a uranium producer, by opening up its mining resources to companies other than its traditional partner, Areva. The two countries which are currently the most promising in the region are Burkina Faso and Mauritania. They both dispose of a wide range of minerals and are actively promoting mining activity, as can be seen from the large numbers of exploration permits they are issuing and the numerous projects currently entering the production phase.

Nevertheless, even if the mining sector has made an undeniable contribution – at various levels – to economic growth in the countries of the Sahel region, certain debates concerning this sector have surfaced in the various countries in question. The issue of the fair sharing out of the profits is coming more and more to the fore. The liberal policy with regard to tax exemption, aimed at attracting investors to the mining sector, stems from the wave of reforms in mining codes encouraged by the World Bank. Today that policy is being called into question. In fact the widely held opinion is

that mining remains a separate economy with little impact on other sectors and that processing ore on the spot will be the exception rather than the rule. Indeed, investors' attention is concentrated on the world market and they show little interest in their output being refined in the African countries (in view of the costs generated by the irregular nature of the electricity supply and the low-level skills of local workers). This means that the only way to retain added value in the country is to change the tax regime for the sector (notably by reducing the periods of tax exemption) or – as Mauritania does for instance – to oblige investors through unwritten rules to use local companies for hiring materials or workers. This strategy can, however, also prove counter-productive. The other issue concerns these States' weak abilities for rendering durable and positive the results of an activity, which – by its very nature – is limited as regards both time and space. This debate can be traced back directly to two problems: the poor negotiating capacity of the States concerned and the ineffective methods used to ensure their own legislation is respected (particularly with regard to SER norms). There is also a lack of skill (or will) when it comes to putting in place mechanisms ensuring that more added value will be retained locally, near the mining sites which have been expropriated.

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# Appendices

## Appendix 1

The first three producer countries of certain metal minerals in 2006.

Métal	Première	%	Deuxième	%	Troisième	%	Total (%)
Concentrés de terres rares	Chine	95	États-Unis	2	Inde	2	99
Niobium-Columbium	Brésil	90	Canada	9	Australie	1	100
Antimoine	Chine	87	Bolivie	3	Afrique du Sud	3	93
Tungstène	Chine	84	Canada	4	UE	4	92
Gallium	Chine	83	Japon	17	-	-	100
Germanium	Chine	79	États-Unis	14	Russie	7	100
Rhodium	Afrique du Sud	79	Russie	11	États-Unis	6	96
Platine	Afrique du Sud	77	Russie	11	Canada	4	92
Lithium	Chili	60	Chine	15	Australie	10	85
Indium*	Chine	60	Corée	9	Japon	9	78
Tantale**	Australie	60	Brésil	18	Mozambique	5	83
Mercure	Chine	57	Kirghizstan	29	Chili	4	90
Tellurium	Pérou	52	Japon	31	Canada	17	100
Sélénium*	Japon	48	Canada	20	UE	19	87
Palladium	Russie	45	Afrique du Sud	39	États-Unis	7	91
Vanadium	Afrique du Sud	45	Chine	38	Russie	12	95
Titane	Australie	42	Afrique du Sud	18	Canada	12	72
Rhénium**	Chili	42	États-Unis	17	Kazakhstan	17	76
Chrome	Afrique du Sud	41	Kazakhstan	27	Inde	8	76
Bismuth	Chine	41	Mexique	21	Pérou	18	80
Étain	Chine	40	Indonésie	28	Pérou	14	82
Cobalt	RDC	36	Australie	11	Canada	11	58
Cuivre	Chili	36	États-Unis	8	Pérou	7	51
Plomb	Chine	35	Australie	19	États-Unis	13	67
Molybdène	États-Unis	34	Chine	23	Chili	22	79
Bauxite	Australie	34	Brésil	12	Chine	11	57
Zinc	Chine	28	Australie	13	Pérou	11	52
Minerai de fer	Brésil	22	Australie	21	Chine	15	58
Cadmium	Chine	22	Corée	16	Japon	11	49
Manganèse	Chine	21	Gabon	20	Australie	16	57
Nickel	Russie	19	Canada	16	Australie	13	48
Argent	Pérou	17	Mexique	14	Chine	13	44
Or	Afrique du Sud	12	Chine	11	Australie	11	34

Source: African Union: Les ressources minérales, *op. cit.*, p. 31.

