



**Environmental governance
of uranium mining in Niger
– a blind spot for development cooperation?**

Rasmus Kløcker Larsen and
Christiane Alzouma Mamosso

DIIS Working Paper 2013:02

A DIIS ReCom publication



RASMUS KLØCKER LARSEN

Stockholm Environment Institute (SEI)
rasmus.klocker.larsen@sei-international.org

CHRISTIANE ALZOUMA MAMOSSO

ACAM Consult
amamosso@yahoo.fr

DIIS Working Papers make available DIIS researchers' and DIIS project partners' work in progress towards proper publishing. They may include important documentation which is not necessarily published elsewhere. DIIS Working Papers are published under the responsibility of the author alone. DIIS Working Papers should not be quoted without the express permission of the author.

This report is part of the Research and Communication Programme (ReCom) on international development cooperation, funded by Danida (Danish Development Agency) and Sida (Swedish Development Agency), and undertaken by a number of institutions including UNU-WIDER and DIIS. For more information on the programme, please see <http://recom.wider.unu.edu/> and <http://www.diis.dk/recom>

DIIS WORKING PAPER 2013:02

© The authors and DIIS, Copenhagen 2013
Danish Institute for International Studies, DIIS
Strandgade 56, DK-1401 Copenhagen, Denmark
Ph: +45 32 69 87 87
Fax: +45 32 69 87 00
E-mail: diis@diis.dk
Web: www.diis.dk

Cover Design: Carsten Schiøler
Layout: Allan Lind Jørgensen
Printed in Denmark by Vesterkopi AS

ISBN: 978-87-7605-540-0 (print)
ISBN: 978-87-7605-541-7 (pdf)

Price: DKK 25.00 (VAT included)
DIIS publications can be downloaded
free of charge from www.diis.dk

CONTENTS

Executive summary	6
Acknowledgements	8
1. Introduction	9
1.1 Uranium mining and its environmental impacts	10
1.2 Objective and outline of the report	12
1.3 Methodology	13
2. The legacy of uranium mining in Niger	14
2.1 Financial contributions to national and local development	16
3. Legal and institutional structures for environmental governance	19
3.1 The <i>Code Minier</i> : radioprotection and environmental impact assessment	22
4. Contributions from development cooperation	23
4.1 Review of aid flows to Niger	25
4.2 Interventions in the sector	27
5. Situation analysis – the state of implementation	29
5.1 Adverse environmental impacts	30
5.2 Appropriation of pastoral land and natural resources	32
5.3 Weaknesses in government capacity	34
6. Discussion	37
6.1 Grave environmental governance issues	38
6.2 The ‘crisis narrative’	40
6.3 A convenient blind spot?	41
7. Concluding remarks	42
References	44
Annex 1. List of interviewees	52

LIST OF FIGURES

Figure 1. Cadastral map of mining activities in Niger, 2011	10
Figure 2. Export values of select principal products from Niger 2007-2011.	17
Figure 3. State revenue compared to export values 2008-2011	18
Figure 4. Development cooperation finance to Niger 2005-2010	25
Figure 5. Principal donors to Niger 2005-2010.	26
Figure 6. Disbursements per sector to Niger 1964-2010.	26
Figure 7. Concentration of livestock herds and their movements as of 20 July 2011	33

LIST OF TABLES

Table 1. The three uranium mining operations in Niger under the AREVA Group	15
Table 2. Activity list and original budget in the PDRSM (Euro millions)	28

BOXES

Box 1. The case of the EIA for Imouraren SA	31
Box 2. The case of the area of Azawak, Tamesna, and the Vallée de l'Irhaser.	34

LIST OF ACRONYMS

ACP	African, Caribbean and Pacific Group
AFD	Agence Française de Développement
AfDB	African Development Bank
AID	Support Initiative for Development
BEEEI	Environmental Impact Assessment Bureau
CAPAN	The Agro-Pastoral Collectives of Niger
CNC	National Consultative Committee
CNRP	National Center for Radioprotection
CRGM	Centre for Geological and Mining Exploration
CSR	Corporate Social Responsibility
DAC	Development Assistance Committee (of the OECD)
EDF	European Development Fund
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
FCFA	Francs of the African Financial Community
GREN	The Group for Reflection and Action on the Extractive Industries
IAEA	International Atomic Energy Agency
IDA	International Development Agency (of the World Bank)
ILO	International Labour Organisation
IMF	International Monetary Fund
Initiative 3N	Initiative for Food and Nutrition Security and Agricultural Development
ISO	International Standard Organization
MNC	Multinational Corporation
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
ONAREM	National Office for Mining Exploration
PDES	Economic and Social Development Plan
PDSRM	Program to Strengthen and Diversify the Mining Sector
PRSP	Poverty Reduction Strategy Paper
ROTAB	Network of Organizations for Transparency and Budget Analysis
UEMOA	Economic Community of West African States
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

Niger is well known in international media as one of the world's poorest countries, struggling with chronic structural hunger and malnutrition. What is less well known to many is that Niger also hosts the fourth largest uranium production in the world. Export values totaled over 348 million Euros in 2010 alone, representing more than twice the total development assistance finance received during the same year. The exploitation of the mineral wealth (incl. uranium, gold, phosphate, coal) by international investors is expanding, with granted and requested mining permits comprising close to 10% of the national territory.

A growing body of media and NGO reports has pointed to severe environmental, social and human health impacts associated with the mining activities. In contrast, the environmental issues associated with the uranium mining sector, or mining activities in general, go seemingly without mention in the guiding documents of the principal development cooperation donors. This report asks the following questions: What progress has been achieved in the environmental governance of the uranium mining sector in Niger? What has been the contribution from development cooperation? How come donors and the Nigerien government appear to have overlooked the issues so widely reported among Nigerien actors?

The findings are built on primary data from interviews with key actors in Niamey and analysis of hitherto disparate secondary data from the mining zones. The study adopted a qualitative research approach, with contributions from 33 interviewees, representing 26 organizations from government, mining corporations, and civil society. The compilation of contributions from development cooperation was based on the annual accounts of donor investments overseen by the Nigerien Ministry of Planning and Community Development and the project registry for Niger in the AidData database.

The study finds that Niger has seen the elaboration of a considerable legislative and formal institutional framework for the environmental governance of the uranium mining sector. This includes the provisions contained in the *Code Minier* and the assessment of environmental impacts and measures for radioprotection. It also includes the land tenure reform and, recently, the Pastoral Law with its recognition of use rights for herders and transhumants. Development cooperation has made extensive contributions to fostering many of these advances.

Notwithstanding, uranium mining, and the mining sector in general, is operating in the face of severe grievances from affected local populations and transhumant pastoral peoples, notably related to radioactive pollution, water resource depletion, work-related diseases for mine workers, and the appropriation of land and resources, including legally enshrined common property regimes and pastoral territories, without required compensation. These impacts

and risks occur to a large extent because of deficiencies in the public administration, including considerable constraints in enforcing and implementing the legislative and institutional framework in practice.

It is argued that the grave environmental governance issues associated with uranium mining has represented a ‘blind spot’ in the aid portfolio. Support has over the last decades been principally focused on the provision of emergency relief and basic health and social services. The most recent donor-funded programs in the mining sector are principally aimed at diversification and expansion of the sector, with little emphasis on the environmental and social safeguards.

Underlying reasons for this selective framing of aid may have to do both with how the development challenges of the country are construed and with vested geopolitical interests of donors dependent on import of the uranium ore. Shaped by the attention drawn to hunger and food insecurity in Niger – and in the Francophone Sahel at large – development cooperation interventions in the past decades have been largely based on a ‘crisis orthodoxy’ evoking climatic change, population growth and environmental degradation as key causes. Meanwhile, the Nigerien uranium mining sector is intricately linked to the geopolitical energy security interests of some donor countries. When transparent problem identification is missing from donor strategies, then it opens for speculation that the ignorance of mining-related environmental issues and the crisis discourse on desertification and food insecurity be mobilized as instruments to divert attention from geopolitical interests in the country’s mineral wealth.

Niger has recently adopted a new strategy to guide donor support, the Economic and Social Development Plan, and negotiations on the new funding period are currently ongoing following the multi-donor Roundtable recently held in Paris November 2012. This provides an opportunity for donors to clarify their priorities and step up support through formal recognition of the issues at hand and technical interventions to improve enforcement of the existing environmental regulations in the mining sector. This could form a response to the capacity gaps articulated by government agencies such as the *Bureau d’Evaluation Environnementale et des Etudes d’Impact* and the *Centre National pour la Radioprotection*. It could also include operationalising the Policy Coherence for Development agenda to intervene within donors’ own political systems when exploitation of the Nigerien uranium mining sector is proven to have detrimental impacts.

ACKNOWLEDGEMENTS

The present report forms part of the Danish International Development Co-operation Agency (Danida)-funded international research program “ReCom: What works and what is achieved within Development Assistance” that undertakes a review of achievements and results of development assistance within the field of environment and climate governance. It shares the findings from one of five country studies undertaken by the Danish Institute for International Studies in collaboration with the Stockholm Environment Institute and in-country partners. The DIIS project team consisted of Senior Researchers Helle Munk Ravnborg and Mikkel Funder and research assistants Jon Lausten Vilsen and Johan Juul Jensen. Helle Munk Ravnborg acted as project leader and provided guidance on the development of the Terms of Reference for the study and valuable feedback for the analysis of the evidence.

I. INTRODUCTION

Niger is a land-locked country covering 1,267,000 km² and bordering Mali, Algeria, Libya, Chad, Benin and Burkina Faso – with extensive regional interdependencies through migration and trade in agricultural products and livestock. While the north of the country is categorised as Saharan desert, the majority of the country is located in the semi-arid Sahel. Over 80 per cent of the about 16 million inhabitants live in rural areas, primarily engaged in subsistence farming (rain-fed extensive agriculture) and/or pastoral livestock herding (Government of Niger, 2009).

The country hosts a handful of differentiated agro-silvio-pastoral land use types, which deliver food produce through agriculture, livestock, and forestry. However, production is generally low and the country remains dependent on food imports from neighbouring countries, in particular Nigeria, Benin and Mali. For instance, close to 40 per cent of grains are being imported. Niger also part-takes in the regional livestock trade of West-Africa, with extensive herd transports across borders. The dependency on imported foods renders the majority of the population highly susceptible to periods with inflation in food prices, such as during the 2005 and 2010 food crises. In 2009, over half of the total population suffered from chronic malnutrition, reflective of not only periodic hunger but equally what has been termed an ongoing ‘structural food crisis’ in the Sahel (Sahel Working Group, 2011; SEE, 2010; de Jode, 2010).

The Sahel has seen repeated and lasting droughts (long-lasting monsoonal rainfall deficit) and experienced one of the world’s largest rates of population growth, of close to 1.5 per cent per year in the 1950s to about 3 per cent per year in the 1990s. This has re-

sulted in a three-fold increase of the population since the 1950s (Leblanc et al., 2008). The growing population pressure has been attributed as a key factor contributing to expansion of crop land and increased livestock numbers, in turn posing risks to soil fertility and water resources (Warren et al., 2001). Niger is, together with most other West-African countries, placing as one of the Least Developed Countries and being considered highly vulnerable to exacerbated droughts and other impacts of climate change (Denton et al., 2001). The UNDP ranks Niger at a 186th place out of 187 countries in the Human Development Index and in 2011 5 million people were at ‘high risk’ to food insecurity (close to 33% of the population) (Cold-Ravnkilde, 2012). Niger has in recent years not been able to meet its economic growth target of 3 per cent, with income per capita barely increasing in the period 2000-2008 (SEE, 2010).

