

Uranium Mining in the DR Congo A Radiant Business for European Nuclear Companies?



Uranium Mining in the DR Congo

A Radiant Business for European Nuclear Companies ?

June 2011

Ecumenical Network Central Africa

Chausseestraße 128/129
10115 Berlin
Germany
www.oenz.de

ökume
nisches
neiz
entral
afrika

Inhalt

Abbreviations	4
Executive Summary	5
Environmental and health risks of uranium mining.....	8
Uranium exploitation in the Democratic Republic of the Congo	9
Uranium reserves in the Katanga region	9
History of uranium mining in the DRC.....	9
Générale des Carrières et des Mines (Gécamines).....	11
Illegal uranium mining and export	12
Documented uranium mining and smuggling in the DR Congo	14
Lack of participatory rights and constraint influence of the civil society	17
International Interests in Congolese Uranium	18
Areva - A Global Player on the nuclear energy market.....	18
Areva's mining practises in other African countries	19
Arevas mining contract with the DRC	21
German banks and nuclear energy providers.....	22
Recommendations	24
Bibliography.....	25

Boxes:

Box 1: How uranium is industrially mined and processed and Waste management	9
Box 2: Artisanal mining	12
Box 4: The case of Golden Misabiko	18
Box 5: Germany's own experiences with uranium mining	23

Maps and Figures:

Map 1: Resources in the DRC	10
Map 2: Resources in the copper belt of the Katanga region	11
Figure 1: Expected world uranium production	6
Figure 4: Sources of uranium delivered to EU utilities in 2008	7

Abbreviations

AFDL:	Alliance des Forces Démocratiques pour la Libération du Congo-Zaïre
ANR:	Agence nationale de renseignements
ASADHO:	Association Africaine de Défense des Droits de l'Homme
CDC	Caisse des Dépôts et Consignations, France
CEA:	French Atomic Energy Commission
CGEA:	Congolese Atomic Energy Commission
CRIIRAD:	Commission de Recherche et d'Information Indépendantes sur la Radioactivité, Niger
DRC:	Democratic Republic of the Congo
EU:	European Union
EDF:	Electricité de France
EITI:	Extractive Industries Transparency Initiative
ERAP	Entreprise de recherches et d'activités pétrolières, France
ESA:	European Supply Agency
FAC:	Forces Armées Congolaise
FDLR:	Forces Démocratiques de la Libération du Rwanda
GDR:	German Democratic Republic
Gécamines:	Générale des Carrières et des Mines
GFI:	Groupe Forrest International
IAEA:	International Atomic Energy Agency
NGO:	Non-Governmental Organisation
OCHA:	UN Office for Coordination of Humanitarian Affairs
OENZ:	Ecumenical Network Central Africa
PMH	Police Minière et Hydrocarbon (Mining Police)
PNC:	Police Nationale du Congo
PPRD:	Parti du Peuple pour la Reconstruction et le Développement
SCR:	Social Corporate Responsibility
UDHR:	Universal Declaration of Human Rights
UMHK:	Union Minière du Haut-Katanga
UNEP:	United Nations Environmental Programme

Executive Summary

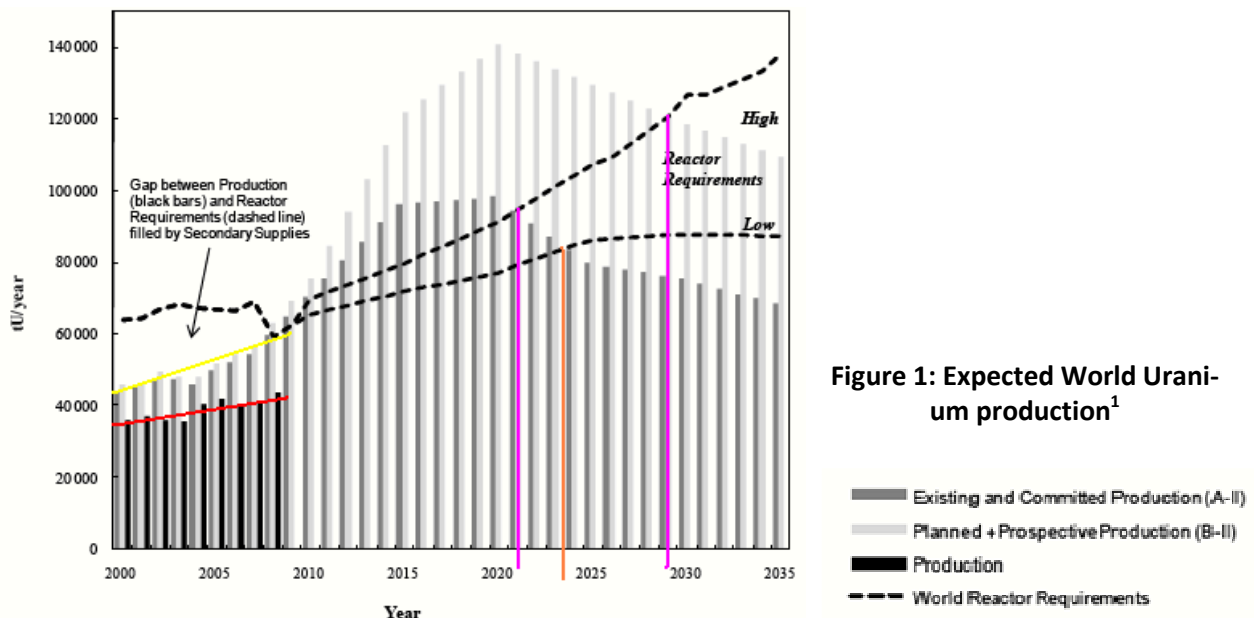
25 years after the catastrophe of Tshernobyl and only months after the nuclear meltdown of Fukushima, nuclear energy is a growing market. Even as protests against nuclear energy rise worldwide, several hundred nuclear power plants are planned to be built in the next decade. Today the risks of nuclear power technology are discussed intensively. But so far medical scientists and environmental activists focus their attention mostly on the dangers of running nuclear power stations and the final storage of atomic wastes. Hardly any attention is paid to the circumstances under which uranium, the raw material for atomic energy, is produced. The global argumentation neglects the working conditions in uranium mines, the health risks, the environmental damages, the circle of recipients to which the radiating material is sold, and the flow of profits in this business.

The Democratic Republic of the Congo (DRC) provides rich sources of uranium in its southern province of Katanga. Since the 1920ies uranium has been mined and exported, in the beginning under the rule of Belgian colonial administration. Despite the known impact of extraction on the health of workers, local communities and the environment, the Congolese government has tolerated the illegal exploitation and exports since the 1960s and seems to be involved in the profits of this business. In 2010 the government of the DRC has signed a contract for the legal and industrial exploitation of the Katanga uranium resources with the French energy company Areva. The details of this contract remain secret, but reportedly Areva has bought the right to the unlimited export of the Congolese uranium reserves. This deal has caused concern, as in the past Areva has been heavily criticised for its practices in the uranium mining business in other developing states, especially in Niger. There, as several scientific studies claim, Areva has neglected even basic safety, health and environmental protection standards, allowing huge areas and parts of the population to be contaminated during the process and as a consequence of uranium exploitation.

Moreover instable political conditions in the DRC persist, including the high prevalence of corruption in business and administrative structures, the lack of an appropriate functioning justice sector and the slight presence of controlling bodies like human rights or environmental activists, scientific research centres or independent and well equipped media. Due to those facts, there is a high risk that uranium exploitation in the DRC might result in severe damages to the environment in Katanga and to the health of the local population, and might as well lead to further corruption and the misuse of public revenues.

German banks and the German technology company Siemens have longstanding relations to Areva and its nuclear technology program. While the German government has confirmed its long term decision to a nuclear power phase-out, German financial and business relations have always had a strong link to the profits of nuclear technology.

The increase in worldwide demand of uranium



Even after the nuclear catastrophes of Tshernobyl and Fukushima, governments around the world consider nuclear power as a viable, competitively priced “clean base load electricity, or at least a bridging technology on the way to more sustainable, emission free sources of electricity. Numerous new nuclear power plants are in planning. Presumably this number will increase over the coming decades, particularly in the new emerging markets and new economies of the BRIC-states (Brazil, Russia, India and China). This is driving a greater worldwide demand for uranium, the source for nuclear energy.

Today the 439 nuclear power plants worldwide require the production of about 68.000 tons uranium per year². By 2030 it is expected that the world uranium production will range between 93.775 (low approximation) and 121.955 (high approximation) tons³. The world exploration and mine development expenditures will have more than doubled. More than 100 nuclear power plants will be active worldwide by 2050.

The European Union (EU) and North America together consume almost two-thirds of today’s world uranium. The significant demand of East-Asia was 12.980 tons of uranium in 2008. The countries in

¹ <http://www.iaea.org/OurWork/ST/NE/NEFW/documents/RawMaterials/RTC-Ghana-2010/5.RedBook.pdf>.

² Uranium 2009 Resources, Production and Demand OECD, International Atomic Energy Agency (IAEA): OECD Publishing. The so called Red Book is published every two years since the mid-1960s by the OECD Nuclear Energy Agency and the International Atomic Energy Agency (IAEA).

³ In 2008 worldwide 43.750t (2007: 42.463t, 2006: 39.603t, 2005: 41.943t, 2004: 40.188t) were produced by the largest producing countries today (Australia, Canada, Niger, Namibia, Kazakhstan, Russia, Uzbekistan and South Africa). All identified resources of uranium would provide supply for more than 100 years if the consumption would not exceed the amount of usage in 2008.

the South (Central and South America, the Middle East, Central and South Asia and Africa) have merely marginal consumption.⁴

The global demand for uranium increased more than the output of uranium mines. As a result, market prices for uranium have risen considerably in recent years (despite the decline since mid-2007)⁵.