## Appendix 2

### The Mining Code of Mali

La législation minière est basée sur le droit civil français. Le code minier a été révisé en 1991 (Code minier: Ordonnance N° 91-065 / P-CTSP du 19 septembre 1991, et Décret N° 91 - 277/PM-RM du 19 septembre 1991.), puis en 1999 (ordonnance No. 99-032/ P-RM, du 19 août 1999 et décret No. 99-255/ P-RM du 15 septembre 1999). Le code minier communautaire de l'UEOMA date quant à lui de 2003 (Règlement No. 18/2003/CM/UEOMA du 23 décembre 2003). Les permis sont contrôlés par le décret No. 91-278/PM-RM du 19 septembre 1991. L'État détient tous les droits sur les ressources minérales. Il existe des contrats-types, tandis qu'une échelle de coûts basée sur les régions est appliquée aux permis miniers.

Une Convention d'Établissement est signée entre la société (étrangère) et le gouvernement malien avant le début de l'exploration ou de l'exploitation. Le contrat négocié entre les parties fixes de manière exhaustive les conditions applicables à l'exploration et, en cas de gisement exploitable, à la période d'exploitation. Ces conditions comprennent des obligations en matière de travail, l'établissement de rapports, des taxes, des devoirs, des franchises douanières, des prises de participation publique, etc.

Les autorisations de prospection sont accordées pour 2 ans et couvrent 8 km<sup>2</sup>.

L'exploration est effectuée sous l'égide d'un permis de recherche concernant un produit déterminé (une même zone peut être couverte par différents permis relatifs à différents produits). Il est accordé pour trois ans, mais après deux années, la moitié de la zone visée par le permis doit être cédée (en une ou plusieurs zones, à la discrétion du propriétaire). Un permis de recherche est renouvelable deux fois pour 3 années supplémentaires, couvrant une zone qui doit être réduite de moitié à chaque renouvellement. Aucune taille maximum n'est imposée par la loi en ce qui concerne le permis original, bien que la taille maximum des permis pour l'or a été réduite à 500km<sup>2</sup> récemment.

Un permis d'exploitation est attribué par décret pour un maximum de 30 ans, renouvellements inclus. La zone de permis ne peut excéder celle du permis de recherché dont elle dérive.

Des frais modestes (environ 400 000 Francs CFA), sont exigibles à chaque attribution ou renouvellement de permis. De faibles frais annuels de location existent également, calculés selon la zone de permis. Une taxe 'ad valorem' de 6% est exigible sur la valeur de production à la sortie de mine, dont sont déduits les coûts de production.

Les projets miniers sont libres de l'impôt sur les sociétés pour les premières 5 années de production. Après quoi le taux d'imposition est de 35% - moins lorsque le profit est réinvesti au Mali (jusqu'à 27,5% de déduction pour épuisement). Tout matériel pour le projet peut être importé sans taxation pendant la période d'exploration puis pour les 3 premières années d'exploitation

Source: Notice prepared by Bérénice Pierronnet, intern in the sub-Saharan Africa programme at Ifri, based in particular on Mbendi website:  
See: <[www.mbendi.com/indy/ning/af/ml/p0005.htm](http://www.mbendi.com/indy/ning/af/ml/p0005.htm)>.

## Appendix 3

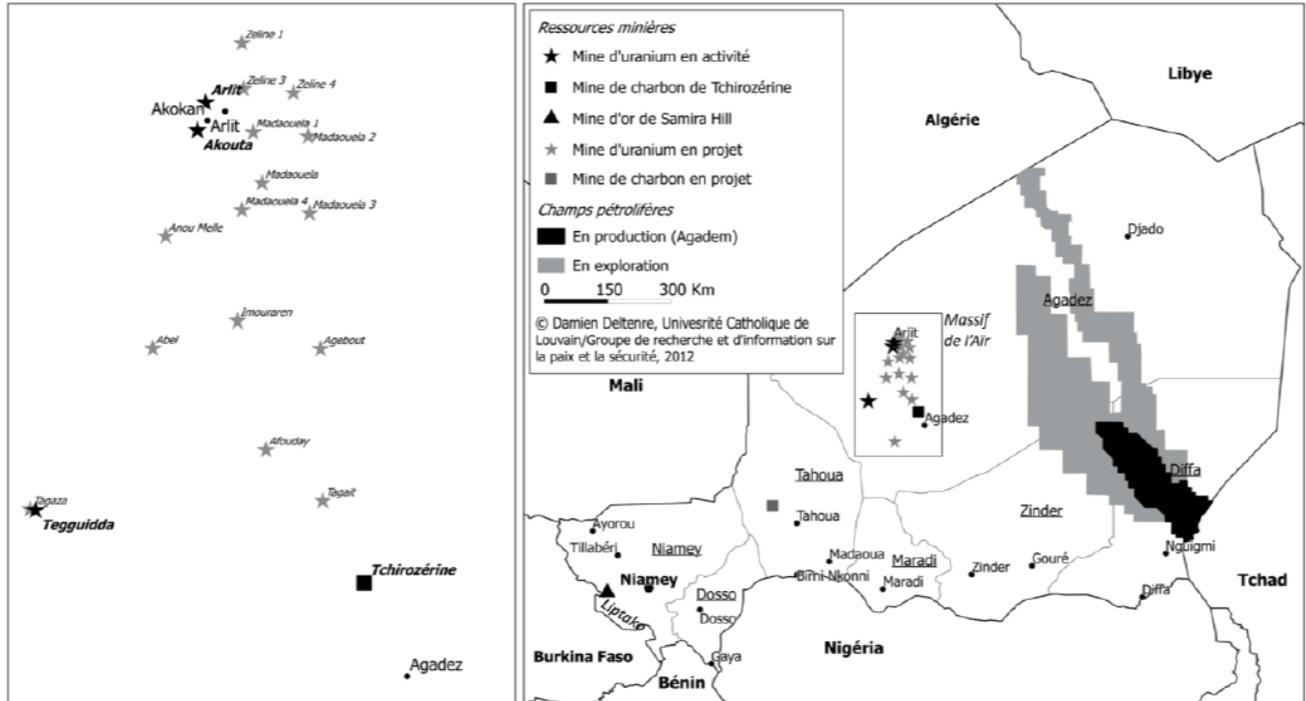
## Production of Minerals in Mali and Niger