Previous reviews of development cooperation efforts to Niger have suggested that, given the acuteness and urgency of the issues related to food security and poverty alleviation, the most substantial efforts have been focused on the responses to drought, and efforts to combat desertification and reduce food insecurity (Mortimore and Adams, 2001). In the period 2000-2008, some of the largest development cooperation donors to Niger included the European Commission, Belgium, France, Denmark and Luxembourg, accounting for over 50 per cent of the aid budget. Of the Euros 1,071.8 million contributed by this donor group, rural development and food security programs ranked second with 19% of the funding, only surpassed by macro-economic support (24%) (SEE, 2010). Also among donor-funded international non-governmental organisations (NGOs) there has been a dominant emphasis on food secu-

rity, including disaster risk reduction (Sahel Working Group, 2011).

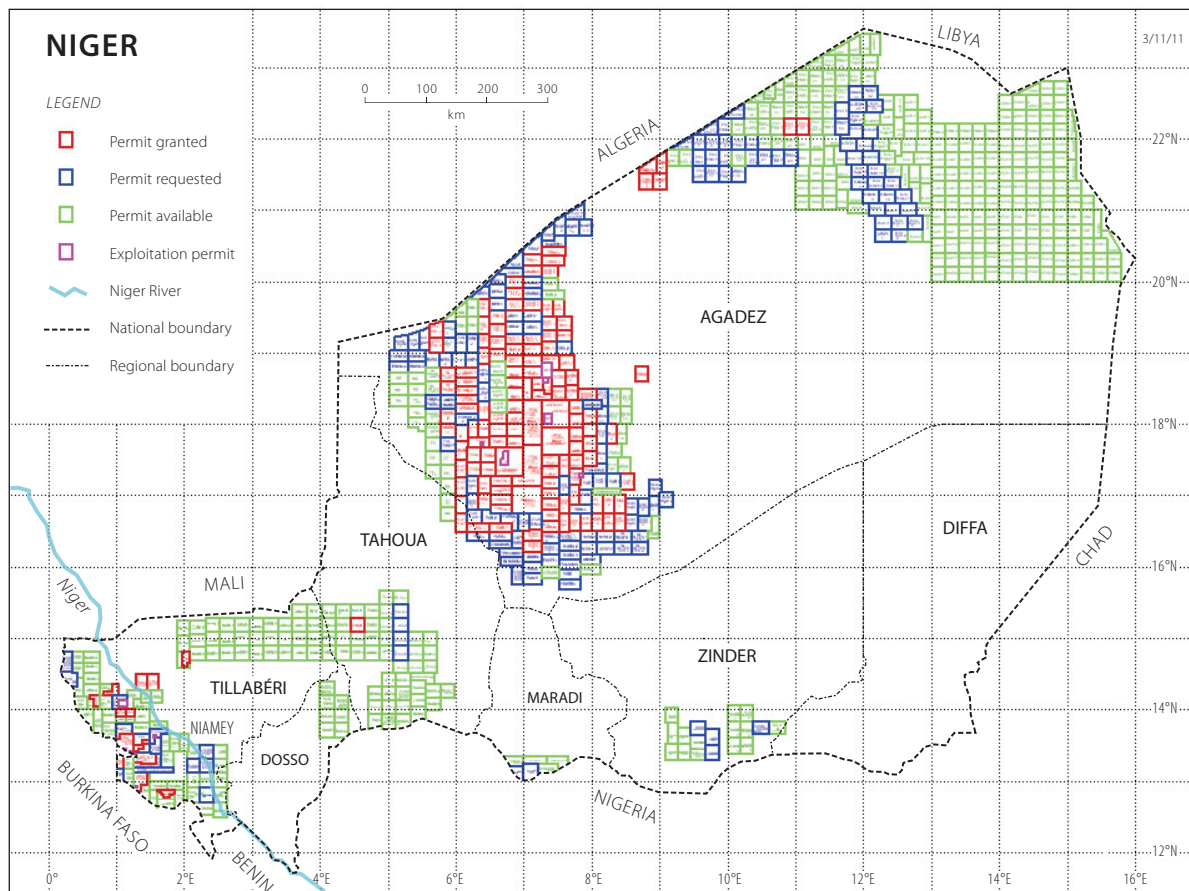
1.1 Uranium mining and its environmental impacts

To be sure, Niger is well known in international media as one of the world’s poorest countries, struggling with chronic structural hunger and malnutrition. What is less well known to many is that Niger also provides a substantial part of uranium ore to the global nuclear market, with export values totaling over 348 million Euros in 2010 alone (INS-Niger, 2012). This represents more than twice the total develop-

ment assistance finance received by Niger during the same year (Ministry of Economy and Finance, 2011). According to the British Geological Survey, Niger is the world’s fourth largest producer of uranium, with the World Nuclear Association (2010) reporting an annual production from Niger of 4,351 tonnes.

Niger hosts five metallogenic regions with varying mineral deposits and sediments (Ministry of Planning and Community Development, 2012). In the early years of mineral exploitation, activities were concentrated in the Regions of Tahoua and Agadez, but in the last decades extensive investments have been made in diversification

Figure 1. Cadastral map of mining activities in Niger, 2011.



Source: Ministry of Mines and Geology.

and research into the mineral wealth (incl. uranium, gold, phosphate, coal) across the territory, with granted and requested mining permits comprising close to 10% of the national territory (Figure 1). Uranium mining in Niger proceeds through both open pit mining of up to 70 m depth and underground mining (see also Cominak, 2011; Capus et al., 2004). When the uranium deposits are located between two permeable layers of sediment then the ore may be obtained through the controlled leaching of acidic substances (so-called lixiviation).

In recent years, a growing body of NGO reports has pointed to severe environmental, social and human health impacts associated with the mining activities (e.g. Collectif Tchinnaghen, 2008; Joseph, 2008; ROTAB, 2009, ROTAB, 2012; Daouda, 2012). The issues raised include pollution of land and water resources with radioactive waste and toxins from the mineral exploitation and resulting illnesses among local populations and laborers (e.g. birth defects). As concerns radioactive risks in general, it has been highlighted that there is a documented link between exposure below the minimal limit of 100 mSv (miliSieverts) set by the IAEA and fatal radiation-induced illnesses (Conde and Calis, 2012).

A 1990 UNDP study in the mining zones, conducted in collaboration with the Ministry of Hydraulics, Environment and the Fight Against Desertification, voiced serious concerns with irreversible damages to the sandstone aquifers in near and mid-term future (Joseph, 2008). The concerns also include land dispossession, especially the appropriation of pastoral livestock corridors and grazing territories without compensation. It has also been suggested that the mines and the political influence exerted by the industry and its advocates is exacerbating the armed

conflict between northern Tuareg guerillas and the Hausa-dominated national government in the south (e.g. OECD, 2008).

In 2010, Greenpeace released a report on AREVA's mining activities (Greenpeace, 2010). Here, human health impacts were identified, including radiation-induced cancer (often misdiagnosed as other illnesses) among workers and the close to 80,000 local inhabitants, and the exceeding of World Health Organization limits for uranium concentration in drinking water. Citing AREVA's own sources, it was stated that its mining activities had consumed around 20 percent of the water in the Tarat aquifer. Indeed, in other African countries that share the semi-arid characteristics with the mining locations in Nigerien Sahel, similar observations have been made. For instance, in Botswana the mining and energy sectors have been estimated to jointly consume close to 18 per cent of water resources annually (Rahm et al., 2006). Funneled by such NGO reports, the issues of environmental pollution arising from extraction of, and investments in, Niger's uranium resources recently made it to the global media headlines such as the German daily *Der Spiegel* (Meyer, 2010) and the British *The Guardian* (Mark, 2011).

In contrast, the environmental issues associated with the mining sector in general, and the uranium mining in particular, go seemingly without mention in the guiding documents of the principal development cooperation donors. As is common practice, development cooperation support to Niger is guided by the donors' respective country strategies developed in communication with the national government and on the basis of a country-specific situation analysis. In the case of the European Union, which is presently the largest single donor measured in financial

terms (principally through the European Development Fund), this strategy is spelled out in the *Document de Stratégie Pays* and the *Programme Indicatif National* for the period 2008-2013 (European Commission, 2008a). Like other country strategies for the region, it has been developed with the Cotonou Treaty as the legal basis and the European Consensus on Development as the most recent political framework. As regards the bilateral support from European Member States, this depends on their bilateral negotiation with Niger in the design of individual programmes, which are subsequently submitted to the European Commission for verification.

In the joint evaluation of the 2000-2008 cooperation with the European Commission, Belgium, France, Denmark and Luxembourg (SEE, 2010) attention is paid to the economic potential of the uranium mining sector and concerns are raised regarding transparent and democratic revenue distribution. However, no reference is made to environmental impacts or risks associated with uranium mining. In the current country strategy of the European Union (European Commission, 2008a), including its chapter on the country analysis, there is no recognition of environmental impacts and/or risks associated with the mining sector. The same is the case for the World Bank's Country Assistance Strategy for Niger (World Bank, 2003), the United Nations Development Program's (UNDP) Country Program 2009-2013 (UNDP, 2009), and the African Development Bank's (AfDB) country profile (AfDB, 2010). An exception is found in the Accelerated Development and Poverty Reduction Strategy (SDRP), in which one sentence notes that "*[t]he efforts to preserve the environment and manage the sanitary risks linked to the uranium mining will be continued*" (IMF, 2008, p. 95). In the budget allocations for the action plan of the SDRP this results

in the allocation of Euro 1,662 million to the improved management of sanitary risks, but with no mention of environmental risks.

Altogether, while cognizant of the need to better harness the economic potential, promote the industry, and improve fiscal governance, the donors' guiding documents do not link the growth of the mining sector in general, and the operation of the uranium mining in particular, with environmental impacts, nor stipulate the need to address any such risks.

1.2 Objective and outline of the report

Motivated by the apparent discrepancy between mounting concerns with severe environmental impacts and the gap encountered in donor documents, this report asks the following questions: What progress has been achieved in the environmental governance of the uranium mining sector in Niger? What has been the contribution from development cooperation? How come donors apparently have overlooked these issues so widely reported among Nigerien actors? The findings are built on primary data from interviews with key actors in Niamey and analysis of hitherto disparate secondary data from the mining zones. On this foundation, the report examines the achievements and challenges in creating and implementing an environmental governance framework for the uranium mining industry in Niger, and the contribution from development cooperation to legislative frameworks, institutional capacity and its implementation.

Below, we first outline the methodology for the study. We then review the legacy of uranium mining in Niger and provide an analysis of its financial contributions to national and local development. Then, we elaborate the

legislative and institutional structures which have been put in place for the environmental governance of the sector, and examine what contributions have been made by development cooperation. On this basis, we undertake a critique of the state of implementation of this legislative and institutional framework, drawing on the observations and knowledge of people with first hand experiences from the mining zones. This demonstrates that the mining corporations currently operate in the face of extensive grievances and complaints from NGOs representing local populations concerning pollution, land appropriation and human health impacts. In the discussion section, the main arguments advanced are that development cooperation, despite notable contributions, indeed has had a 'blind spot' with regards to the environmental impacts of the uranium mining industry. We examine why such omissions can occur and offer suggestions as to how development cooperation can improve its support to Niger in conjunction with the new programming period from 2013 onwards.