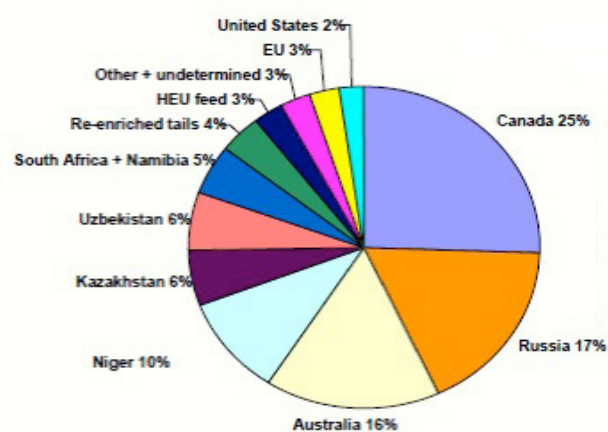
After the Fukushima nuclear accident, the German government reinforced its plan of a nuclear power phase-out by 2020. The tragic event in Japan has increased public awareness of the risks of nuclear power plants and the long term effects of waste storage. But so far the on-going public about the environmental impacts of nuclear energy only focuses on the problem of nuclear waste disposal. The other crucial stage of nuclear energy production is mostly overlooked: the mining of uranium and the conditions under which it is explored. Uranium mining wastes are dangerous for the environment, given that the radioactive half-life of uranium 238 is 4.5 billion years, and disposal sites for radioactive substances are insecure⁶.

Germany is to 100% dependent on uranium imports. Its nuclear power plants and utility companies E.ON, EnBW, RWE, Vattenfall purchase uranium from the French nuclear multinational company AREVA and other uranium mining companies. It is impossible for the electricity consumer to identify the origin of the uranium "fuel" and under which conditions the uranium was produced. This situation is a result of the lack of transparency in the uranium value-added chain.

In 2008 most of the uranium was delivered to the EU by the largest producing countries Australia, Canada and Russia. But it is expected that the share of the countries of the South, notable Sub-Saharan Africa, will substantially increase over the next decades.

Figure 2⁷:

Sources of uranium delivered to EU utilities in 2008 (% share)



⁴ <http://www.iaea.org/OurWork/ST/NE/NEFW/documents/RawMaterials/RTC-Ghana-2010/5.RedBook.pdf>.

⁵ The price of uranium has increased fivefold since 2001, fuelling major new initiatives and investment in the exploration. <http://www.iaea.org/OurWork/ST/NE/NEFW/documents/RawMaterials/RTC-Ghana-2010/5.RedBook.pdf>.

⁶ NAD Überblicke Hintergründe 3/2010: Uranabbau in Afrika.

http://www.netzwerkafrika.de/dcms/sys/pages/public/printversion.html?f_page_url=/sites/nad/publikationen/nadueberblicke/index.html&f_page_params=.

⁷ <http://www.iaea.org/OurWork/ST/NE/NEFW/documents/RawMaterials/RTC-Ghana-2010/5.RedBook.pdf>.

Environmental and health risks of uranium mining

Uranium mill tailings are normally dumped as sludge in special ponds or piles, where they are abandoned. The tailings still contain 85% of the initial radioactivity of the original ore. Also, the sludge contains heavy metals and other contaminants such as arsenic, as well as chemical reagents used during the milling process. Additionally, uranium mill tailings keep on emitting dangerous radon gas for many years. The dangerous components of tailings are transported into the environment by wind, erosion or dam failures.

During the process of uranium mining and milling, workers and the environment are exposed to different dangers: As the content of radiation is quite low in uranium ore, large quantities of material have to be mined, leaving huge waste piles of radiating stones and dust. These piles can leak dangerous Radon gas and seepage water that contaminates the water supplies of the area. Drinking water and polluted air then contain toxic substances that can cause severe health disorders⁸ like urogenital disorders, leukaemia or other forms of cancer⁹ and deformation in unborn babies.¹⁰ Radiation and radioactive radon gas can affect mineworkers as well as people living and working close to mining areas and roads that are used for transport of ores and waste sludge¹¹. Deposited radioactive atoms or dust or aerosol particles continue to decay and damage vital molecules in lung cells, by either creating free radicals or causing DNA breaks or damage. The problem is that the diseases break out from 15 to 40 years after the person's exposure to fine radioactive dust or the gas radon. This makes it very difficult for affected persons to successfully pursue compensation¹².

As causality is not easy to verify and the relationship between radon gas or fine dust exposure and lung cancer, other tumours (mouth, nose, pharynx and larynx) or cardiovascular, skin and other diseases is always denied by the nuclear industry. Long term consequences have not yet been fully researched, pre-test / post-test studies are not or only infrequently carried out. Health infrastructure and facilities in uranium mining areas are in most cases provided by the nuclear industry for their employees. Uncertainty still remains with regard to the dose / response relationship at low levels of radon exposure and other risk effect modifying factors for lung cancer. Other uncertainties concern a possible relation of radon to the effects of combined exposures, e.g. radiation and arsenic, fine and silica dust or tobacco smoke.

For uranium mining and milling huge amounts of water and soil are needed and polluted by radiation for many decades. Fine dust particles can travel long distances, spreading their radiation on a large radius around the actual mining sites. Dust particles will then find their way into agricultural products

⁸ Miller AC and McClain D. 2007: A review of depleted uranium biological effects: in vitro and in vivo studies, in: Review for Environmental Health 22 (1), p. 75–89.

⁹ An increased risk of lung cancer associated with exposure to radon and its secondary products for uranium miners is well known and has been summarised by the Committee on the Biological Effects of Ionizing Radiation of the US National Research Council 1999: Health Effects of Exposure to Radon - BEIR VI, National Academy Press. Washington, D.C.

¹⁰ <http://energy.cr.usgs.gov/other/uranium/UEnvImpacts.pdf> and: López-Abente, Gonzalo; Aragonés, Nuria; Pollán, Marina; Ruiz, María and Gandarillas, Ana 1999: Leukemia, Lymphomas, and Myeloma Mortality in the Vicinity of Nuclear Power Plants and Nuclear Fuel Facilities in Spain in: Cancer Epidemiology, Biomarkers and Prevention Vol. 8, p. 925-934 and US Environmental Protection Agency. http://www.epa.gov/rpdweb00/understand/health_effects.html.

¹¹ <http://www.bfs.de/de/bfs/forschung/Wismut/TechnischerBericht.pdf>.

¹² <http://www.taz.de/1/zukunft/umwelt/artikel/1/selbsthilfegruppe-fuer-atomopfer/>.

like grass, corn, milk, vegetables or meat and will be consumed by the local population.¹³ The need for fresh water can lead to water shortages or conflicts in other sectors of society, as in many places in Africa water supply is already problematic. Also the potential for future groundwater contamination during the exploration and test boring phase is high. If the drinking water is contaminated, the risk for uranium linked diseases increases.

Uranium exploitation in the Democratic Republic of the Congo

Uranium reserves in the Katanga region

Historically, the DRC has been a significant producer of uranium. The most famous mine is Shinkolobwe, located in the so called copper belt close to the Zambian border. The Shinkolobwe mine is well-known for producing uranium rich ore. Still Shinkolobwe is not the only mine in the DRC, or the one with the highest uranium content. The whole Katanga Province shows abnormally high levels of radiation, with highest concentrations at the immediate vicinity of the towns Luiswishi, Shinkolobwe, Kambove, Menda, Tataru, Swambo, Kamoto, Lakongwe, Mashamba-ouest and Musonoi, where also high reserves of cobalt copper and zinc exist (See Map1 and 2)¹⁴.

History of uranium mining in the DRC

Shinkolobwe is the name of an old mine and town, which was constructed by the colonial Belgian mining trust Union Minière du Haut-Katanga (UMHK). The mine is situated at the village Mukumbi near the larger town of Likasi and about 120 miles northwest of the capital Lubumbashi in the district Haut-Katanga. The local uranium deposits were discovered in 1915 and the extraction began in the

Box 1: How uranium is industrially mined and processed

Uranium mining in the DRC is in generally done through open-pit mining. Usually, the ore is then crushed and leached in a uranium mill close to the mine. Through leaching, uranium is separated from the ore. As the leaching agent not only extracts uranium from the ore, but also several other constituents like molybdenum, vanadium, selenium, iron, lead and arsenic, the uranium must be separated out of the leaching solution. The final product produced from the mill, commonly referred to as "yellow cake" is packed and shipped in casks¹⁵.

Waste management

Since less than one per cent of the uranium ore consists of actual uranium, the mining and milling of uranium generates a lot of waste. In the course of processing, it is crushed to a fine powder, which is almost as radioactive as the uranium itself. This waste by-product of uranium mining is called tailing, which should normally be

¹³ Craft, E. S.; Abu-Qare, A. W.; Flaherty, M. M.; Garofolo, M. C.; Rincavage, H. L.; and Abou-Donia, M. B. 2004: Depleted and natural uranium: chemistry and toxicological effects, in: Journal of Toxicology and Environmental Health Part B: Critical Reviews 7:p. 297–317.

¹⁴ UN Expert Group Reports: S/2006: 525; S/2010: 596 and <http://allafrica.com/stories/201012260015.html>.

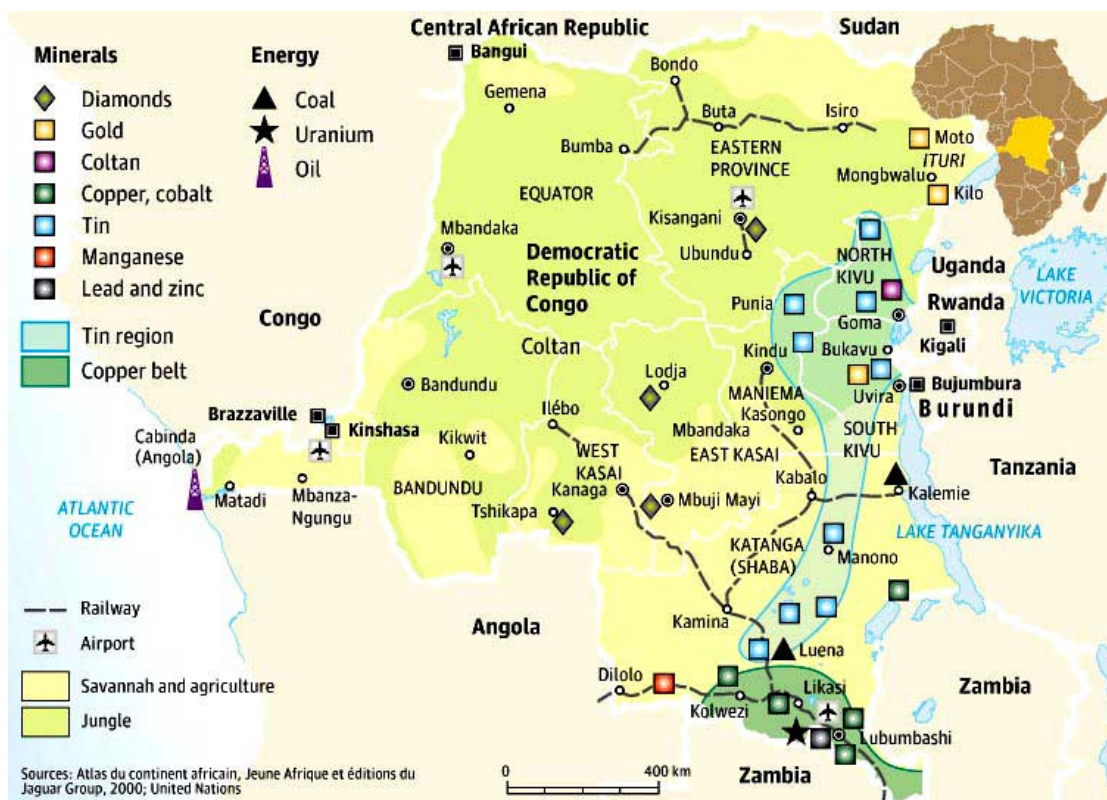
¹⁵ Wippel, Guenter: Uranabbau in Afrika. In: Koch, Karls-W.; Schneider, Astrid and Kappler, Ralph Th.: Stoerfall Atomkraft. Aktuelle Argumente zum Ausstieg aus der Kernenergie, p. 205-222, 2010