Country and commodity	2006	2007	2008	2009	2010 <sup>5</sup>
MALI <sup>2</sup>					
Gold, mine output, Au content <sup>3</sup>	51,957	43,850	41,160	42,364	36,344 <sup>4</sup>
Salt <sup>4</sup>	6,000	6,000	6,000	6,000	6,000
Semiprecious stones <sup>5</sup>	10,000	10,000	10,000	10,000	10,000
NIGER <sup>6</sup>					
Cement, hydraulic <sup>6</sup>	62,000	42,000	40,000	40,000	40,000
Coal, bituminous	176,320	171,296	182,912	225,072	225,000
Gold, mine output, Au content	2,615	3,427	2,314	1,985 <sup>7</sup>	1,900
Gypsum	13,043	4,615	8,661	19,737 <sup>7</sup>	19,700
Limestone	25,000 <sup>7</sup>	64,465 <sup>7</sup>	25,619 <sup>7</sup>	29,691 <sup>7</sup>	29,700
Salt <sup>4</sup>	1,300	1,300	1,300	1,300	1,300
Silver, mine output, Ag content	100 <sup>8</sup>	139	289	200 <sup>8</sup>	200
Sulfuric acid: <sup>9</sup>					
Gross weight	70,000	70,000	70,000	70,000	70,000
Sulfur content	23,000	23,000	23,000	23,000	23,000
Tin, mine output, Sn content	13	11	-- <sup>7</sup>	12 <sup>7</sup>	12
Uranium, U content	3,434	3,153	3,032	3,243	4,198 <sup>4</sup>

Source: USGS: 2010 Minerals Yearbook, 2011, pp. 281-284

## Appendix 4

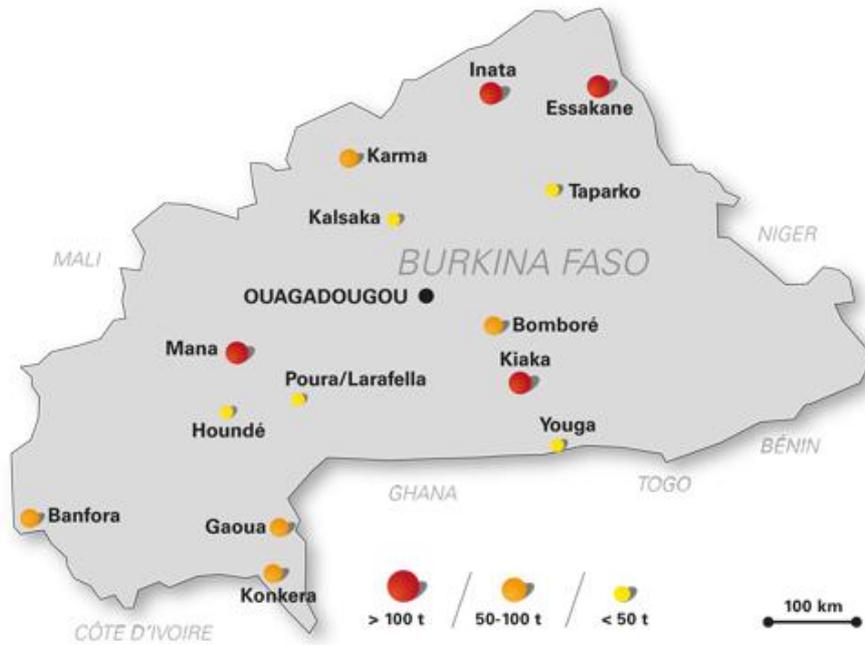
### Location of Mineral Resources in Niger