1.3 Methodology

The study adopted a qualitative case study approach appropriate for the examination of legislative and institutional structures as well as actual processes of implementation (Larsen et al., 2012). Information for the study was obtained through two principal means: i) Interviews with selected government staff and observers from civil society and private sector in Niamey, with insight into the historical legacy and efficacy of the governance frameworks, ii) A review of secondary literature (legislative texts, policy documents, reports etc.). The interviews were undertaken through a semi-structured interview method, with key questions explained in advance in

the request for the interview and posed by the research team during the meetings. Meanwhile, the contributors were invited to direct the conversation and emphasize on the aspects they found most pertinent. The key questions discussed in the interviews were:

1. What legislative framework for environmental governance of the mining sector has been put in place?
2. What is the status of implementation of this legislative framework, in the mining sector in general and in the mining sites in particular, and what comprise the key challenges?
3. How have different development cooperation donors contributed, if at all, including through specific projects and programs?
4. Is it considered a priority to improve the environmental governance of the mining industry, and if so, what are the possible pathways?
5. Finally, how do key Nigerien actors believe that development cooperation can best contribute and how do these views resonate with current and forthcoming strategies?

A list of organizations and people to meet was elaborated prior to the field work and requests for interviews were submitted via official letters, email, telephone and/or physical visits. The selection was based on principles of stakeholder identification, in order to invite inputs from a cross-set of the people and organizations who could provide complementary insights and observations. The stakeholder identification followed a so-called Soft Systems Methodology (Checkland and Scholes, 1999), which enables an expression of complex situations from the perspective of multiple stakeholders to support these people involved in improving their situation. Focus

was placed on three categories of stakeholders: ‘Owners’ of the legislative framework (i.e. ministry representatives), who could provide an overview of the legislation and regulations, the formal requirements and their legacy; ‘Actors’ charged to implement the legislative framework (i.e. environmental agencies), and ‘Clients’ affected positively or negatively by the implementation of the legislative framework (e.g. NGOs representing local population and the companies engaged in the mining sites).

The study visit was conducted 7-20 Sept. 2012. The security conditions in the mining zones in the northern regions, including the financial costs associated with the national government instruction to be accompanied by military escort, meant that the interviews were carried out only in Niamey. As a case study within a larger research program the study had limited resources to undertake local field visits and long-term observations. Special emphasis was therefore placed on receiving contributions from people with firsthand experience from the affected zones. In total 33 people contributed to the study, representing 26 organizations from government, mining corporations, and civil society (see Annex 1 for complete list of interviewees). When drawing on the primary evidence from the interviews, direct attributions are used where appropriate.

In the compilation of contributions from development cooperation (section 4) data is drawn from two sources. First, from the annual accounts of donor investments (so-called ‘titre V’ expenditures) overseen by the Ministry of Planning and Community Development and implemented by sectoral ministries (Ministry of Economy and Finance, 2006-2011). These accounts specify the financial resources provided per donor and per sector (Annex V of the yearly account) and the spe-

cific programs funded by each donor, within and outside the year’s state budget (Annexes I and VI, respectively). Second, we browsed all registered projects for Niger in the AidData database (<http://www.aiddata.org/>), which builds on but is more comprehensive than the OECD DAC Creditor Reporting System (Tierney et al., 2011).

2. THE LEGACY OF URANIUM MINING IN NIGER

Extraction of uranium in Niger was initiated by the French-owned corporation Somair in 1971 after discovery of the first deposits in 1957. The discovery was made in Azelik by the French ministry of mining, the *Bureau Minier de la France d’Outre-mer*, originally searching for copper, and subsequently immediately piloted by the French *Commissariat à l’Energie Atomique* (Bigotte and Obellianne, 1968). The main deposits are found in the north of the country, namely in the *Tim Mersoï* sub-basin and the *Iullemeden* sedimentary basin (Pagel et al., 2005).

Triggered by a confluence of factors, including concerns with fossil fuel prices, energy security and Greenhouse Gas (GHG) emission reduction requirements, the global demand for uranium is surging. In addition to the 443 existing plants worldwide, 62 nuclear plants are reported to be under construction. However, the global production of uranium is projected to decline within the coming 20 years, and such scenarios stimulate a scramble to secure shares of the remaining deposits (Guidolin and Guseo, 2012; IEA, 2007). The World Nuclear Association (2010) estimates that current production from uranium mines only supplies 75% of existing demand by utilities. It should be

Table I. The three uranium mining operations in Niger under the AREVA Group

Corporation	Location	Establishment / Production commenced	Mine type	Shareholding
Somaïr	Arlit	1968 / 1971	Open pit	
Cominak	Akoukan	1974 / 1978	Underground	AREVA Mines SAS: 34% SOPAMIN SA: 31% ENUSA (Spain): 10% OURD (Japan): 25%
Imouraren SA	Imouraren	2009 / 2014	Open pit	AREVA: 67% SOPAMIN: 33%
AREVA NG	n.a.	2006	Holding admin.	AREVA: 100%

From Salifou (2012).

noted, however, that, as for other subsoil minerals, predictions of supply and forecasting is prone to speculation and clouded by much uncertainty.

According to market projections, uranium mining in Niger is set to increase in response to the rising demand, with a burgeoning number of investors and mining operators engaging in the country. As such, a Nigerien government spokesperson recently stated that Niger aims to triple its uranium production in the coming few years (Wise Uranium Project, 2012). Prior to 1993 only two companies were active, namely the French government-owned Somaïr and Cominak. Production statistics were unreliable and France often purchased more uranium than was seemingly produced (Lund, 1997). Today interested investors include governments and companies from China, Japan, Korea, India, Russia, and Canada. As of 2012, the Ministry of Mines and Geology (2012) lists 40 mining corporations (*sociétés*) registered in the country.

Today, four mining corporations are engaged in uranium extraction. The first Chinese-run operation, the Azelik mine, was launched in 2011. In the period 2006-2008 alone, more than 100 new exploration per-

mits were issued (OECD, 2008). French-owned AREVA Group, the second largest uranium company in the world, is also expanding its operations, with several new mining sites being prospected. The most recent operation is at Imouraren, where AREVA in 2007 rediscovered uranium deposits in a pre-existing mining site (Table 1). After the initial pilots AREVA obtained its exploitation permit in December 2008. In Feb. the following year the company Imouraren SA was established and started operations (Imouraren SA, 2012). As of 28 November 2011, Niger is also oil producing, with the Chinese-owned installations in Zinder.

The northern part of the country is affected by a prolonged armed conflict. Most recently, the deterioration in security conditions and the kidnappings of AREVA workers in 2010 at the Imouraren site led to a suspension of the activities by Imouraren SA. Most workers have abandoned the site, including all international staff, and the Government of France has vetoed the continuation of the operations until the safety can be guaranteed.¹

¹ Interviews #18, 19

The discovery of uranium and the first extraction coincided with the creation of the Republic of Niger in 1958 and independence in 1960. The sector has thus been able to play an influential role in shaping the development of the country since independence (see also Barlow and Snyder, 1993; IMF, 2008). During the interviews, one high-placed civil servant explained the intertwined chronology of the sector with the nation building of Niger as follows:

“...from the outset, the primary partner was France, but more recently also Chinese and [other] partners have entered... The strategy was to utilize the revenue to build the nation, with investments in infrastructure, education etc... France fixed the export price... During the period 1963-1973, the president Hamani Diori had a real will to renegotiate the contracts with France. This was what eventually lead to the putsch, because he was starting to plan for nationalizing [the uranium corporations]...This is my interpretation [of the history], of course you can disagree... From 1974, there was the ‘uranium boom’ with increased prices, which permitted the construction of the ballet, the congress, and several of the big hotels. In the period 1990-2000, there was instability and successive coup d’états with many regime shifts which didn’t permit the proper extraction of benefits from the sector...[Niger] was not strong enough to negotiate with its external partners. In 2000, Mamadou Tandja took power and managed to renegotiate with France to obtain a better price. This was helped by the presence of the Chinese as competitors to France.”

In a recent seminar with top government executives, key constraints to long-term sus-

tainable management of the mining sector were spelled out, including weak negotiation capacity with multi-national corporations (MNCs) and foreign buyers of ore and little state participation in the control of capital flows (Abdou, 2012). Indeed, the institutional frameworks in Niger carry a strong political legacy from the colonial period under French rule, and the influence in the transition to independence in 1961. Notably, the Nigerien currency, the *Franc de l’Afrique de l’Ouest* (FCFA) has had a fixed rate to the French Franc, and when France joined the Euro it was linked to the Euro with a rate of 656 FCFA per Euro. This gives Niger a limited possibility to manipulate its currency and use deflation as means to overcome times of economic hardship. This has, in turn, meant a great reliance on France, and other foreign donors, for the provision of grants and loans during recessions – such as during the periods in the 1980s with record-low worldwide uranium prices (e.g. Barlow and Snyder, 1993).

2.1 Financial contributions to national and local development

Reflective of the importance of the mining activities the national constitution (Arts. 148-153) specifically espouses the imperative of ‘good governance’ of the sector. The framework legislation for the mining sector provided by the Mining Code (*Code Minier*) (Government of Niger, 1993) stipulates that 30% of shares of each mining operation must be owned by the Nigerien state. The revision of the Mining Law (*Loi Minière*) in 1993 had as a key objective to simplify the rules for investors and mining operators and to offer improved fiscal and tax advantages for foreign investors (Chambre de Commerce, d’Industrie et d’Artisanat du Niger, undated).

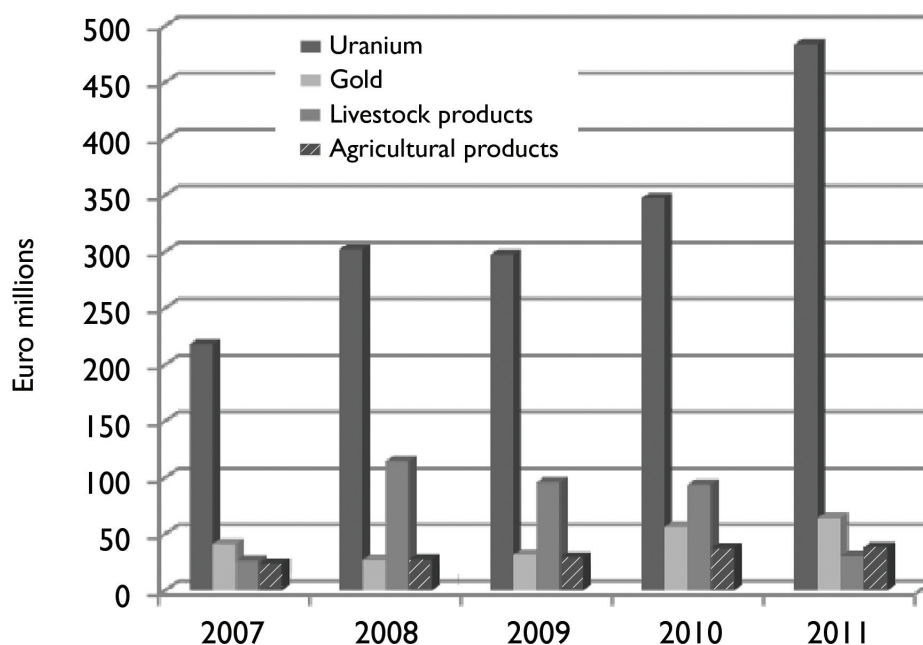
Simultaneously, the National Office for Mining Exploration (Onarem) was replaced with two new state bodies, namely the Centre for Geological and Mining Exploration (CRGM), and Sopamin, overseeing Niger's mining assets (OECD, 2008).