isolated from the environment and dumped as sludge in special ponds or piles to prevent cancer or other epidemics in the local population¹⁶. But if these uranium tailings are left on the surface and allowed to dry out, the radioactive sand can be carried great distances by the wind, entering the food chain and water. In many cases, if uranium mining companies declare their bankruptcy before any rehabilitation of the contaminated sites are implemented, the tailings continue contaminating the environment or rehabilitation has to be paid and implemented by public money¹⁷.

1920's¹⁸. In World War II the United States used Shinkolobwe's uranium resources to supply the Manhattan Project, the secret U.S. programme that produced the two atomic bombs dropped on the Japanese cities Nagasaki and Hiroshima in 1945.

Between the 1940s and 1960s UMHK extracted approximately 40.000 tons of uranium from this mine. According to the website Globalsecurity.org, an US military news and information platform, the DRC supplied up to 60 % of the world's uranium during that time¹⁹. When the DRC was granted independence in 1960, Belgium sealed the Shinkolobwe mine by filling its shafts with concrete. Since then the mine was officially closed and the commercial production ceased.

Map 1: Resources in the DRC



¹⁶ Mined U 2008: Financing of new uranium mines. <http://www.nirs.org/mononline/minedureport.pdf>. Uranium Mining in Africa. <http://www.fataltransactions.org/Dossiers/Uranium-Mining-in-Africa>.

¹⁷ NAD Überblicke Hintergründe 3/2010: Uranabbau in Afrika. (http://www.netzwerkafrika.de/dcms/sys/pages/public/printversion.html?f_page_url=/sites/nad/publikatione/n/nadueberblicke/index.html&f_page_params=).

¹⁸ ASADHO/Katanga 2009: Mine Uranifère de Shinkolobwe. D'une exploitation artisanale illicite à l'accord entre la RD Congo et le groupe nucléaire français Areva: p. 11.

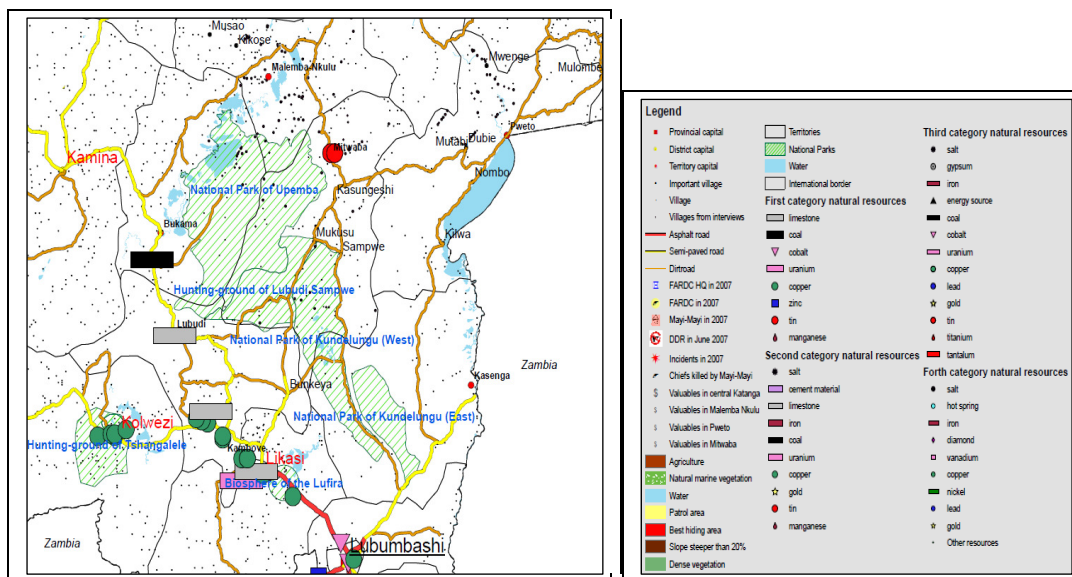
¹⁹ <http://www.un.int/drcongo/drc-news.htm>.

Générale des Carrières et des Mines (Gécamines)

In 1967, at the beginning of the Mobuto era, the colonial Belgian mining trust UMHK was nationalised by the Congolese government and transformed into the state-owned company, Gécamines, which has always been immensely profitable and was the economic centre of gravity in Congo.²⁰ Since the formation of UMHK in 1906, the Copper and Cobalt district in Congo's South Province with a total of 18.900 square kilometres and reserves of 4 million tons cobalt and 6.4 million tons of zinc covers the world largest copper and cobalt deposits. The mining area of Tenke-Fungurume contains large reserves, which are expected to be 18 million tons of copper and one million tons of cobalt²¹.

During the Mobuto era, the whole Katanga region was basically governed by the state owned Gécamines. Under President Mobutu, plundering and corruption was the common rule; driving the once profitable state owned firm to the brink of bankruptcy (it had to apply for a 400 million US-Dollar World bank loan in 1989). A big part of the lucrative revenues went directly to the personal welfare of president Mobutu and his clique²².

Map 2: Resources in the copper belt of the Katanga region



Source: http://www.ipisresearch.be/mapping_katanga.php

One Gécamines official estimated the theft to an amount to 10% of production. However, the production has hit high records of 470,000 tons copper in 1986 and it remained at 44,000 tons in 1989, which meant that Gécamines provided 85% of DRC's export earnings and 42% of public revenues, making it by far the most important company in the exploitative economy of the country²³.

²⁰ Johnson, Dominic 2008: Kongo. Kriege, Korruption und die Kunst des Ueberlebens, Frankfurt a. Main: p. 176-177.

²¹ Ibid: p. 177.

²² Transnational Research Associates 1998: La Générale des Carrières et des Mines (Gécamines). A state-owned mining enterprise in the Democratic Republic of Congo. <http://www.transnational-research.com/old-umhk.htm>.

²³ Global Witness: Digging in Corruption – Fraud, abuse and exploitation in Katanga's copper and cobalt mines, Washington 2006

The crisis of Gécamines started in the 1990s, when the Kamoto mine collapsed and subsequently was not reopened. The whole infrastructure and equipment had been decaying due to a lack of maintenance and investments. Industrial mining stalled to a large extent, factories stopped production and were shut down.²⁴ As a consequence Gécamines had to enter partnerships with other private companies. In 2000 Gécamines was privatized, causing a power and security vacuum in the region and an unregulated situation in these mining sites arose. Illegal artisanal mining and trade of Katangan resources including uranium flourished.²⁵ A United Nations inter-agency mission, led by the UN Office for Coordination of Humanitarian Affairs (OCHA) and the United Nations Environment Programme (UNEP), and organised through their Joint Environment Unit, who visited the Shinkolobwe mine in November 2004 described the situation as “anarchistic”²⁶.

BOX 2: Artisanal Mining

About one million artisanal miners are active in the DRC and constitute a notable economic potential²⁷. Although no official definition exists for artisanal mining, the activity can be characterized by²⁸:

- Exploitation of marginal and/or very small deposits, which are not economically exploitable by mechanized mining
- Lack of or limited use of mechanization and a lot of physically demanding work
- Low level of productivity and inefficiency in exploitation and processing (low recovery value)
- Low level of occupational safety and health care
- Poor qualification of personnel
- Low salary and income levels, chronic lack of investment capital, and lack of social security
- Women and children are frequently found working on the site
- Insufficient consideration of environmental issues

Illegal uranium mining and export

Gécamines was always aware of the associated health and environmental risks of the uranium mine Shinkolobwe. A private industrial guard permanently secured the access to it.²⁹ No case of artisanal mining became public during that time. In the first Congo war in 1997 the Alliance des Forces Démocratiques pour la Libération du Congo-Zaïre (AFDL) conducted their conquest of Kinshasa under the command of Laurent Désiré Kabila and was supported by the neighbour states Rwanda, Uganda and Burundi. Former Zaïre’s President Mobutu Sese Seko and his Premier Minister Léon Kengo Wa Dondo made an effort to stop the advance of the rebel troops with the soldiers of the Forces Armées Congolaise (FAC) and their foreign mercenaries. In need of additional funding they ordered the re-

²⁴ Johnson 2008: p. 177.

²⁵ ASADHO/Katanga 2009: p. 12-14, <http://www.guardian.co.uk/world/2010/dec/19/wikileaks-cables-us-nuclear-threat>, <http://allafrica.com/stories/201012260015.html>; UN Expert Group Reports: S/2006/525: p.31-33; S/2010/596: p. 50-51.

²⁶ UNEP/ OCHA 2004: Assessment Mission of the Shinkolobwe Uranium Mine (<http://www.irinnews.org/report.aspx?reportid=52000>).

²⁷ CASM, DFID and The World Bank 2007: Briefing Note: Artisanal Mining in the DRC (Key Issues, Challenges and Opportunities). <http://www.ddiglobal.org/login/Upload/CASM-%20ASM%20in%20DRC%20briefing%20note.pdf>.

²⁸ UNEP/ OCHA 2004: Assessment Mission of the Shinkolobwe Uranium Mine: p. 7.