Source: Damien Deltenre, *Gestion des ressources minérales et conflits au Mali et au Niger*, GRIP analysis note, December 2012, p. 4

## Appendix 5

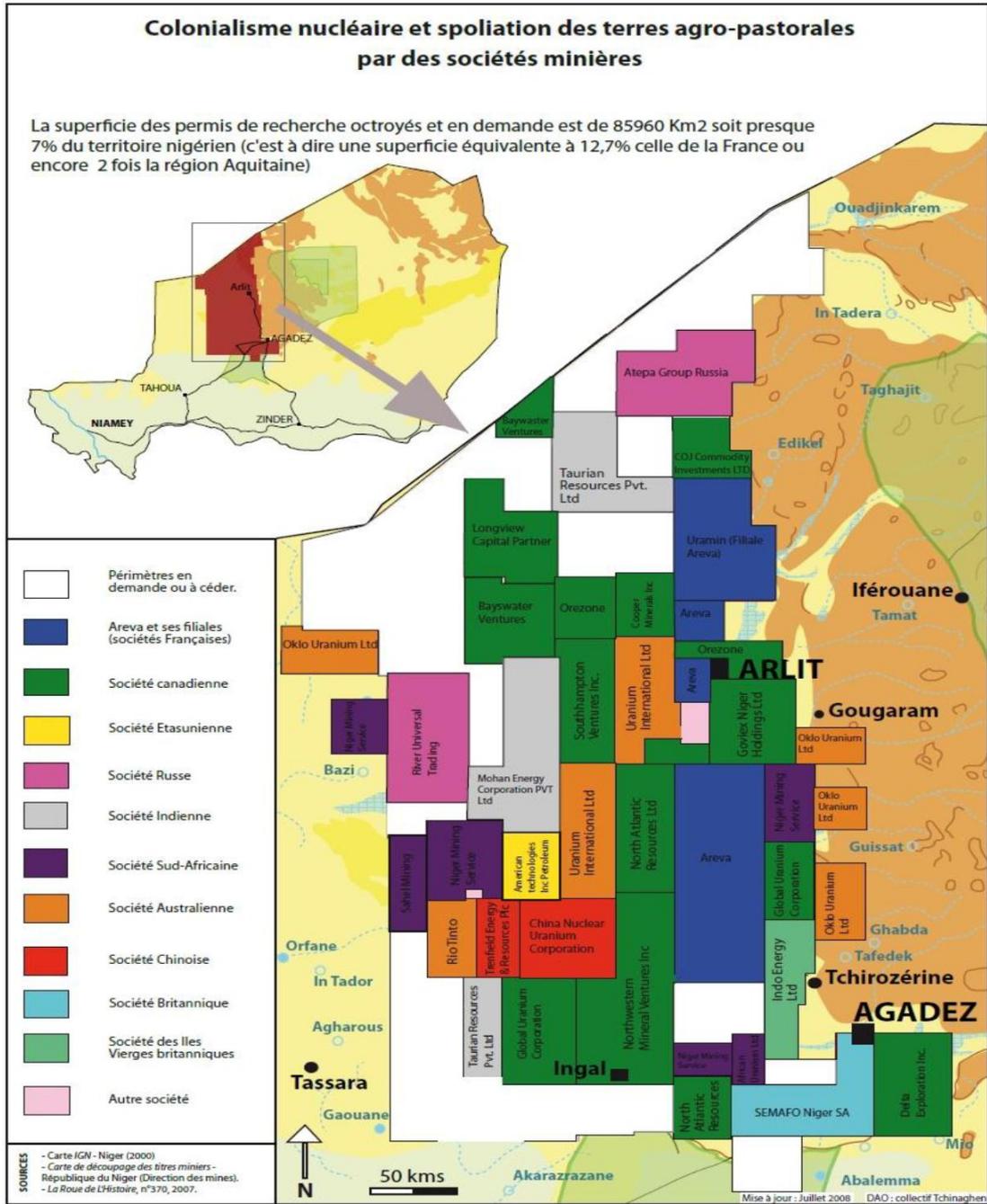
Map of Gold Deposits in Burkina Faso



Source: "Burkina Faso: la soif de l'or", in *Jeune Afrique*, March 12, 2012.