Uranium dominates the national export portfolio in terms of absolute financial value, representing 75% of the total export value in 2011 (Figure 2). While gold, livestock products, and agricultural products alternately ranked second between the years, livestock products places second on average, reaching close to 5% of the total export value in 2011. However, the actual transactions in several of the primary sectors are likely to be several orders of magnitude higher than what is shown in the official statistics, in particular for the livestock sector where the trans-border trade is hard to monitor

(see also La Rovere et al., 2008; Barlow and Snyder, 1993).

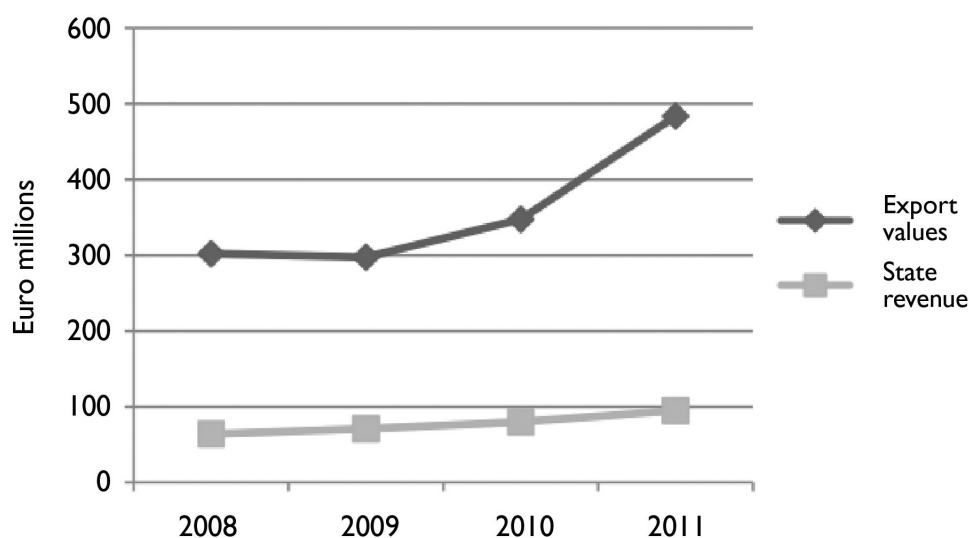
The vast majority of the uranium production is exported to EU (with France as the main importer) (INS-Niger, 2012). The growing export values post-2007 partly reflect that a new surge in international market prices and increasing competition among foreign investors enabled Niger to renegotiate its sales price. In 2006, the average sales price upon export was 25,200 FCFA while increasing to 40,000 FCFA in 2007 and to 55,000 in the period 2008-2010 (INS-Niger, 2011). Within the government there is a political commitment to further improve the financial return. In 2011, the newly elected President Mr. Mahamadou Issoufou stated on national TV that he was to seek further renegotiation of contracts with foreign mining companies to obtain larger shares of the benefits for Niger (Reuters, 2011).

Figure 2. Export values of select principal products from Niger 2007-2011.



Source: INS-Niger, 2012

Figure 3. State revenue compared to export values 2008-2011



Export values are derived from INS-Niger (2012) and state revenues from Ministry of Mines and Geology (2012).

In recent years the revenue obtained by the state corresponds to close to 20% of the export value, but it has not yet responded to the increase in sales prices (Figure 3). Niger benefits from limited value adding in the value chain; as a landlocked country Niger is dependent on land-based transport of uranium ore through neighbouring countries and the processing of the ore takes place in the importing country. The national revenue is derived notably from the mining fee of 5.5% of the value of the extraction and the extraction tax of 250 FCFA/m³. The tariffs and royalties have been key areas of struggle, including during successive revisions of the *Loi Minière*. The contribution from the sector to the national economy has thus varied over the years, depending on market demand, negotiation of export prices, and political interventions via the setting of royalties and tariffs. In the late 1980s the contribution to the national budget was close to 40% but declined to around 5% in 2006, owing to the recession in the global uranium market (Abdou, 2012). Barlow and

Snyder (1993) estimated a 1989 contribution to national tax revenue from uranium royalties and export taxes alone of around 12%.

In terms of local development contributions, the state has since 2007 committed to return 15% of the mining revenue directly to the affected zones. The principles of repartition are laid out in the law no. 2006-26 of 9 August 2006 (amending ordinance no. 93-16 of 2 March 1993, and supplemented by ordinance no. 99-48 of 5 November 1999). With the expected growth in the petroleum industry, the Petroleum Code (*Code Pétrolier*) has also been revised to apply the same core principles of repartition.²

Communes in the mining zones are prioritized based on a list of criteria estimating the relative impact born by each commune. These criteria comprise of the size of the population, the environmental impacts, the effort made to mobilize revenue, level of infrastructural developments, surface area, the amount of

² Interview #1

support already provided from development cooperation partners, and the size of the administration. Communes are required to allocate 90% of the funds to investments (such as infrastructure, education etc.), 5% to staff and operational costs, and 5% to monitoring activities. The allocation of the funds between communes is undertaken in regional committees (*Commissés Regionales*) composed of the regional governor and representatives of the communes. The regions and departments are also responsible for monitoring the communes' handling of the funds. The commune accounts are annually to be verified by the national Court of Auditors (*Cour des Comptes*).

Payments are made with a one-year time-lag, as each fiscal year allocates state revenue from the previous year. The most recent allocations were made in 2009, since delays have affected the 2010 imbursement. For the region of Agadez, which hosts the majority of the uranium mining activities, this totals 283,989 Euros distributed over the three Départements of Tchirozérine, Arlit, and Bilma and their 15 communes (Ministry of the Interior and Public Security, Decentralization and Religious Affairs, 2012).

Above and beyond the revenue repartition from the state, the uranium mining corporations are championing a range of own development activities. While the *Loi Minière* of 2006 encourages permit holders to foster local development and provide investments to the population in the mining zones, including during the three first years of exploration, it does not specify what level of investment is needed. It is therefore left to the discretion of the corporations, based on their Corporate Social Responsibility (CSR) policies, to determine the scope and budget allocations for such activities³.

³ Interviews #1, 2

In practice, the corporations under the AREVA Group (Somair, Cominak, Imouraren SA, AREVA Mine Niger, CIM BG Mines, Fondation AREVA) applies the principle of co-development.⁴ This is enacted in development support through a joint steering group (*Directorat d'Integration dans les Territoires*) in order to increase synergies and avoid duplication of projects. For the region of Agadez, where most of the uranium mining is confined, the AREVA Holding Group reports investments of 10.7 Euro millions and 7.4 Euro millions in 2010 and 2011, respectively (AREVA, 2012; see Cominak, 2011 for details on the project portfolio). It is acknowledged by the corporations that investing in the mining zones are of self-interest as it serves to create a conducive local social and economic environment, including ensuring the availability of competent and motivated workers.⁵ The mining towns of Arlit and Akokan were established explicitly for the mining industry, in previously nomadic landscapes.

3. LEGAL AND INSTITUTIONAL STRUCTURES FOR ENVIRONMENTAL GOVERNANCE

When the uranium industry was established following independence, the legal framework for the management of environmental impacts or radioprotection was rudimentary. Today, a vast number of legal and regulatory texts have been adopted and set forth the requirements for environmental protection, natural resource management and conservation. In the development of this legislation, the severe and repeated shocks during

⁴ Interviews #20, 21

⁵ Interviews #18, 19, 20, 21

droughts and food crises have been noted as one of the drivers of policy developments, which have replaced a former conservationist approach with an approach inspired by a broader sustainable development framework targeting desertification and food self-sufficiency (Government of Niger, 2000). Further, the political turbulence associated with the successive *coup d'états* and the subsequent reestablishment of the rule of law through elected governments have opened for possibilities for civil society and development cooperation partners to play a role in the revision of this legislation. These social and political upheavals and the associated opportunities for renewal are credited by some national actors as a key reason why Niger hosts a rather progressive body of legislative texts pertaining to environmental governance.

The Government of Niger's reports to the Rio Conventions highlight that Niger's environmental public sector is governed according to over 317 legal texts, of which 283 constitute national legislation and 34 comprise of international conventions. The national constitution of 25 November 2010 stipulates the fundamental right of people to a healthy environment, obliging the state to monitor compliance and ensure the protection of the natural resources (art. 34, title II). In this regard, it spells out the need to regulate through law the attainment, storage, handling, and elimination of toxic waste and pollutants arising from industrial activity. The framework legislation for the environmental sector is provided by the law no. 98-56 of 29 December 1998, serving as fundamental reference for all regulation of environmental management and protection, including in the mining sector.

To operationalize this framework legislation, Niger has undergone an extensive leg-

islative and administrative reform towards both devolution of authority and decentralization of the administration, including through the *Code Rural*. Many of the legal provisions promulgated at state level are to be implemented by the competent authorities in the decentralized government administrations. Notably, the law no. 2002-012 of 11 June 2002 determines the principles of administrative freedom in the regions, departments and communes, including their competences and resources. The *Code Général des Collectivités* also describes the sub-national competences for environmental protection and management (Ministry of the Interior and Public Security, Decentralization and Religious Affairs, 2012). It also details the Commune Development Plans (*Plans Communaux*) as key instruments in local planning, where proposals for new mining sites should be presented.

Niger was characterised by a decade of socio-political instability during the 1990s, and in 1999 the 5th Republic was established with democratically elected local authorities. In 2004, after the overcoming of the military rule, the first successful municipal elections took place. As Turner et al. (2012, p. 746) write: “*In these elections, mayors were elected to serve as officials for rural communes that coincide with preexisting cantons which have been led by customary authorities (chefs du canton). The creation of the communes and the election of mayors and “conseillers communaux” (representatives in commune commissions) represent ...on-the ground steps of decentralization and democratization of governance...*”.

The reform has also included a delegation of greater fiscal autonomy to the sub-national administrative layers above the communes, namely the *départements* and *régions*. However, Niger's tax system comprises of a number of salient features inherited from the French

colonial period-reflective of the centralized operation in the French colonial system. This means that the central government taxation generates much more revenue than the local taxation, and that revenue generation in sub-national administrations remains constrained.

Given the economic importance of the livestock sector and the rights of pastoral peoples, the Nigerien government has undertaken to construct a particular legal framework on pastoralism. The law no. 2004-048 of 30 June 2004 serves as the framework legislation for the livestock sector, including all clauses pertaining to animal treatment and public health, ownership, transport and trade etc. The law no. 61-06 of 27 May 1961 established the pastoral zone (*Zone Pastorale*), stretching as a band from the west to the east of the country, prohibiting agricultural activity and the holding of private property in the zone entirely reserved for livestock herding. South of this zone, the decree No. 97-007 of 10 January 1997 recognizes the legitimacy of livestock corridors and grazing territories (*terroirs d'attache*) both in the pastoral zone and in the agricultural land.