²⁹ ASADHO/Katanga 2009: p. 12.

jects of radioactive materials from Shinkolobwe, which were buried by UMHK at the end of the colonial time, to be exhumed. Gécamines conducted the transaction through an anonymous recipient from Finland. The Groupe Forrest International (GFI) from Katanga is reported to have been in charge of providing the transport facilities³⁰.

The situation abruptly changed in 1997, when the new political leadership of the AFDL gave order to retire the industrial guard from Shinkolobwe. Over the months, artisanal miners broke down the concrete lids in order to gain access to the cobalt, copper and uranium deposits without regard for their own safety³¹. The beginning of the year 1998 marked the starting point of Shinkolobwe's populating by artisanal miners. In 2009 the human rights activist Golden Misabiko published an NGO report about the illicit uranium mining in Katanga. According to this report between 2000 and 2004 the illegal and uncontrolled mining of all existing minerals was booming, primarily copper and cobalt, but uranium as well. Military, police and local authorities turned a blind eye.³² The Government of the DRC was tolerating these risks and it was not attempting to prevent access to the most important mining sites or to monitor the radioactivity of exported minerals³³.

Enormously lucrative world market prices for copper and cobalt stimulated the extraction of these resources more than the exploitation of uranium, because they were more profitable. People mining cobalt and copper still risked radiation exposure, because many Katangan mines have abnormally high levels of radiation³⁴, as recent reports showed. The pitmen were hardly organized and sold the minerals for give-away prices³⁵ to intermediaries of local and international businessmen, or were trafficking it illicitly to neighbouring countries in interconnection with dubious and mafia-like networks. Local Katangan and international salesmen and companies arranged the transport. This was tolerated by local and national political elites³⁶. The smuggling of radioactive materials was done by hiding it under raw and semi-processed rocks containing other elements like copper. The trade benefitted from an organised illegal export system in an unregulated environment. The specific methods and routes of smuggling are unknown. Attempts by Interpol to learn more about the precise origin of confiscated uranium in Tanzania and Kenya have remained inconclusive³⁷.

A complex network of political patronage permeates all sectors of the economy of this highly corrupt country³⁸. Involved in the illegal exploitation of uranium (and of all the other extractive resources of the country) are Congolese political elites, certain military (FARDC) and police officials, local agents of the mining police (PMH) and agents of the Agence Nationale de Renseignement (ANR)³⁹. At checkpoints they charge fees from the miners. People in responsible state positions obviously accept that miners and villagers are not protected against the hazards of nuclear radiation. The officials tolerate

³⁰ *ibid.*: p. 12.

³¹ UN Expert Group Reports: S/2006/525: p. 32.

³² ASADHO/Katanga 2009: p. 12.

³³ UN Expert Group Reports: S/2006/525: p. 31.

³⁴ <http://allafrica.com/stories/201012260015.html>, UN Expert Group Report: S/2006/525, S/2010/596, UNEP/OCHA 2004: Assessment Mission of the Shinkolobwe Uranium Mine: <http://ochaonline.un.org/ToolsServices/EmergencyRelief/EnvironmentalEmergencies/Reportsonemergenciasandactivities/tabid/1464/Default.aspx>.

³⁵ Depending on mineral content, the price of a 50 kg ore bag is sold between 400 and 1500 Congolese francs (1 to 4 US dollars) UNEP/OCHA 2004: p. 17.

³⁶ ASADHO 2009: p. 12-14; <http://www.guardian.co.uk/world/2010/dec/19/wikileaks-cables-us-nuclear-threat>, <http://allafrica.com/stories/201012260015.html>; UN Expert Group Reports: S/2006/525: p.31-33

³⁷ UN Expert Group Reports: S/2006/525: p. 31.

³⁸ Transparency International 2010: Overview of corruption and anti-corruption in the Democratic Republic of Congo (DRC).

³⁹ S/2006/525; ASADHO 2009: p. 21.

the inhuman living conditions of the miners and villagers for the sake of their own welfare. It seems to be a standard practice for officials to receive bribes from companies. Border officials are bribed to avoid sales tax⁴⁰.

These circumstances caused international concern. Illegal exploited uranium could be delivered to Iran, North-Korea or Pakistan, which are trying to acquire vital ingredients for their reputed military nuclear ambitions. Terrorists are seeking material for a radiological dispersal device (“dirty bomb”)⁴¹. The international pressure led the DRC government to officially classify uranium ore as a restricted material (Article 7 of the mine code enacted the 11th July 2003). President Joseph Kabila briefly declared Shinkolobwe to be a zone prohibited to all mine activities due to concerns regarding illegal mining (Presidential Decree (No.4/17) from 27th January 2004)⁴². In July 2004, only a few months later, eight people died and thirteen people were injured, when one part of the old Shinkolobwe mine collapsed, proving that the artisanal mining still continued⁴³.

The UN Security Council established a UN Group of Experts to monitor the exploitation of the natural resources in the DRC. During their mandate to investigate the Shinkolobwe mine in 2006 they found that the alleged smuggling of radioactive materials was far more frequent than assumed. They reported that “Organs of state security have, during the past six years, confiscated over 50 cases containing uranium or caesium [a highly radioactive substance used in industry, medicine, and research] in and around Kinshasa”. They added that “The last significant incident occurred in March 2004 when two containers with over 100 kilograms of stable uranium-238 and uranium-235 were secured”⁴⁴. The Group of Experts also discovered that the straight access to the mining site was possible with 4x4 vehicles. They learned that within a few kilometres of the mine, seven villages with a total population of little less than 10,000 people exist. No barriers or even simple warning signs as cautionary measures were present and none of the encountered villagers seemed to be aware of any potential health danger⁴⁵.

While in Shinkolobwe Congolese authorities recently at least started to discuss about protection plans, there are other mines around Likasi and Kolwezi, where uranium mining obviously continues⁴⁶.

Documented uranium mining and smuggling in the DR Congo

Several incidents of uranium smuggling have become public and were verified by different sources⁴⁷. An internal US-embassy diplomatic cable dated 11th July 2007, that became public through WikiLeaks highlighted many incidents of uranium mining and smuggling and the involvement of European, Chinese, Iranian, Pakistani and South Korean companies in the illegal extraction and smuggling of uranium from the DRC⁴⁸.

⁴⁰ Transparency International 2010.

⁴¹ The Government of the DRC is suspected of trying to reopen the Shinkolobwe uranium mine with help of North Korea. The two countries are closely cooperating in the military field and this cooperation could have been expanded to nuclear issues. North Korea denied media reports that it might be importing uranium from the DRC to manufacture nuclear weapons. <http://www.wise-uranium.org/upafr.html>.

⁴² ASADHO/Katanga 2009: p. 32.

⁴³ *ibid*, UNEP/OCHA 2004: Assessment Mission of the Shinkolobwe Uranium Mine.

⁴⁴ S/2006/525: p. 149.

⁴⁵ S/2006/525: p. 153.

⁴⁶ <http://allafrica.com/stories/201012260015.html>.

⁴⁷ UN Expert Group Reports: S/2006/525, S/2010/596, ASADHO, <http://www.timesonline.co.uk/tol/news/world/article601432.ece>,

<http://allafrica.com/stories/201012260015.html>.

⁴⁸ <http://allafrica.com/stories/201012260015.html>.

An example: The private company Malta Forest, part of the Groupe Forrest International (GFI), allegedly exploited and exported uranium from the DRC. According to the cable, Malta Forest has been mining uranium ore while claiming to be mining copper and cobalt only. Then Malta Forest exported uranium ore by circumventing radiation testing through using an established system of corrupt government officials⁴⁹. Foreign companies then purchased the uranium ore and refined it abroad to separate the uranium, copper and cobalt. In this way, foreign companies purchased uranium from Malta Forest, while Malta Forest appeared to be exporting copper and cobalt. According to several media articles, two Finnish companies, Opolo Chemicals and OMG Kokkola Chemicals, apparently told the International Atomic Energy Commission (IAEA) that they had bought one ton of uranium from the DRC in 2006⁵⁰. The Government of the DRC, however, claimed that it did not export any uranium in that year and the Managing Director of OMG Kokkola Chemicals, Jöran Sopo, denied the fact that the company had reported uranium exports to IAEA⁵¹. Nevertheless, the cable stresses that most evidence is circumstantial and inconclusive⁵².

There are certain other indications of illegal business practises in which Malta Forest is involved. The Head of GFI is George Forrest, a Belgian national. A report of the UN panel of experts on the illegal exploitation of natural resources in the DRC, published on 21 October 2002, calls him explicitly a member of an "elite network". According to this UN-report he allegedly has organised a criminal cartel to collaborate in stripping the DRC systematically of its mineral and other wealth⁵³. Forrest embodies the symbiosis of business and politics in the DRC. He is one of the richest men in the country⁵⁴. His father founded the Malta Forrest Company in Lubumbashi in 1922. The company started as a construction company during the colonial time and soon branched out into mining. Since the 1980s, George Forrest is the head of the company. Its huge expansion and fortune became possible under Laurent and Joseph Kabila, although Malta Forest already had profited from the support of the Mobutu elites.

Forrest was appointed as chairman of Gecamines between 1999 and 2001, when - in what the UN report termed "a flagrant conflict of interest" - his company negotiated lucrative mining contracts with Gecamines and he abused his position to his personal welfare⁵⁵. In 2004, Forrest obtained one of the most lucrative mining concessions in the country, the Kamoto mine, and created the Katanga Mining company. On the occasion of the presidential campaign in 2006 he logistically and financially supported the DRC's presidential party Parti du Peuple pour la Reconstruction et le Développement (PPRD). In the DRC no financial regulations for elections exist. Forrest and his company have been

⁴⁹ <http://allafrica.com/stories/201012260015.html>.

⁵⁰ <http://www.timesonline.co.uk/tol/news/world/article601432.ece>,
<http://www.guardian.co.uk/world/2010/dec/19/wikileaks-cables-us-nuclear-threat>,
<http://www.minesandcommunities.org/article.php?a=10634>, <http://www.truth-out.org/africa-offers-easy-uranium66314>, <http://www.african-crisis.co.za/Article.php?ID=88551&>.

⁵¹ <http://allafrica.com/stories/201012260015.html>,
http://yle.fi/uutiset/teksti/news/2010/12/wikileaks_finnish_factory_suspected_of_illicit_uranium_trade_2237623.html.

⁵² <http://allafrica.com/stories/201012260015.html>.