## Appendix 6

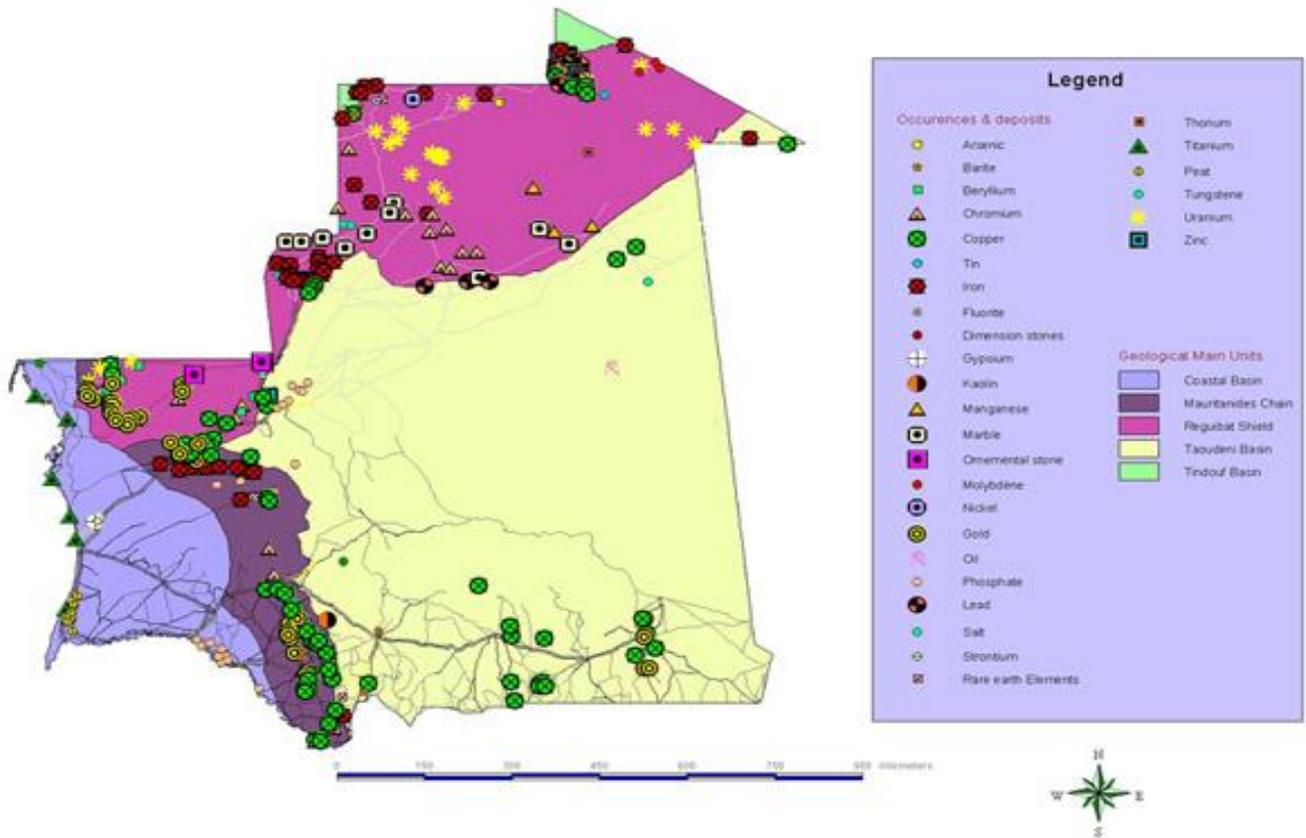
### Mining Concessions North of Agadez



Source: "La malédiction de l'uranium – Le Nord-Niger victime de ses richesses", Collectif Tchinquagen. August 2008, quoted by Bérengère Rouppert, *Les États sahéliens et leurs partenaires extrarégionaux. Le cas de l'UE en particulier*, GRIP analysis note, December 2012, p. 3.

## Appendix 7

### Mineral Resources in Mauritania



Source: Mauritanian Ministry of Mines and Oil, document used by the Minister Taleb Ould Abdi Vall during a conference at l'Ifri on February 6, 2013, *Les ressources naturelles en Mauritanie: opportunités et défis*.

See: <[www.ifri.org/?page=detail-contribution&id=7497&id\\_provenance=79&provenance\\_context\\_id=](http://www.ifri.org/?page=detail-contribution&id=7497&id_provenance=79&provenance_context_id=)>.  
Click on this link to watch the video of the Minister's presentation.

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