This legislative framework has however been found conspicuously vague with regards to the fundamental rights of pastoralists and herders, including lacking formal legal recognition of the pastoral land use and the informal management arrangements, which distribute water and grazing rights (see also Thébaud & Batterbury, 2001). Thus, in 2010, after ten years of extensive political negotiation, the ordinance no. 2010-029 of 20 May 2010 (the *Loi Pastoral*; i.e. the Pastoral Law) was signed in Parliament. This piece of legislation sanctioned, for the first time, the right to mobility for livestock herders. For instance article 3 reads: "... *mobility is a fundamental right of herders, nomadic pastoralists and transhumants, a*

right recognised and guaranteed by the State and local government authorities...Mobility is a rational and sustainable manner in which to use pastoral resources and cannot be prevented except on a temporary basis and for reasons threatening the security of people, animals, forests and cultivation in conditions as described by law" (de Jode, 2010, p. 54). The ordinance also prohibits any form of appropriation of pastoral land, whether under the public domain of the state or under the collective management of herders. It also stipulates the possibility for herders to register use rights in common property regimes (which however ultimately remain owned by the state) in order to protect collectively owned areas against privatization.

The Pastoral Law forms part of a substantial policy reform sweeping over the West African region during the last 15 years to facilitate livestock mobility, including both national reform and trans-border agreements. It has been spurred by a discourse, which – at least in principle – rejects the negative perceptions of pastoralism and instead recognises that it comprises an important livelihoods strategy in unstable environments (Hesse and Cotula, 2006; de Jode, 2010). It also comprises a reaction towards the increasing privatisation of public and commonly owned land through the fencing of grasslands to protect plots for rain-fed agriculture and industries such as mining. Owing to such pressures, cattle corridors that have previously been governed by customary institutions have often-times fallen into disrepair and institutions have collapsed, linked to conflicts between cattle herders, sedentary farmers, and other users of the land. The Pastoral Law is often heralded as a progressive piece of legislation, responding to the modern need of livestock herding and the pastoral way of life (e.g. Zakara et al., 2011).

3.1 The Code Minier: radioprotection and environmental impact assessment

The legal foundations of environmental governance spelled out in the Mining Law (*Loi Minière*) of 1993 are operationalised through the implementing decree of 2006 (Government of Niger, 2006a). It specifies the status of all mineral wealth as the property of the state, with right to assign national or international persons or legal entities the permission to undertake exploitative actions, including necessary infrastructural constructions, landscape management and withdrawal of water resources. Environmental authorities are entitled to specify protected areas (*zones interdites*), in which exploitation cannot take place, and shall in general supervise the activities.

In the cases where exploitation or prospection will lead to appropriation of land and the overruling of land claims of existing owners and/or users, compensation should be provided. The rules on compensation are outlined in decree no. 2009-224/PRN/MU/H on the expropriation for public purposes and the ordinance no. 99-50 of 22 November 1999 specifying the alienation tariffs applicable to the entire national territory and all types of land titles, whether this concerns settlements, agriculture or pastoral livestock herding.

The frontline environmental agency mandated to implement the general environmental law (law no. 98-56 of 29 December 1998) in the establishment of uranium mining operations is the national Environmental Impact Assessment Bureau (*Bureau d'Evaluation Environnementale et des Etudes d'Impact* – the BEEEI) established with the decree no. 2000-369/PRN/ME/LCD. To guide its operation, the decree no. 2000-398/PRN/ME/LCD stipulates the activities, which must be subject to an environmental impact assessment (EIA). The administrative procedures for the EIA

are set out in the decree no. 2000-397/PRN/ME/LCD (BEEEI, 2005).

In the application for a mining permit, the project promoter must submit a completed EIA, including an environmental and social management plan (*Plan de gestion environnemental et social*) and a plan for the rehabilitation of the site (*plan de rammenagement*). This approach follows the Polluter Pays Principle in that the project promoter is held liable to mitigate or compensate for all identified impacts. The Terms of Reference (TOR) for the EIA is drafted by the project promoters and verified by the BEEEI. The provisional assessment report (*rapport provisoire*) must be presented in a public consultation (*audience publique*) following BEEEI's verification mission to the site.⁶

Of specific relevance to the uranium mining sector is the surveillance and control with regards to radioprotection. These functions are undertaken by the National Center for Radioprotection (*Centre National pour la Radioprotection* – the CNRP), located under the Ministry of Health. The CNRP was established in 1989 and subsequently reformed in 2006 through law no. 2006-18 of 21 June. The law no. 2006-17 of 21 June, with its implementing decree, specifies the required measures for radioprotection. This includes the application of international protection norms following the International Atomic Energy Agency (IAEA) and French governmental standards, and the specification of maximum exposure doses for workers and local populations.⁷ A decree with emphasis on radioprotection in the mining sector has been drafted in a governmental committee convened by the Ministry of Health, in which mining corporations such as Cominak and Somair participated.⁸

⁶ Interview #9

⁷ Interviews #9, 18, 19

⁸ Interview #13

When the IAEA released its new standard on the risks associated with long-term radioactive exposure, Cominak also supported the CNRP in outlining its response.⁹ A more detailed standard for site rehabilitation is now being prepared, also with support from the IAEA and with involvement of several mining corporations.¹⁰ Similarly, ministry staff reported that early improvements in environmental regulations, including the impetus for establishment of the BEEEL, came from the demand for higher environmental standards by some foreign companies. Several projects were at that time abandoned after several years of research and deployment of military forces to protect the sites, owing to a concern from investors with a lack of environmental considerations.¹¹

As regards routine monitoring, corporations are required to submit one report per semester on environmental impacts and one on radioactive exposure. The allowable exposure dose for local populations is estimated jointly by the CNRP and the corporations based on scenario analysis, which combines different sources of exposure (food intake, water consumption etc.) into a measure of the total estimated exposure. In addition, routine inspections are conducted annually through joint efforts of the CNRP and the site manager.¹²

As part of the Economic Community of West African States (UEMOA), Niger is also expected to comply with the *Code Minier Communautaire* (regulation no. 18/2003/CM/UEMOA of 23 December 2003). However, in practice the UEMOA code appears to add little to the governance in the sector, in part

provided that the West African countries are in mutual competition for international investors.¹³

Above and beyond public regulations, mining companies have adopted several international CSR standards. Operators under the AREVA Group, such as Somair and Cominak, are ISO 14001 certified (on environmental management systems). Cominak was accredited to ISO 14001 in 2002 and Somair in 2001. Both companies are also accredited under the occupational health and safety standard (OHSAS 18001) in 2007 (see also Capus et al., 2005).¹⁴ The ISO 14001 standard for environmental management systems sets out requirements that are audited to obtain certification. However, as stated by ISO (2012), “[t]his International Standard does not establish absolute requirements for environmental performance beyond the commitments, in the [company’s] environmental policy, to comply with applicable legal requirements and with other requirements to which the organization subscribes, to prevention of pollution and to continual improvement”.

4. CONTRIBUTIONS FROM DEVELOPMENT COOPERATION

In order to ensure national coordination and general compliance with the Paris Declaration, strategies are expected to be commonly guided by the national Poverty Reduction Strategy Paper. Niger adopted its updated strategy for the period of 2008-2012 in the shape of an Accelerated Development and Poverty Reduction Strategy (SDRP). The first strategy was launched in

⁹ Interviews #20, 21

¹⁰ Interviews #20, 21, 1, 2

¹¹ Interview #3

¹² Interview #13

¹³ Interviews #3, 14

¹⁴ Interviews #18, 19, 20, 21

2002, and later revised in 2007, to serve as a coordinating instrument for implementation. This has included two economic and financial programmes supported by the Poverty Reduction and Growth Facility (IMF, 2008).

With the new national government taking seat in 2010 a new long-term vision is being prepared, namely the Development Strategy for Sustainable and Inclusive Growth (*Stratégie pour la développement durable et croissance inclusive*). Awaiting the finalization of this strategy document, the Economic and Social Development Plan 2012-2015 (*Plan de Développement Economique et Social - PDES*) (Ministry of Planning and Community Development, 2012) comprises the key guiding document for the ongoing preparation of a new strategy for donor support. A key motivation in moving from the PRSP to the PDES was the desire to define development in broader terms than poverty alleviation and fully spell out the ambitions of the country.¹⁵

Linked to the revision in strategy documents, the Executive Secretariat of the Rural Development Strategy (*Secrétariat Exécutif de la Stratégie du Développement Rural*), which has previously served as the main coordinating state body on rural development, has been replaced with the “3N Initiative” for Food and Nutrition Security and Agricultural Development (*Initiative “3N” pour la Sécurité Alimentaire et Nutritionnelle et le Développement Agricole – les Nigériens Nourissent les Nigériens*). The strategy document 2012-2015 of this initiative outlines the aim to raise 2 M USD for its implementation. The expected increased revenue from the mining sector is included as a main funding source, together with increased export revenue from agricultural and livestock

produce (High Commission of the Initiative 3N, 2012).

The PDES spells out the goal to more than double exports from the mining sector by 2016 with the assumption that this will significantly contribute to reduce poverty and achieve development objectives. Specifically, the following needs are put forward:

- to address weaknesses in managing price and revenue volatility, and increase the financial return;
- to continue the efforts in current reforms undertaken since 2011 to strengthen auditing capacity of the state to ensure stricter control with mining corporations in their fiscal compliance;
- to improve the transparency in the state’s use of revenue;
- to diversify the exploitation and address the limited knowledge of mineral deposits and further develop the capacity for research and prospection;
- to improve the coordination between the mining and environmental sectors and their limited human and institutional capacities;

The shift in strategy documents is timely since most donors’ country strategies and programmes for Niger are naturally coming to an end during 2012-2013. Based on the Nigerien strategies a roundtable event with over 300 participants and 56 delegations from the major bilateral and multilateral partners was held in Paris in November 2012. Niger succeeded in securing close to billion 3.7 Euro in donor pledges for the period 2012-2015 (Reuters, 2012). In forthcoming implementation, the Nigerien government is hoping to improve the alignment of donors in response to experiences of disorganization in the past. In

¹⁵ Interview #4-5

fact, several high-level officials commented on the existence of difficulties in obtaining adequate alignment and coordination among the foreign donors (see also SEE, 2010).¹⁶

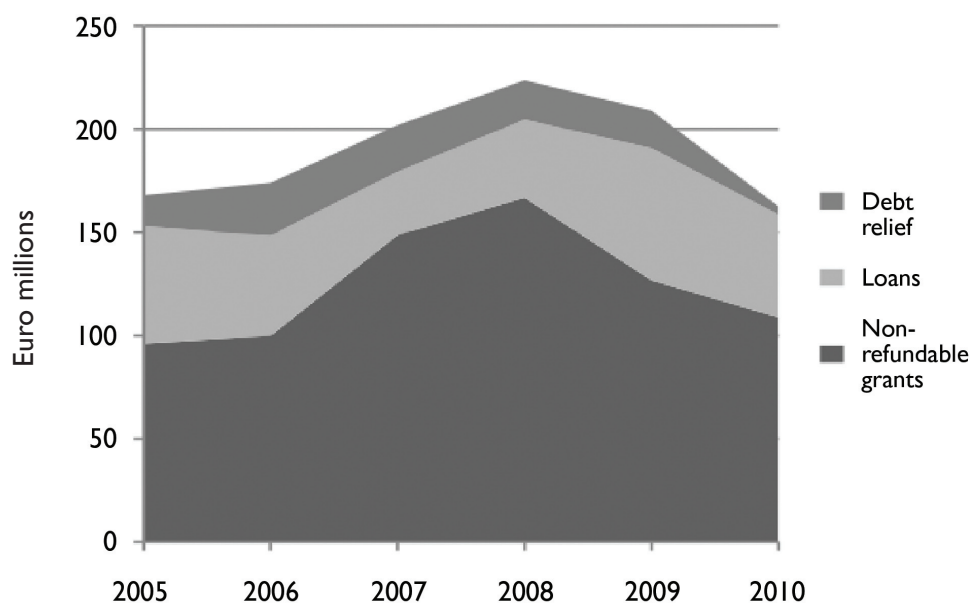
4.1 Review of aid flows to Niger

The influx of donor funding and technical support varies in response to political agreements and has over the decades been periodically constrained by donor concerns with political instability and limited absorptive capacity (World Bank, 2003; Lund, 1997). Most recently, the European Commission suspended development cooperation 2009-2011 when former President Mamadou Tandja was seen to unconstitutionally attempt to remain in office, thus breaching the rule of law and elements of the Cotonou Agreement between EU and

ACP states (African, Caribbean and Pacific Group) (Council of the European Union, 2011).