⁵³ In this UN report Mr. Augustin Katumba Mwanke is also explicitly named, as part of the "elite networks". He is worth to be mentioned, as he habitually supports the Dan Gertler mining company, which "shows his interest in industrially mining uranium in the DRC". Katumba Mwanke is like Forrest one of the richest and powerful men in the DRC. He is the Minister of Presidency and Portfolio, was Ex-governor of Katanga, and a former member of the supervisory board of Anvil Mining and is also pulling his strings behind the scenes in Gécamines. S/2002/1146: p. 8-11.

⁵⁴ ASADHO/Katanga 2009, Johnson 2008: p. 177-179.

⁵⁵ S/2002/1146: p. 8-11.

accused by human rights groups and the UN of depriving the Congolese government of huge sums of tax revenues and of not taking steps to ensure his workers health and safety when processing radioactive materials at a company's smelter in Lubumbashi⁵⁶. The company is further accused of not disclosing information regarding its companies' activities, structure, financial situation and performance. It has failed to publish environmental and social performance reports⁵⁷. All these accusations were denied by Forrest and his company in a press release⁵⁸.

The Malta Forest Company also operates the Mining Company of South Katanga (CMSK) and the Luiswishi mine, located approximately 20 km northwest of Lubumbashi, the region's capital city. In a Study from May 2007, a research report claims that after analysing 100 kg of rock samples from the mine, a scientific commission from Kinshasa found that "dangerously high levels of radiation existed at Luiswishi mine, and that the mine operator was suppressing this fact to continue mining operations"⁵⁹. The same study states that in 2005 a Katangan government delegation detected high levels of radiation at Kisompe mine near Likasi and that they found artisanal pitmen working, who were employed by Chinese and Korean businessmen⁶⁰. It also emphasises that the mission discovered 15 tons of highly radioactive rock at the Copinath Company in Likasi, which obtained it from artisanal miners at Shinkolobwe. According to a copy the US Embassy received in March 2007 and highlighted by the same report, artisanal miners claimed that local government authorities in Likasi, working for the Mayor of Likasi, Helene Yav Nguz, who had partnered with local Chinese businessmen, asked the miners to clandestinely mine 60kg sacks of raw rock from Shinkolobwe⁶¹.

In August 2006 Iran was trying to buy large quantities of Congolese uranium and to smuggle it out through Tanzania. One large shipment was stopped in Tanzania in October 2005 when it was discovered during a routine check⁶². Several more shipments might have arrived there. Also North Korea made an attempt to buy uranium from the Shinkolobwe mine. The uranium was reportedly hidden amid a shipment of coltan for Kazakhstan, via the Iranian port of Bandar Abbas⁶³.

The UN Group of Experts stated in their 2006 report, that "in reference to the last shipment from October 2005, the Tanzanian government left no doubt that the uranium was transported from Lubumbashi by road through Zambia to the United Republic of Tanzania"⁶⁴. Through consultations the UN experts held with the Government of Tanzania, the report assumed that overall four shipments were seized over the past 10 years⁶⁵. According to the 2006 UN Group of Experts Report, more evidence of uranium smuggling was found in March 2004, when two containers with over 100 kilograms of uranium were secured⁶⁶. In their report in 2010, the Group of Experts also described attempted

⁵⁶ http://oecdwatch.org/cases/Case_64.

⁵⁷ *ibid.*

⁵⁸ <http://www.forrestgroup.com/uk/chap06/infos.html>.

⁵⁹ <http://allafrica.com/stories/201012260015.html>.

⁶⁰ *ibid.*

⁶¹ *ibid.*

⁶² <http://www.timesonline.co.uk/tol/news/world/article601432.ece>,

<http://www.guardian.co.uk/world/2010/dec/19/wikileaks-cables-us-nuclear-threat>,

<http://www.minesandcommunities.org/article.php?a=10634>, <http://www.truth-out.org/africa-offers-easy-uranium66314>, http://www.wmdinsights.com/l14/l14_AF1_UraniumSmuggling.htm,

<http://www.africancrisis.co.za/Article.php?ID=88551&><http://congowatch.blogspot.com/2006/08/iran-tried-to-import-uranium-from.html>.

⁶³ <http://www.timesonline.co.uk/tol/news/world/article601432.ece>.

⁶⁴ S/2006/525: p. 150.

⁶⁵ *ibid.*

⁶⁶ *ibid.*

sales of uranium by Forces Démocratiques de la Libération du Rwanda (FDLR) and Établissement Namukaya, two Rebel groups in the Kivu region⁶⁷.

To prevent further incidents of illegal exploitation and clandestine trafficking of uranium and to improve nuclear safety and security, the International Atomic Energy Agency (IAEA) has offered its assistance. Freight from the mining companies in the Katanga Province has the obligation to pass checkpoints of the IAEA Commissariat, which searches all mineral substances for radioactive content. The realisation of these measures of the IAEA was part of a contract signed on 21st December 2010 between the Governments of the DRC and the USA to fight against the illegal traffic of uranium and all radioactive substances⁶⁸.

Lack of participatory rights and constraint influence of the civil society

The civil society, local population and other stakeholders of the management of DRC's mineral resources have minimal rights to participate in the exploitation of the local resources. They have no real access to information and they do not have any possibility to exert their influence in the political decision-making process or in the implementation of industrial mining projects even if they are directly affected. Local elections have not been held since the independence of the state after 1960. Nevertheless the government of the DRC joined the Extractive Industries Transparency Initiatives (EITI) in 2007. EITI is a global initiative for increased voluntary transparency in the oil, gas and mining sectors, but it does not have any real means for sanctions or for taking legal steps against mining arrangements. The participation of independent civil society is a fundamental component of the multi-stakeholder nature of the EITI. Congolese civil society organisations are playing an active role to ensure that their country becomes fully compliant with the initiative. But instead of being safeguarded, civil society activists, transparency advocates and members of the EITI committee have repeatedly been intimidated and constrained by arrests and false charges.

The World Bank demands in its "Extractive Industries Review Report" 2003 the necessary precondition "to ensure transparent participation from the earliest stage, and mandate free prior informed consent and prohibition of involuntary resettlement for all operations which may impact communities" in order of the industrial minings contribution to poverty reduction and local development.⁶⁹ These conditions have not been met yet. A study dealing with tax revenues in seven African states including the DRC concludes that these countries have profited only marginally from the rise of world market prices between 2003 and 2008 for their extractive resources because mining companies were granted broad tax reductions.⁷⁰ Through the secrecy of contracts and intercompany profit shifting, mining companies can easily avoid their tax payments. The financial payments of mining corporations

⁶⁷ S/2010/596: p. 182-184.

⁶⁸ This contract was signed by DRC Foreign Minister, Alexis Thambwe Mwambe and US Ambassador in the DRC James F. Entwistle. *Le Potentiel*: December 22, 2010 and January 07, 2011.

http://www.lepotentiel.com//afficher_article.php?id_edition=&id_article=104869;

http://www.africatime.com/rdc/nouvelle.asp?no_nouvelle=573125&no_categorie=

⁶⁹ World Bank 2003: p. 40.

[http://irispublic.worldbank.org/85257559006C22E9/All%2BDocuments/85257559006C22E985256FF6006CE949/\\$File/volume5submissionsenglish.pdf](http://irispublic.worldbank.org/85257559006C22E9/All%2BDocuments/85257559006C22E985256FF6006CE949/$File/volume5submissionsenglish.pdf).

⁷⁰ The analysed countries were Ghana, Malawi, Zambia, South Africa, Sierra Leone and the DRC. Open Society Institute of Southern Africa, Third World Network Africa, Tax Justice Network Africa, Action Aid International, Christian Aid 2009: *Breaking the Curse: How Transparent Taxation and Fair Taxes can Turn Africa's Mineral Wealth into Development*. <http://documents.twnafrica.org/breaking-the-curse-march2009.pdf>.

to national governments need to be reformed to turn the mineral resources into revenue for development, law, policies and governments.

Box 3: The case of Golden Misabiko

In July 2009 Golden Misabiko, Chair of the Association Africaine de Défense des Droits de l'Homme – ASADHO in Katanga published a study about the Shinkolobwe uranium mine, denouncing state authorities for supporting illegal and dangerous mining and for signing a contract with the French nuclear group Areva⁷¹. He was arrested on 24th July with his colleague Timothee Mbuya, Vice-Chair of ASADHO/Katanga, and they were interrogated in Lubumbashi by members of the Congolese intelligence agency (Agence nationale de renseignements, ANR). Mbuya was released on the same day, Misabiko has been charged with "undermining State security" and "making defamatory statements"⁷². After several days he was released on bail. Misabiko had to leave the DRC, because in the past he had been arrested, tortured and intimidated several times for his human rights activities. These insecure conditions for him and his family forced him to flee into exile.



International Interests in Congolese Uranium

Positive market price conditions for uranium stimulated the international uranium mining industries and lead to further investments in the exploration and identification of new and additional resources⁷³. The worldwide demand for uranium is increasing, and for the mining and nuclear industries, African countries are of fundamental economic interest. Accordingly, several countries and mining companies aspire to invest in exploring and exploiting uranium in the DRC where major uranium reserves are presumed. The weakness of state authorities may be another incentive for the investments. Corruption, fraud, bad governance performance and deficits of democratic and civil society control mechanism persist. Mining and milling regulations are poor, they are either minimal or absent, particularly with regard to environmental and labour protections⁷⁴. All factors combined offer a climate for profitable investments in a sensitive area.

Areva - A Global Player on the nuclear energy market

Areva is the largest uranium producer in the world and leading company to provide civil and military nuclear power systems, but has invests in other systems of energy production, too. It is a French public multinational industrial conglomerate, headquartered in Paris, that covers the whole nuclear fuel cycle, from mining to waste recycling. Areva was created in September 2001 by the merger of Framatome and Urenco.

⁷¹ ASADHO works for many years in its mission to promote civil society and to tackle the negative impact of mining and fights against violence and human rights abuses in the mining areas.

⁷² <http://www.fataltransactions.org/News/2009/DRC-Niza-calls-for-the-immediate-release-of-transparency-activist-Golden-Misabiko>.

⁷³ Worldwide exploration and mine development expenditures in 2008 totalled over \$1.6 billion; an increase of 133% compared with updated 2006 figures (totalled about US\$ 774 million). Already in 2006 the worldwide exploration and mine development expenditures registered an increase of 254% compared with updated 2004 figures (totalled over US\$ 130 million). http://www.iaea.org/newscenter/news/2008/uranium_resources.html.

⁷⁴ African Uranium Alliance Statement 2010: Uranium Mining at the UN Committee on Sustainable Development (CSD). New York. <http://www.uranium-network.org/>. The African Uranium Alliance requesting in their statement a Ban on Uranium Mining, because of the associated threats.

tome (now Areva NP), Cogema (Compagnie générale des matières nucléaires, now Areva NC) and Technicatome (now Areva TA⁷⁵). The French state owns over 90% and has 94% voting rights in Areva⁷⁶.

The group holds a broad portfolio of mines in operation (p. e. in Australia, Canada, Kazakhstan) as well as projects in Africa. In 2006 Areva earned 2% of its revenue in Africa, but this figure will probably increase over the next years. Areva is present in the Central African Republic, the DRC, Gabon, Guinea, Ivory Coast, Morocco, Mauritania, Namibia, Niger, Senegal and South Africa, and 6% of its staff worked in these African states in 2006⁷⁷.

The Mining Business Group generated 10% of Areva's consolidated revenue in 2009 and employs more than 5,100 people around the globe⁷⁸. Its main shareholder is the Atomic Energy Commission (CEA), a French public-sector company.

The German technology company Siemens was a shareholder of Areva NP (with a 34% stake). Siemens was inactive in the mining sector, but was developing and building nuclear reactors in cooperation with Areva. Under the impression of the Fukushima accident in 2011, Siemens decided to quit the joint.

Areva intensively advertises to create a positive image for the nuclear power in France and to promote its social corporate responsibility (SCR) achievements. Therefore it is sponsoring a wide range of social, cultural, and sportive activities. In France, Areva has gained some fame after airing 3,000 television ad spots, created by French design group H5. The ads explained how „safely“ in the generation and distribution of nuclear power works. In Germany AREVA is sponsoring the football club 1.FC Nuremberg of the first German Soccer League. Recently Nuremberg fans have criticized their club for its cooperation with AREVA⁷⁹.

Areva's mining practises in other African countries

Officially Areva calls developing the DRCs mining resources a “win-win partnership”⁸⁰. Industrial mining with a strong legal framework and with regard to social, environmental and tax clauses is said to be rewarding for the local population just as much for the national budget and would help to reduce illegal exploitation. And with an optimistic view, Areva is a strong and proven company and could with its expertise inject safety and transparency into the mining process.

⁷⁵ AREVA TA develops and builds research reactors and reactors for the naval propulsion.

⁷⁶ In 2006, the following French institutions owned the shares of the Areva group: CEA France 79.0%, French State 5.2%, Caisse des Dépôts et Consignations (CDC) 3.6% (a French state-owned financial institution), The Entreprise de recherches et d'activités pétrolières (ERAP) 3.2% (a French state-owned industrial and commercial establishment), Électricité de France (EDF) 2.4% (is the main electricity generation and distribution company in France), Total 1.0% and Calyon, part of Crédit Agricole 0.9% (is a large French investment bank). Mined U 2006: Financing of New Uranium Mines: p. 12-13. <http://www.nirs.org/mononline/minedureport.pdf>.

⁷⁷ <http://www.aveva.com>.

⁷⁸ <http://www.aveva.com/EN/operations-635/mining-uranium-production-yellowcake-exploration-mining-milling.html>.

⁷⁹ http://mittelfranken.business-on.de/schulden-fussball-1-fc-nuernberg-_id14951.html.

⁸⁰ http://www.lepotentiel.com/afficher_article.php?id_edition=&id_article=101155.

Nevertheless Arevas long lasting engagement in other African states like Algeria, Central African Republic, Gabon, Libya, Morocco, Namibia, Niger, Nigeria, South Africa and Tanzania has in many cases failed to produce a verifiable reduction of poverty or economic and social development. Especially in Niger Areva has a critical reputation of being socially and environmentally irresponsible. Human rights and environmental activists accuse Areva of not respecting international labour safety, public health and environmental standards.⁸¹ As an example Areva received the Public Eye Globe Award 2008, for being the most irresponsible corporation of the year for its social and environmental misdeeds in Niger⁸². The local Commission de Recherche et d'Information Indépendantes sur la Radioactivité (CRIIRAD) claims that uranium mine workers were not sufficiently informed about the related health risks of uranium mining in Niger⁸³. According to CRIIRAD, incidents gained notoriety through suspicious deaths among the workers, probably caused by radioactive dust and contaminated groundwater. Studies by Greenpeace International showed the severe radioactive contamination of air, water and soil in the region where Areva was mining.⁸⁴

In Niger Areva was apparently involved in conflicts with the Tuareg people, as their traditional land rights were not respected when their areas of settlement in the North were overlapping with uranium mining sites near Arlit⁸⁵. According to CRIIRAD the local population was neither benefiting from the high foreign direct investments spent in their region to explore the uranium sites, nor did they have an adequate share in Arevas profits. Until today they have to live with the consequences of uranium mining like radioactive pollution of air, soil, wastage and the contamination of drinking water⁸⁶.

Areva denies these accusations and assures that all preconditions regarding work, public health and environmental protection are fully respected in their corporate policies. It describes a sustainable and long lasting Areva/Niger partnership of forty years⁸⁷. In 2006 Arevas monopoly on uranium mining in Niger ended and the government granted other mining industries the right to explore uranium in the country. Areva is implementing so called "solidarity" projects for the local population in Niger to an amount of six million euros per year to underline their social corporate responsibility. The company promotes public health (in providing health posts and by offering free-cost treatment for their local employees), education, training, transportation and infrastructure, access to water and energy and so forth.

Nonetheless on March 24th 2009 four Senators of the Green Party in France submitted a proposal for a resolution regarding the investigation of the practises of Areva in their mining sites and of Arevas

⁸¹ Greenpeace International 2010: Left in the Dust – Arevas radioactive legacy in the desert towns of Niger. Amsterdam.

⁸² The Public Eye Globe AWARD is a critical counterpoint to the annual meeting of the World Economic Forum (WEF) in Davos and is organized since 2000 by Berne Declaration and Friends of the Earth (in 2009 replaced by Greenpeace). <http://www.publiceye.ch/de/hall-of-shame/areva/>.

⁸³ www.criirad.org.

⁸⁴ Urgewald, Greenpeace International and Banktrack 2010: Nuclear Banks, no thanks!: p. 5. http://www.urgewald.de/_media/_docs/RZ_Atombanken_Studie_save_public.pdf, http://www.greenpeace.de/themen/atomkraft/nachrichten/artikel/arevas_uranfoerderung_stellt_immer_noch_gefahr_fuer_niger_dar/, www.criirad.org.

⁸⁵ Areva has 2500 employees in Niger and 50 of them are French nationals, who are working in leading positions. Sueddeutsche Zeitung 21. September 2010: <http://www.sueddeutsche.de/q5k38K/3597513/Paris-schickt-das-Militär.html>. In 2008; Areva announced the release of four of its French employees, who had been kidnapped by the Movement for Justice, which opposes the mining of ancestral lands. These circumstances provoke bilateral tensions in the diplomatic relations between France and Niger. <http://www.bbc.co.uk/news/world-africa-11325749>.

⁸⁶ <http://www.criirad.org>.

⁸⁷ <http://www.areva.com/EN/operations-592/a-lasting-partnership-with-niger.html>.

impact on the people's health and the environment as well as its interferences in democratic or non-democratic structures beyond the French border⁸⁸.

Arevas mining contract with the DRC

On 26th March 2009 Areva concluded a first agreement on the future exploration and exploitation of uranium in the DRC, after two years of confidential negotiations with the Congolese Government. The first agreement was signed by Areva's CEO Anne Lauvergeon with the Minister of Mines Martin Kabwelulu during an official delegation visit headed by the French President Nicolas Sarkozy in Kinshasa.⁸⁹

Georges Arthur Forrest, mentioned above regarding his company's illegal mining and smuggling activities, initiated and facilitated the preliminary stages of the negotiations between the Élysée Palace and the Marble Palace. In his function as honorary consul of France deployed in Lubumbashi, he took an active part in ousting other mining companies and other states from the uranium market⁹⁰.

The British Brinkley Mining Company had before signed an agreement with the DRC regarding the production of uranium and financial assistance to halt uranium smuggling in July 2007. The deal established a joint venture between Brinkley and the Congo Atomic Energy Commission (CGEA) to develop the country's uranium sector. The joint venture concerned the exploration and the mining of uranium deposits of the Shinkolobwe mine, Mindigi, Kalongwe and Kasompi. In September 2008 these agreements were terminated⁹¹. Other companies which showed interest in mining uranium in the DRC, were Chinese state-owned mining enterprises and the Israeli Dan Gertler Company.

In September 2010 the negotiations between the DRC and Areva were renewed by the representative Minister of Mines Martin Kabwelulu and an Areva negotiator, the Burkinabe Zephirin Diabré, during a discrete and short visit to Kinshasa⁹².

So far only a few details of the agreement between Areva and the DRC are known to the general public. The agreement contains provisions creating a joint commission to develop a technical prospecting program, detailed inventory of uranium mining sites and an update of databases⁹³. Areva is granted the right of total exploration and exploitation of uranium on all Congolese territory. To date the detailed clauses of the contract remain unknown. All further public disclosures of the arrangement depend on the Congolese government and on Areva. In particular it stays unclear which payments or other compensations AREVA has provided or offered to the Congolese government for this deal.

⁸⁸ They are: Marie-Christine Blandin, Alima Boumediene-Thiery, Dominique Voynet, Jean Desessard and Jaques Muller. <http://www.senat.fr/leg/ppr08-298.html>.

⁸⁹ http://www.lepotentiel.com/afficher_article.php?id_edition=&id_article=101165.

⁹⁰ ASADHO/Katanga 2009: p. 28.

⁹¹ <http://www.miningmx.com/news/energy/565071.htm>.

Professor Fortunat Lumu Badimbayi-Matu was former Director of DRCs Atomic Energy Commission (CGEA) and was fired, because there were suspicions against him, that he had struck personally beneficial deals with the Brinkley Mining company. <http://allafrica.com/stories/201012260015.html>, http://www.wmdinsights.com/l14/l14_AF1_UraniumSmuggling.htm, <http://www.un.int/drcongo/archives/BQ-1296.htm>.

⁹² <http://www.rfi.fr/afrique/20100925-areva-interesse-rdc-son-uranium>.