Niger received an interim debt relief in 2000 and in the period 2005-2010 a total of Euro 1,139 Million in development cooperation via grants, loans and debt relief (provided its status as Heavily Indebted Poor Country) (Figure 4). As registered by the Ministry of Economy and Finance (2006-2011), the five largest donors in terms of non-refundable grants in the period were the European Development Fund (EDF), the International Development Association (IDA) under the World Bank Group, UNICEF, the French Development Agency (AFD), and the World Health Organization (Figure 5). While multilateral donors thus now shoulder most of the support, in the 1990s, bilateral donors were dominant, with France being the largest donor (Lund, 1997).

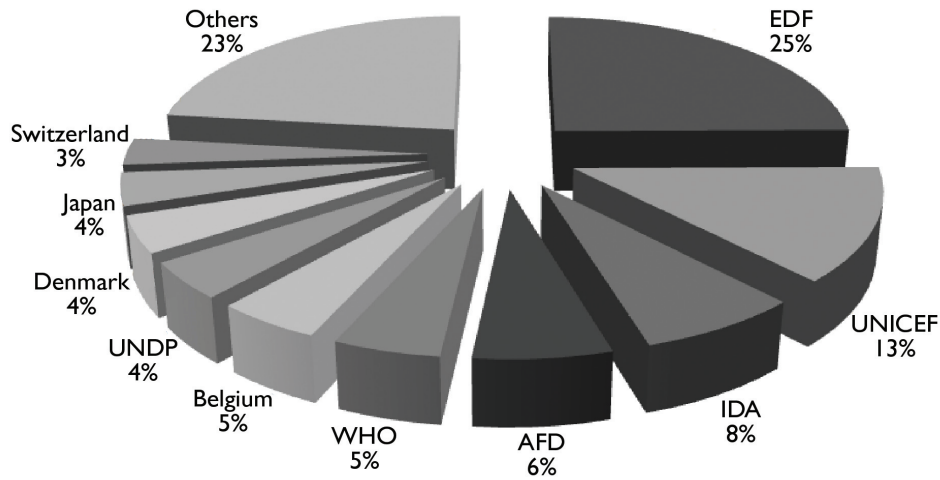
Figure 4. Development cooperation finance to Niger 2005-2010



Ministry of Economy and Finance, 2006-2011

¹⁶ Interviews #4, 5, 6

Figure 5. Principal donors to Niger 2005-2010

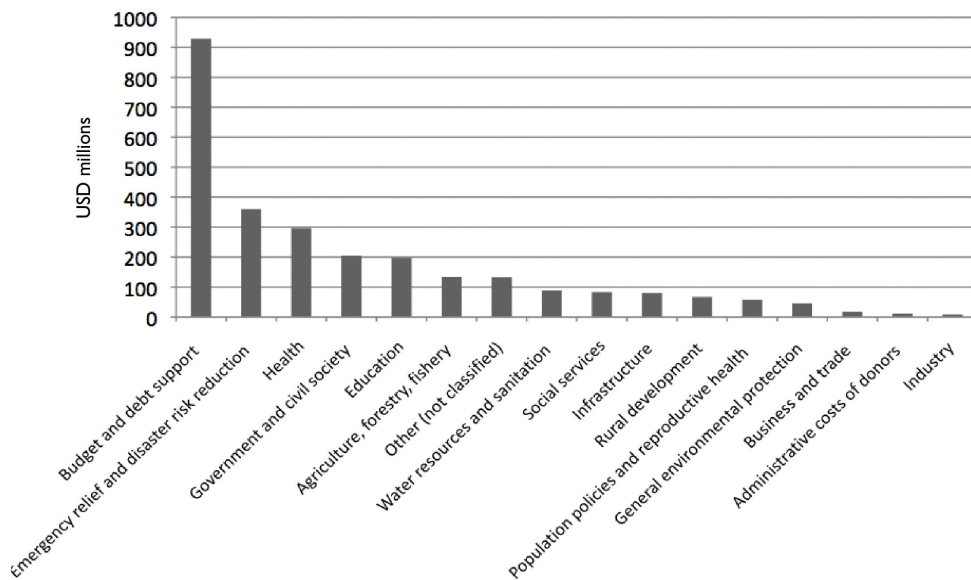


Non-refundable grants as recorded by Ministry of Economy and Finance (2006-2011)

As mentioned above, the evaluation for the period 2000-2008 of the donors representing over 50% of the aid budget (the European Commission, Belgium, France, Denmark and Luxembourg) found that rural development and food

security programs ranked second with 19% of the funding (SEE, 2010). Review of the Aid-Data repository, for all donors to Niger, similarly ranks emergency relief and disaster risk reduction (incl. food aid and post-conflict re-

Figure 6. Disbursements per sector to Niger 1964-2010



Figures are in USD millions, derived from AidData based on available purpose codes. The registry of disbursements in AidData is incomplete but the most comprehensive available. For details on the methodological limitations associated with the use of the AidData database see Tierney et al. (2011).

construction) second after general budget support and actions related to debt relief (Figure 6). In the period 1964-2010, 11.3 USD billion were committed from development cooperation to Niger. Of the disbursed funds recorded, emergency relief and disaster risk reduction received close to 13% of total donor funding recorded for the period, only surpassed by macro-economic support and debt relief. Meanwhile, general environmental protection received less than 2% of donor funding.

The mining sector received close to 1% of the total aid budget during 2005-2010 (Ministry of Economy and Finance, 2006-2011). In total, the AidData repository lists 39 donor commitments to the Nigerien mining sector 1974-2007, principally from France (14), Japan (11), the European Communities (6), and Canada (5). However, only six of these appear, from the available data, to have resulted in disbursements. They focused on the promotion of the mining sector and its general fiscal management, without specific mention of the environmental governance of the activities.

4.2 Interventions in the sector

Two examples of targeted donor support to the mining sector with potential relevance to its environmental governance were recovered during this study. This concerns the Program to Strengthen and Diversify the Mining Sector (*Programme de la Renforcement et Diversification du Secteur Minier* – the PRDSM) and the Extractive Industries Transparency Initiative (*Initiative pour la Transparence dans les Industries Extractives*). Moreover, this section describes a forthcoming World Bank-funded program to support the revision of the *Code Minier*. It also summarises examples of support channelled via non-state partners, such as NGO networks.

The PRDSM is financed by the EDF with the aim to strengthen the state's capacity to

promote the mining sector in collaboration with domestic and international investors, and to regulate the sector, most notably in regard to socio-economic obligations (European Commission, 2008b). While the implementation period ran until 2010, it was subsequently prolonged until Dec. 2013 after the freezing of funding associated with the 2010 political turmoil (European Commission, 2010). A previous program (*Programme d'appui au développement du secteur minier* – the PADEM) was financed 1987-90, focusing solely on the search for mineral deposits.¹⁷

The PDRSM contains two axes of implementation. The first is in the area of diversification into other minerals than uranium in priority zones defined by the Ministry of Mines and Geology. Second, a capacity-building component aims to improve the public sector services in the mining zones to augment medical and health provision, receiving close to 19% of the total budget (Table 2). This support represents post-damage control and does not aim at environmental governance of the mining activities per se. Close to 100 people in the Ministry of Mines and Geology have been engaged in training activities, principally covering themes such as information systems management, prospection, and fiscal monitoring. These trainings have not involved environmental or public health agencies.¹⁸ More direct support to improved environmental governance of the uranium mining is represented by the program's funding to select NGOs with a total 400,000 Euros, focusing on improving local governance in the mining zones and addressing the negative impacts of uranium and gold mining. Moreover, it has supported the work of the EITI with 100,000 Euros to staffing and trainings.¹⁹

¹⁷ Interview #10

¹⁸ Interview #10

¹⁹ Interview #33

Table 2. Activity list and original budget in the PDRSM (Euro millions)

Activity	Funding
Reconstruction of the sanitation in Arlit	3.58
Waste water treatment in towns of Arlit and Akokan	1.46
Institutional strengthening	4.13
Geological information system	2.59
Airborne geophysical survey	13.03
Geological cartography and strategic prospection	1.22
Prospection for industrial material deposits	0.55
Small enterprises and artisanal mining	1.70
Management unit	5.49
Control and evaluation	0.32
Other and unforeseen costs	0.93
<i>Grand total</i>	<i>35.00</i>

Source: European Commission, 2010.

The EITI provides a global standard for revenue transparency through publishing of payments received by governments from mining corporations, including the full overview of revenue sources from the extractive industries (EITI, 2012). It was launched in Niger in 2005, and March 2011 Niger was conforming to all elements of the standard, as the first Francophone West African country (CNC, 2011). Since 2008, information on the financial flows between mining corporations and the Nigerien state has thus been available and is verified by an external expert.

The state accounts are audited by the Court of Auditors and the declarations of corporations are audited by their own internal auditor, accountable to the corporate shareholders. The external expert, in verifying the payments, does not undertake an actual audit but assesses if the conciliation between the statements of corporations and state is 'probable'. In line with the EITI standard, the EITI Niger is coordinated through the *Comité National*

de Concertation (CNC) with representatives from government, civil society and corporations. The political importance of the CNC is evident from events in 2008 surrounding the imprisonment of the Minister of Justice. Citing concerns with breach of the rule of law, civil society organizations ultimately opted for leaving the CNC as a means of exerting pressure. The Minister was subsequently released from prison, whereupon the NGOs returned to the CNC (ROTAB, 2009).²⁰

The implementation of EITI was initiated by the Nigerien government with support from national civil society through the international Publish What You Pay campaign.²¹ In fact, several of the NGOs, which today play an important role in the monitoring of the mining sector, were established during this period to promote the initiative.²² The

²⁰ Interview #14

²¹ Interviews #4,5

²² Interviews #22, 23, 24

EITI is the first initiative to this end in Niger, and was repeatedly cited among contributors to this study from NGOs and government offices as a land mark initiative that has changed the playing field considerably. With the improvements in revenue transparency, a window of opportunity is by many foreseen to intelligibly identify how the state may increase revenue generation. As expressed by one NGO director: “Given the overview created... the EITI should now move forward and consider how the financial resources are actually managed. And identify new [ways] to increase the revenue”.²³

In recognition of weaknesses in the current framework legislation for the mining sector, preparations are being made for a forthcoming revision of the *Code Minier*. The revision will be part-financed and supported through a World Bank project. This project (*Projet d’Appui à la Compétitivité et aux sources de Croissance – the PrACC*) is expected to provide a six-year programmatic support. The objectives are to improve the business climate through fostering foreign investments, exports, and business developments, and boost the general competitiveness (World Bank, 2012). The foreseen contributions include legal revisions to stimulate diversification, and institutional strengthening aimed at improving the efficiency in the extractive industries. This includes support to the negotiation capacity of the state in contracting and interactions with foreign investors. Reference is also made to the need of strengthening the environmental management in mining operations; however in the available documentation it is not specified what fraction of the total envisioned budget of close to USD 12.5 Million will be allocated to the implementation of environmental and social objectives in the mining sites.

²³ Interviews #15, 16, 17

Development cooperation also provides important financial support to *non-state partners* in Niger. Notable examples included activities of Nigerien NGOs such as the Group for Reflection and Action on the Extractive Industries (GREN) and the Network of organizations for transparency and budget analysis (ROTAB), with support from international NGOs such as Oxfam and development agencies such as Swissaid (see also ROTAB, 2012). In fact, GREN staff explained that they partner with five different external organizations, each supporting a specific organizational or programmatic component.²⁴ Similar support is now sought by the pastoral umbrella organization the *Collectifs Agro-Pastoral Au Niger* (CAPAN), now seeking to mobilize on the issue of co-habitation between herding/pastoralism and the mining industry.²⁵ However, according to NGO staff, civil society organizations based in or operating in the affected mining zones often have considerable difficulty accessing international funding.

5. SITUATION ANALYSIS – THE STATE OF IMPLEMENTATION

This section outlines the status of implementation of the existing legislative and institutional framework, drawing principally on primary evidence from the interviews. The observations on impacts and risks articulated by interviewees centered on two key problem areas: environmental impacts in the mining zones and the appropriation of pastoral land and other resources. These impacts and risks were commonly linked to

²⁴ Interviews #15, 16, 17

²⁵ Interviews #27, 28

the third issue to be discussed in this section, namely the weak capacity of state and sub-national government administrations to implement and enforce existing legislation. The first part thus centers on the direct impacts in the mining zones primarily affecting the local settled population and workers; the second emphasizes the impacts specific to the pastoral communities; and the third and final part looks at the underlying systemic issues spelled out by the contributors as to why such impacts occur despite progress in establishing an extensive legislative and institutional framework.

5.1 Adverse environmental impacts

The main area of concern expressed by interviewees was radioactive pollution. NGOs voiced concern that the extraction and treatment of the uranium ore by corporations was frequently not following legal norms (see also Box 1). This included that radioactive debris is freely deposited and thus contaminates sediments and water bodies, and that radioactivity is exceeding the permitted exposure dose in public buildings such as schools (see also ROTAB, 2012; Daouda, 2012)²⁶. In one account from Azelik, reference was made to radioactive pollution of water bodies, and that this has led to birth defects and bodily deformities in the local population.²⁷ Others observed that vehicles used in the mines are subsequently sent in circulation in society without required treatment. As one contributor commented: *“The dangers are evident: radioactive waste ... is stored in free air... This fact is well known... exceeded exposure levels are found in the schools, in the air, water...”*²⁸

²⁶ Interviews # 15, 16, 17, 22, 23, 24, 25, 26, 29

²⁷ Interview #26

²⁸ Interview #25

A number of specific issues connected to water resources were highlighted, including its role as a pollution carrier and as a scarce resource utilized by the extractive industry. Local populations and pastoral people rely on drinking water, which they fear is contaminated, posing risks for people as well as animals. In water scarce surrounds, NGOs found it startling that corporations were allowed to extract water freely without paying the tariff, which applies to other water users (cf. ordinance no. 2010-09 of 1 April 2010 and the decree no. 2011-405/PRN/MH/E of 31 August 2011). Several examples were provided of water being extracted from groundwater aquifers, which are no longer replenished.²⁹ Altogether, criticism was raised that the industry is depleting the finite water resources in the semi-arid environments and thus undermining the possibility for other livelihoods.

In addition to the local population, the workers in the mining operations were seen as particularly vulnerable to the environmental and health risks. Several NGOs criticized the corporate management for lack of compliance with the norms for radioprotection and health surveillance. Reference was made to a lack of medical staff, as required by law. One particular example was the case of the *Observatoire de la Santé* (Health Observatory) in Arlit, managed by the AREVA Group. This health observatory was established in 2010 by AREVA, who reported that several NGOs are now involved in oversight of its operation.³⁰ However, as expressed by these organizations, the observatory had been put in place only after 40 years of mining operation and only as a response to persistent pressure from civil society.³¹ Another point of criticism was

²⁹ Interviews #15, 16, 17, 25, 27, 28, 29

³⁰ Interviews #18, 19

³¹ Interviews #25, 32

that the observatory is funded and managed within the AREVA structure, which is seen to compromise its ability to provide independent expert opinion on radioactive exposure and health.³² In this view, the observatory has not addressed the complaints on lack of competent medical support to workers and provision of grievance procedures for workers, who have fallen ill during their employment with the AREVA Group. Several reports also shared of a lack of compensation for work-related illnesses. ROTAB staff expressed the situation as follows:

“Until now there have been no single case of work-related illness formally identified in the country...only one case has been identified; this was a worker who returned to France and fell ill there - he was identified to have a work related illness and received compensation...but in Niger, no! How come French workers are returned to France after six months to avoid long term exposure [while] workers from Niger are not protected in this way?”³³

Box I. The case of the EIA for Imouraren SA

Many of the issues were during the field visit acutely expressed in regard to the controversy associated with the EIA for the new AREVA mining operation at Imouraren. NGOs criticized the AREVA Group for non-compliance with the procedures on EIA: The assessment had made no mention of the intention to apply lixiviation techniques (i.e. controlled leaching of acidic substances) on the site, and one chapter had been presented in English (Nigerien law requires the document to be entirely in French to ensure the access to information). The rehabilitation plan had still not been made available by the deadline required by law, namely within three years from the signing of the mining permit in 2009. These complaints were publically communicated in a press release in *Sahel Dimanche* by the two NGOs AGHIR IN'MAN and CRIIAD (Daouda, 2012).³⁴ In its rebuttal in the same newspaper, Imouraren SA rejected all criticisms: The decision to increase the use of lixiviation emerged in response to new technical and economical analyses, and the treatment of all mineral extractions by lixiviation was expected to reduce the use of water resources in its processes. The company's technical tests had demonstrated a >90% retrieval rate of the chemicals from the sediments. It was also explained that the EIA would indeed be revised based on the changed treatment method, which in fact would lower the environmental impact. The English text was provided in an annex to the EIA, concerning the details on the lixiviation installation and not in the main text (Imouraren SA, 2012). While the debate between NGOs and mining companies took place, governmental agencies did not intervene to provide consolidated information to answer the questions – most of which thus appear unresolved.

³² Interviews #15, 16, 17, 22, 23, 24

³³ Interviews # 22, 23, 24

5.2 Appropriation of pastoral land and natural resources

NGOs and civil servants broadly consented that the common property regime for pastoralism and livestock herding was proving ineffective in protecting pastoral land claims. In this view, pastoral territories are extensively appropriated by the state for mining purposes without relinquishing the required compensation.³⁴ In effect, the common property regime is by default interpreted as state property without respect for the use rights granted with the pastoral legislation. Some quotes from the interviews may serve to clarify the concerns expressed:

“The approach of the state is based on a lack of respect for pastoral rights - they don’t feel obligation to respect the Zone Pastorale”.³⁵

“The rights of the livestock herders are hardly ever taken into consideration... the land is considered as public lands of the state”³⁶

“...if there is no agricultural activity then land is considered as unused and open for exploitation. Pastoralism is ignored, and mining proceeds throughout the Zone Pastorale”.³⁷

“...we are not against the extraction, or the international corporations – but we are in favour of a system where there is a place for everyone; for a co-existence between the mines and the herders”.³⁸

NGOs reported how the state gives advantage to settled agricultural communities, vil-

lage chiefs and commune executives while disregarding pastoral rights. Complaints were aired that pastoral enclaves and livestock corridors are often-times sold off by heads of agricultural communities. While a village may mobilize to negotiate with the corporations to ensure compensation for the loss of land, pastoral groups are disadvantaged through their transient presence.³⁹ Indeed, AREVA explained that they have to date not involved any pastoral NGOs in their local partnerships.⁴⁰

The appropriation of land may be commenced with the first prospection activities, with the eviction of people and/or disturbance of livestock herds through the use of heavy vehicles and military escorts. There are also reports on military personnel hunting freely in protected areas and on endangered wildlife.⁴¹ During extraction, waste bins and toxic dumps have been discovered by herders, deciding to vacate the zones because of concerns with animal and human health. The roads constructed for transport, which are transecting traditional pastoral land, have killed both animals and children.⁴² Mining corporations may prohibit livestock corridors on their perimeters and the newly constructed oil pipelines effectively block livestock migration routes. These impacts of the expansion of mining activities, combining with simultaneous expansion of agricultural activity, are pushing herders further north to avoid conflicts and find available land areas with less forage and scarcer water resources.⁴³

The degree to which the expanding mining research, prospection and exploitation in-