⁹³ <http://www.enerzine.com/2/7272+cooperation-miniére-duranium-entre-areva---la-rdc+.html>, http://www.world-nuclear-news.org/ENF-Areva_and_DRC_to_cooperate_in_uranium_mining-2703094.html.

Although Areva, the government of France and the government of the DRC have joined and signed EITI, so far they do not comply with the principles of the voluntary agreement to transparency.⁹⁴ Secrecy clauses in the mining industry seem to be a common tool for mining companies to get tax subsidies or to achieve broad tax breaks or reductions. This adds up to a clear tax avoidance strategy⁹⁵. This kind of arrangement cannot contribute to poverty reduction and local development, as the transparent and broad participation of the impacted communities is neglected. There is also no legal possibility of a moratorium, concerning renegotiations of the contract. A sunset clause⁹⁶, an examination phase or a saving clause would be appropriate to secure that if the contract undermines the protection of human rights or the environment, it could be at least annulled. Mining industries justify secret clauses by arguing that the publication of their deal could result in competitive disadvantages.⁹⁷

German banks and nuclear energy providers

In 2009, Germany imported 45% of its natural uranium used for research and in nuclear power plants from France. France again imports 100% of its uranium from USA, Australia, Canada, Niger and other states. Therefore a direct link between France's uranium production practices and German nuclear power stations is given.⁹⁸

Siemens and Areva

Next to the import of natural uranium, Germany has close financial and business links to Areva. In 2001 the German technology giant Siemens signed a cooperation deal with Areva, together forming the new joint venture Areva NP, where Siemens held 34% of the shares. Areva NP is the world's leading company in the planning, production and handling of nuclear power plants and research reactors, and has delivered components for over 90 nuclear power plants in at least 11 countries. 5.300 of Areva NPs 18.000 employees were stationed in Germany, achieving total revenue of three billion Euros in 2009.⁹⁹ Germany's chancellor Angela Merkel has always been in favour of this French-German cooperation: "From my part, I have always made it quite clear: We would like to see that the cooperation between Siemens and the French company Areva should continue", she stated in 2007.¹⁰⁰

In 2010 several managers of Areva NP in Germany were accused of corruption and illegal bribing practices in foreign countries between 2001 and 2005¹⁰¹. Only under the impression of the Fukushima catastrophe and the imminent threat of losing public approval with German customers, Siemens sold its shares back to Areva NP, but is reportedly already preparing a new joint venture with the Russian ROSATOM company.

German banks and Areva

"Nuclear banks" around the globe are financing Areva and are profiting from its uranium mining expenditures, without taking responsibility for their public health and environmental practices. The funding sources of Areva are an important and interesting topic. Between 2000 and 2009 the German Deutsche Bank was ranked seventh of the world's largest financiers of nuclear activities in the

⁹⁴ <http://www.monpoleecologique.fr/content/areva-rdc-un-contrat-en-toute-transparence>.

⁹⁵ <http://www.fataltransactions.org>.

⁹⁶ A sunset clause means that a contract or a part of contract can be annulled in a particular period of time.

⁹⁷ Global Policy Forum (Brot fuer die Welt, Diakonie, Misereor) 2007: Mehr Transparenz für mehr Entwicklung. Rohstoffkonzerne und Regierungen in der Pflicht. Aachen/Bonn/Stuttgart.

⁹⁸ IPPNW Internationale Aerzte für die Verhuetung des Atomkrieges 2010: Die Versorgung Deutschlands mit Uran. Berlin 2010

⁹⁹ Berliner Morgenpost 11. April 2011: Siemens trennt sich vom Atomgeschaef.

¹⁰⁰ Sueddeutsche Zeitung 10. September 2007.

¹⁰¹ Siemens trennt sich von Atomgeschaef, Berliner Morgenpost 11 April 2011

world, according to a study of Urgewald, Greenpeace International and Banktrack¹⁰². In 2007 Areva received a credit of 2.5 billion Euros and used the granted loans of the Deutsche Bank and West LB to take over UraMin, a South African uranium mining company¹⁰³. The LBBW of the Federal State Baden-Wurttemberg was participating in the syndicate¹⁰⁴. For Areva a major step in the company's expansion in Africa was fostered by these investments of the German banks, which included huge loans for uranium mining in Africa, including the DRC¹⁰⁵.

Next to bank loans, the German government also uses export credit guarantees ("Hermesbuergschaften") to support German companies like Siemens at the export of nuclear energy technology.¹⁰⁶

Box 4: Germanys own experience with uranium mining

Until the fall of the Berlin Wall, the former German Democratic Republic (GDR) was the world's third largest uranium producer. Uranium was mined from 1947 to 1990. Today the struggle with the remnants of uranium mining wastes and rehabilitation of the contaminated sites of the "WISMUT" in the Federal States Saxony and Thuringia costs billions Euros of taxes. It is still not foreseeable how long it will take to protect the ecosystem from the radioactive tailings and slurries. Latest estimations assume that it will take until 2040 or longer. Most of the environmental damages are irremovable. Furthermore an official report from the Federal Office for Radiation Protection states the sad outcome of mostly 50 years of uranium mining in Germany is over 7000 dead employees who died of the exposure to radon and its secondary products¹⁰⁷.

¹⁰² Urgewald, Greenpeace International and Banktrack 2010: Nuclear Banks, no thanks!

http://www.urgewald.de/_media/_docs/RZ_Atombanken_Studie_save_public.pdf.

¹⁰³ Greenpeace Magazin (January 2009): Gruene Geldwaesche

¹⁰⁴ Mined U 2006: Financing of New Uranium Mines: p. 14. <http://www.nirs.org/mononline/minedureport.pdf>.

¹⁰⁵ Urgewald, Greenpeace International and Banktrack 2010: Nuclear Banks, no thanks!

http://www.urgewald.de/_media/_docs/RZ_Atombanken_Studie_save_public.pdf, www.nuclearbanks.org.

¹⁰⁶ Kleine Anfrage des Bundestagsabgeordneten Niema Movassat vom 13 April 2011: Foerderung der Kernenergie im Ausland durch Hermesbuergschaften der Bundesregierung, BT-Drucksache 17 / 5532

¹⁰⁷ <http://www.bfs.de/de/bfs/forschung/Wismut/TechnischerBericht.pdf>, <http://www.neues-deutschland.de/artikel/186271.dreckiger-atomstrom.html>.

Recommendations

- The German government and other donor states should exert diplomatic pressure on the governments of France and the DRC to publish the entire contract between Areva and the DRC public. The contract should then be investigated by the IAEA and local and international NGOs and research institutions.
- The government of the DRC and other international donors should enable Congolese and international human rights and environmental activists to conduct a detailed risk analysis of the planned industrial uranium mining, concerning the social, environmental (waste-management, tailings and water quality and management) and health impacts, as well as the effects on democratic and human rights standards in the DRC.
- Areva, the government of the DRC and local NGOs should collectively install all possible preventive measures to protect the workers at the mining sites as well as the surrounding settlements and environment. Areva must offer broad health education and awareness-raising programs for workers and families living in villages near uranium mining sites about the existing risks before the start of mining. If necessary, local inhabitants must be offered the possibility and means to relocate.
- The German government and other donor states should offer technical support to the government of the DRC ensuring that the DRC generates tax revenues from its deal with Areva which can be used to fight poverty.
- The German government and other donor states should exert diplomatic pressure on the government of the DRC to initiate more transparency and local participation in the exploitation of the uranium and other natural resources in Katanga. All stakeholders in Katanga who are concerned with the contract, notably civil society organisations and representatives of the local population, media, environmental and human rights organisations must have the possibility to debate the deal with Areva and receive the opportunity to demand a moratorium in case the contract massively influences their human rights.
- The government of the DRC and AREVA should install financial reserve to fund a permanent independent institution to research and monitor the negative impacts of uranium mining in the DRC on the environment, on workers and the local population, where any citizen or NGO can send complaints, which will then be followed up legally.
- The government of the DRC and AREVA should offer full transparency and accountability in the uranium mining process. All beneficiaries (mining companies, nuclear industry, banks, and governments) in the business should be made public and customers as well as the general public should have access to independent information about the origins of the uranium and the later use in research, electricity production or in weapon technology. With regards to the US Dodd Frank Act, all flows of finances regarding the exploitation and export of uranium should be made public by Areva.
- The EU should develop sustainability criteria for the mining and milling of the imported uranium into Europe. The EU should do more research in order to understand the impact of its demand for uranium from African states. Within the EU legislation and/or policy (p. E. the Euratom treaty, European Supply Agency ESA and European public health and safety standards) environmental standards regarding uranium mining must be implemented and it also be ensured that European mining companies respect ILO labour standards and the OECD guidelines for multinational enterprises.

Bibliography

African Crisis (04 January 2011): East Africa: Uranium Being Smuggled Via Region to Iran – Wikileaks. <http://www.africancrisis.co.za/Article.php?ID=88551&>.

African Uranium Alliance Statement (06 May 2010): Uranium Mining at the UN Committee on Sustainable Development (CSD). New York. www.uranium-network.org/.

AllAfrica (26 December 2010): A diplomatic cable dated 2007-07-11, according to WikiLeaks: Recent Allegations of Uranium Trafficking in the Democratic Republic of Congo. <http://allafrica.com/stories/201012260015.html>.

ASADHO/Katanga (2009): Mine Uranifère de Shinkolobwe. D'une exploitation artisanale illicite à l'accord entre la RD Congo et le groupe nucléaire français Areva. http://www.rse-et-ped.info/IMG/pdf/Rapport_sur_exploitation_illegale_de_la_mine_uranifere_de_Shinkolobwe.ASADHOKATANGA.pdf.

Berliner Morgenpost (11 April 2011): Siemens trennt sich von Atomgeschäft

Bundestags-Drucksache 17 / 5532: Kleine Anfrage des Bundestagsabgeordneten Niema Movassat vom 13 April 2011: Förderung der Kernenergie im Ausland durch Hermesbürgschaften der Bundesregierung,

CASM, DFID and The World Bank (August 2007): Briefing Note: Artisanal Mining in the DRC. (Key Issues, Challenges and Opportunities). <http://www.ddiglobal.org/login/Upload/CASM-%20ASM%20in%20DRC%20briefing%20note.pdf>.

Christian Aid (2009): Breaking the Curse: How Transparent Taxation and Fair Taxes can Turn Africa's Mineral Wealth into Development. <http://documents.twinafrica.org/breaking-the-curse-march2009.pdf>.

Committee on the Biological Effects of Ionizing Radiation of the US National Research Council (1999): Health Effects of Exposure to Radon, BEIR VI. National Academy Press. Washington, D.C.

Congo Watch (12 August 2006): Iran tried to import uranium from Lubumbashi mines in DRC. <http://congowatch.blogspot.com/2006/08/iran-tried-to-import-uranium-from.html>.

Fatal Transactions (2008): Uranium Mining in Africa <http://www.fataltransactions.org/Dossiers/Uranium-Mining-in-Africa>.

Fatal Transactions (30 July 2009): DRC: Niza calls for the immediate release of transparency activist Golden Misabiko. <http://www.fataltransactions.org/News/2009/DRC-Niza-calls-for-the-immediate-release-of-transparency-activist-Golden-Misabiko>.

George Forrest International S. A.: Press Release <http://www.forrestgroup.com/uk/chap06/infos.html>.

Global Policy Forum (Brot für die Welt, Diakonie, Misereor) (2007): Mehr Transparenz für mehr Entwicklung. Rohstoffkonzerne und Regierungen in der Pflicht. Aachen/Bonn/Stuttgart.

Global Witness: Digging in Corruption – Fraud, abuse and exploitation in Katanga's copper and cobalt mines, Washington 2006

Greenpeace International (6 May 2010): Left in the dust. AREVA'S radioactive legacy in the desert towns of Niger. <http://www.greenpeace.org/international/en/publications/reports/Left-in-the-dust/>. Amsterdam.

Greenpeace Magazin (April 2007): Der Uranschock. <http://www.greenpeace-magazin.de/index.php?id=2561>.

web.mit.edu/nuclearpower/.

Greenpeace Magazin (January 2009): Gruene Geldwaesche

Handelsblatt (27 January 2009): Deutsch-französisches Joint-Venture: Siemens beendet Atombündnis mit Areva. <http://www.handelsblatt.com/unternehmen/industrie/siemens-beendet-atombuendnis-mit-areva2134432>.

International Atomic Energy Agency (2008): Uranium Resources. http://www.iaea.org/newscenter/news/2008/uranium_resources.html.

IPPNW Internationale Aerzte für die Verhuetung des Atomkrieges: Die Versorgung Deutschlands mit Uran. Berlin 2010

Johnson, Dominic (2008): Kongo. Kriege, Korruption und die Kunst des Ueberlebens. Brandes & Apsel Verlag. Frankfurt a. Main.

Le Potentiel (07 January 2011): Détection des substances radioactives au Katanga: Le Commissariat général à l'énergie atomique impose un contrôle avant toute exportation. http://www.africatime.com/rdc/nouvelle.asp?no_nouvelle=573125&no_categorie=.

Le Potentiel (22 December 2010): Les USA et la RDC signent un accord sur la contrebande nucléaire. http://www.lepotentiel.com//afficher_article.php?id_edition=&id_article=104869

Le Potentiel (22 September 2010): Uranium : Kinshasa négocie avec la Française AREVA. http://www.lepotentiel.com/afficher_article.php?id_edition=&id_article=101165.

López-Abente, Gonzalo; Aragonés, Nuria; Pollán, Marina; Ruiz, María and Gandarillas, Ana (1999): Leukemia, Lymphomas, and Myeloma Mortality in the Vicinity of Nuclear Power Plants and Nuclear Fuel Facilities in Spain in: Cancer Epidemiology, Biomarkers and Prevention Vol. 8, p. 925-934.

MAC: Mines and Communities (10 January 2011): DRC wikileaks reveals a uranium scandal UK company put in the spotlight. <http://www.minesandcommunities.org/article.php?a=10634>.

Miller AC. and McClain D. (2007): A review of depleted uranium biological effects: in vitro and in vivo studies, in: Review for Environmental Health 22 (1), p. 75–89.

Mined U (2008): Financing of new uranium mines. <http://www.nirs.org/mononline/minedureport.pdf>.

Miningmx (18 September 2007): Brinkley hits back in DRC uranium fracas. <http://www.miningmx.com/news/energy/565071.htm>.

NAD Überblicke Hintergründe (3/2010): Uranabbau in Afrika http://www.netzwerkafrika.de/dcms/sys/pages/public/printversion.html?f_page_url=/sites/nad/publikationen/nadueberblicke/index.html&f_page_params=.

OECD Watch (24 November 2004): 11.11.11 et al vs. George Forrest International SA http://oecdwatch.org/cases/Case_64.

Spiegel-Online (Juli 2010): Uranvorkommen soll noch Jahrzehnte reichen, so Experten. <http://www.spiegel.de/wissenschaft/natur/0,1518,707639,00.html>.

Spiegel-Online (2 April 2010): Interview über Uranabbau und Folgen im Niger. <http://www.spiegel.de/wissenschaft/natur/0,1518,686633,00.html>.

Sueddeutsche Zeitung (21 September 2009): Folgen des Uranabbau im Niger, Tuareg nehmen Geißeln, Mitarbeiter der französischen Firma Areva.
<http://www.sueddeutsche.de/q5k38K/3597513/Paris-schickt-das-Militaer.html>.

Transnational Research Associates (November 1998): La Générale des Carrières et des Mines (Gécamines). A state-owned mining enterprise in the Democratic Republic of Congo. <http://www.transnational-research.com/old-umhk.htm>.

Transparency International (2010): Overview of corruption and anti-corruption in the Democratic Republic of Congo (DRC) <http://www.u4.no/helpdesk/helpdesk/query.cfm?id=257>.

The Guardian (19 December 2010): WikiLeaks cables. How US 'second line of defence' tackles nuclear threat Diplomatic dispatches reveal world of smugglers, ex-military fixers and radioactive materials found in unlikely locations. <http://www.guardian.co.uk/world/2010/dec/19/wikileaks-cables-us-nuclear-threat>.

The Sunday Times (06 August 2006): Iran's plot to mine uranium in Africa.
<http://www.timesonline.co.uk/tol/news/world/article601432.ece>.

Truthout (26 December 2010): WikiLeaks: Africa Offers Easy Uranium. <http://www.truth-out.org/africa-offers-easy-uranium66314>.

UN Expert Group Reports S/2006: 525.

UN Expert Group Reports S/2010: 596.

UNEP/ OCHA (2004): Assessment Mission of the Shinkolobwe Uranium Mine
<http://www.irinnews.org/report.aspx?reportid=52000>.

Uranium (2009): Resources, Production and Demand OECD, International Atomic Energy Agency (IAEA)
<http://www.un.int/drcongo/drc-news.htm>.

Urgewald, Greenpeace International and Banktrack (2010): Nuclear Banks, no thanks!
http://www.urgewald.de/_media/_docs/RZ_Atombanken_Studie_save_public.pdf.

WMD Insights (April 2007): Uranium smuggling allegations raise questions concerning nuclear security in the Democratic Republic of Congo. http://www.wmdinsights.com/I14/I14_AF1_UraniumSmuggling.htm.

Wippel, Guenter (2010): Uranabbau in Afrika. In: Koch, Karls-W.; Schneider, Astrid and Kappler, Ralph Th.: Störfall Atomkraft. Aktuelle Argumente zum Ausstieg aus der Kernenergie. VAS Verlag für Akademische Schriften: p. 205-222.

World Bank Group (2003): Stakeholder Submissions, Comments and Responses to Workshop of Extractive Industry Review.
[http://irispublic.worldbank.org/85257559006C22E9/All%2BDocuments/85257559006C22E985256FF6006CE949/\\$File/volume5submissionsenglish.pdf](http://irispublic.worldbank.org/85257559006C22E9/All%2BDocuments/85257559006C22E985256FF6006CE949/$File/volume5submissionsenglish.pdf).

YLE Uutiset/News (21 December 2010): Wikileaks: Finnish Factory Suspected of Illicit Uranium Trade.
http://yle.fi/uutiset/teksti/news/2010/12/wikileaks_finnish_factory_suspected_of_illicit_uranium_trade_2237623.html.

Further information in the web:

<http://www.areva.com>.

<http://www.areva-club.de/>.

<http://www.baseswiki.org/En>.
http://www.bmu.de/ueberblick/atomenergie_strahlenschutz/doc/41319.php.
<http://www.criirad.org>.
<http://energy.cr.usgs.gov/other/uranium/UEnvImpacts.pdf>.
http://www.epa.gov/rpdweb00/understand/health_effects.html.
<http://www.fataltransactions.org/Dossiers/Uranium-Mining-in-Africa>.
http://www.gruene-bundestag.de/cms/energie/dok/285/285406.atom_und_uran_die_unheilige_allianz.html.
http://www.gruene-fraktion-bayern.de/cms/dokumente/dokbin/284/284522.einladung_anhoerung_uranabbau.pdf.
<http://www.iaea.org>.
http://www.iisd.org/pdf/2005/security_conflict_sensitive_business.pdf.
<http://www.ipisresearch.be>.
<http://politicsnpoetry.wordpress.com/2008/10/29/african-civil-society-hits-back-at-uranium-mining/>.
<http://www.ratical.org/radiation/WorldUraniumHearing>.
http://www.strahlentelex.de/Stx_09_530_S08-09.pdf.
http://tanzania-network.de/modules/forum/cgi-bin/teemz/teemz.cgi?board=_master&action=opentopic&forum=Offenes_Forum&topic=10.
<http://www.uni-kassel.de/fb5/frieden/regionen/Namibia/uran.html>.
<http://www.uranium-network.org>.
http://www.uranium-network.org/index.php?option=com_content&view=article&id=11&Itemid=24.
<http://www.uran-im-wasser.de/>.
<http://www.wise-uranium.org>.

Films/Reports:

DRadio(September 2010): Uranabbau, Uninformiertheit der Deutschen.
http://wissen.dradio.de/index.35.de.html?dram:article_id=5255&sid=.

Film produced by Greenpeace on the Uranium Mining in Niger. <http://www.youtube.com/watch?v=-Bj8M3isCQM>.

Film produced by RBB, Kontraste (September 2010): Woher kommt das Uran in deutschen Atomkraftwerken? (Niger, Areva..).
http://www.rbb-online.de/kontraste/archiv/kontraste_vom_16_09/schmutziges_uran_.html.

<http://www.yellowcake-derfilm.de/index.php?id=52>.