³⁴ Interviews #11, 12, 15, 16, 17, 26, 27, 28, 29

³⁵ Interviews #27, 28

³⁶ Interviews #11, 12

³⁷ Interview #29

³⁸ Interview #26

³⁹ Interview #29

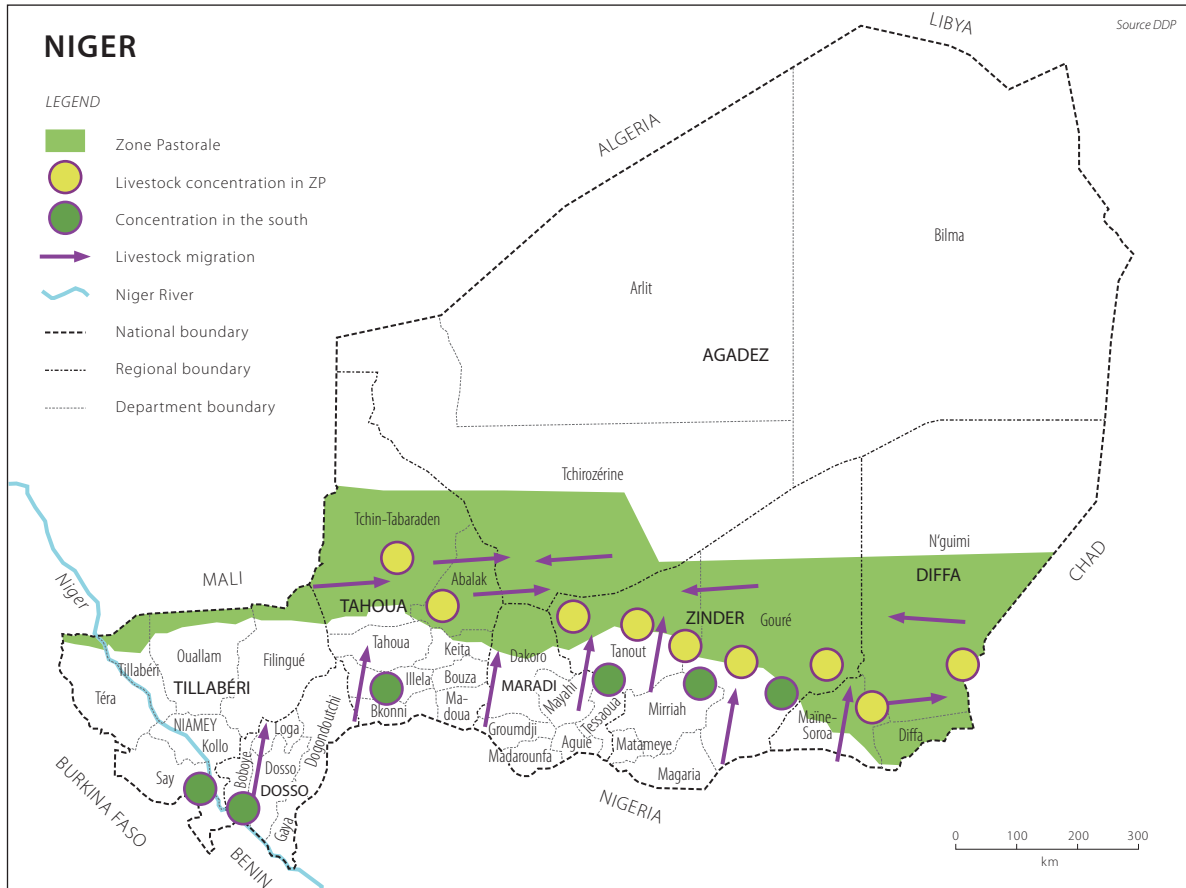
⁴⁰ Interviews #18, 19

⁴¹ Interviews #26, 30

⁴² Interview #26

⁴³ Interviews #27, 28

Figure 7. Concentration of livestock herds and their movements as of 20 July 2011



Courtesy of CAPAN

fringes on what has traditionally been pastoral land can be partly discerned from a comparison of the cadastral map held by the Ministry of Mines and Geology (Figure 1) and the map showing livestock concentrations and migration, held by CAPAN (the umbrella organization for all pastoral NGOs in Niger) (Figure 7). As can be witnessed, mining activities are carried out on a significant part of the *Zone Pastorale*, as well as in livestock corridors in the agricultural zone. Further, one must consider the considerable livestock herding activity – and pastoral way of life – north of the *Zone Pastorale*. From the count of livestock vaccinations carried out in 2011 (CAPAN, 2012) one observes that the region

of Agadez hosts close to 15% of the over 5 million bovines, 1% of small ruminants, and 14% of camels of the national total. It is similarly explained that while the major livestock corridors are located further south, significant seasonal movements occur way north in Arlit, critically dependent on groundwater aquifers, oases and springs.⁴⁴ Also the FAO Country Profile for Niger notes the reliance of transhumance on the département of Arlit (FAO, 2001). Clearly, the northernmost region, where the uranium mines are located, is considered an important habitat for pastoral peoples and their livestock (see also Box 2).

⁴⁴ Interviews #26, 27, 28, 29

Box 2. The case of the area of Azawak, Tamesna, and the Vallée de l'Irhaser

Some parts of the common pastoral property regime play a particularly important role. As narrated by one pastoral NGO director, the area of Azawak, Tamesna, and the Vallée de l'Irhaser contains sediments that contain high salt concentrations, serving as an important source for livestock. Herders bring their animals to this area in the period July-September to let their animals drink from the salt-rich waters. The Cure Salée, a feast to celebrate and benefit from the once-per-year encounter between pastoral and transhumant tribes and peoples, is held in September. This provides an occasion for nomads to exchange valuable information on pastures, weather conditions, and the lives of relatives and friends (see also Joseph, 2008). In 2011, the new Chinese uranium mining operations in Azelik were commenced, only 20 km from the area hosting invaluable resources and forming the base for this critical socio-environmental pastoral institution. This exemplifies how the uranium mining infringes on livelihoods and land rights, and how such impacts can only be understood in recognition of local geographies and pastoral ways of life.

5.3 Weaknesses in government capacity

The complaints from civil society organizations and civil servants were rejected by the representatives from the uranium mining corporations. Staff in the AREVA Group acknowledged that in the early years of the mining operations there was less regard of the environmental risks, and the radioactive waste was often placed directly on the soil and allowed to pollute sediment and water bodies. However, it was explained that this practice has now changed and that all na-

tional legislative requirements are indeed followed.⁴⁵ In fact, the credibility of the NGO complaints regarding non-compliance with environmental regulations was questioned, with the AREVA Group perceiving such criticism as part of a strategy to pressure the companies to increase the financial support to local development projects.⁴⁶

Notwithstanding, all interviewees for this study, irrespective of affiliation, acknowledged that considerable shortfalls exist in the capacity of the public administrations to monitor and guarantee compliance. This critique, variously expressed, centered on five areas with significant implementation challenges: 1) the repartition of revenue in the mining zones to support environmental management, 2) the implementation of the pastoral law and the land tenure reform to safeguard resource rights, 3) the application of the EIA procedures, 4) general capacity constraints in governmental agencies pertaining to environmental enforcement, and 5) ambiguities or weaknesses in the legislative framework *per se*.

As concerns *the repartition*, it was commonly expressed that the communes have considerable challenges in applying the principles of revenue allocation. Communes are seen to allocate the funds to cover staff salaries or military expenses (in addition to the funds lost through corruption), rather than following the mandated principles of allocation. In some cases, the proper procedures were undermined by conflicts between people and between communes struggling to secure the finances.⁴⁷ As expressed by the Director General of the Ministry of Interior: "...there is a lack of human resources, and the

⁴⁵ Interviews #18, 19, 20, 21

⁴⁶ Interviews #18, 19, 20, 21

⁴⁷ Interviews #15, 16, 17, 20, 21, 22, 23, 24, 25

logistics are missing. There is a need to strengthen the capacity. In particular there is a problem with elitism that has to be addressed. In many communes... mayors cannot even read or write".⁴⁸ When receiving project proposals from communes in the mining zones, the AREVA Group has found that many are linked to narrow interests and not representing the public interests of the commune constituency. A well recognised underlying reason for the weaknesses in the local administrations is the nascent nature of the decentralisation reform and that the communes, just as the Département and Régions, were only created in 2004. Sub-national administrations in the mining zones are often not prioritized.⁴⁹ Also national agencies suffer from the financial constraints. For instance, in the Ministry of Mines and Geology, the ONAREM has not recruited one single new staff during the last 15 years.⁵⁰ Given the limited government capacity to monitor compliance and implement local development objectives, NGOs play an important role as local development partners to the mining corporations. However, corporate staff has found that such collaboration is constrained by a lack of coordination between NGOs, where involvement of some may lead to criticism from others. More recently, the AREVA Group has observed that the communes are starting to find their feet and take their mandated role, thus gradually replacing the NGOs as the primary dialogue partners for the mining corporations.⁵¹

As regards the protection of *pastoral land and natural resource rights* it was generally explained that the pastoral law and related land tenure

reform is encountering much inertia in its implementation. Notably, despite the passing of the Pastoral Law in 2010, there is yet no implementing decree. This is seen to handicap the government staff and prevent the application of the law in court cases. Pastoral NGOs explained that the inertia partly owes to resistance from actors with an interest in blocking the implementation of the law, since it threatens their privileged claims to land and resources secured through force.⁵² In practice it has proven rather complex to sanction pastoral use rights legally, preventing claims for compensation by pastoralists upon encroachment by mining operations. Few, if any, pastoralists have yet applied for legal recognition of their *terroirs d'attache*. If the claim is already recognized locally then few people will bother with the registration, and if the claim is disputed then experience has shown that legal recognition will not be granted.⁵³ According to the national Secretariat of the *Code Rural* close to 80% of local land rights commissions are established, but the 20% missing is mainly in pastoral territories:

"The northern regions are the last parts [of the country] covered by the implementation of the Code Rural. Its Comités Foncières are not yet in place... they lack capacities and information, and many don't have logistics. For instance, in all northern regions there is no single vehicle to support visits and travels... it has also been influenced by the security conditions since the Code Rural has been primarily implemented through foreign partners [who have recently avoided the northern mining zones]".⁵⁴

⁴⁸ Interview #7

⁴⁹ Interview #7

⁵⁰ Interview #3

⁵¹ Interviews #18, 19

⁵² Interviews #27, 28, 29, 30

⁵³ Interviews #11, 12, 29, 31

⁵⁴ Interviews #11, 12

One particularly problematic area concerned *the application of the EIA procedures*, acknowledged to be associated with considerable difficulties by both NGOs and civil servants.⁵⁵ One major criticism from NGOs was that assessments often are partial and exclude important impacts on local populations, their livelihoods, and natural resources such as water bodies. In this regard, it was frequently acknowledged that the regard for pastoral land claims was very limited (see also CARE Niger, 2009). The compulsory public consultation was seen to commonly be very opaque, with civil society organizations struggling to access the documentation. However, it was also acknowledged that many NGOs lack competence to assess the highly technical EIA documentation, inhibiting their ability to properly monitor the application of the regulations.⁵⁶

As expressed by one program manager, describing a recent case: “[*the local population*] never saw the EIA, it was only presented [*verbally*] in a hearing, which was not really consultation but more a presentation and the people involved seemed to know little about the assessment”. NGOs also explained that an underlying reason for the ignorance of considerable environmental impacts is that project promoters are allowed to prepare selective TORs for consultants and that the Environmental Impact Assessment Bureau (BEEI) has limited capacity to validate the draft TOR. For instance, possible impacts on pastoral land and resource rights will be assessed in a separate document to the EIA core text only if this is specifically requested through the TOR. The existence of these challenges was confirmed by civil servants, with one centrally placed ministry staff commenting:

“The EIA process [depends on] coordination between the Ministry of Mines and Geology and the BEEI, but the latter is often very slow in responding and they lack financing to undertake their work... the practical question of implementation is... difficult”.

The Director of the BEEI was acutely aware of the criticisms from civil society and explained that:

“...This is why the civil society criticizes us and believes we are negligent, but we just don't have the resources to carry out all steps and procedures. Currently, there is one person in place in the bureau to verify and respond to all mining project applications. This has been the situation since 2000. It means that it is unfortunately not possible to undertake all verification missions...”⁵⁷

The Director of BEEI further explained that their representatives in the regional governments suffer from a shortage of staff and technical equipment, including the absence of equipment to monitor radioactivity and trained specialists. He also acknowledged that they have not yet had the capacity to develop standard guidelines on TOR preparation, which means TORs are written on a case by case basis by project promoters.

The general concern regarding limited *law enforcement capacities in government agencies* was also expressed by corporate staff. In several cases the mining corporations fund and otherwise support the training of the very agency staff with the mandate to monitor their operations.⁵⁸ As expressed by one staff in the

⁵⁵ Interview #3

⁵⁶ Interviews #15, 16, 17

⁵⁷ Interview #9

⁵⁸ Interviews #18, 19

AREVA Group: “Those who come to monitor our activities don’t... have the required competences...”.⁵⁹ One ministry civil servant commented, concerning the reliability of procedures for radioprotection:

“[We] should really have ‘contra-expertise’ and undertake measurements independent from the companies’ own assessments... The state ought to have its own data... but on the ground there is not even a laboratory. [We] once tried to undertake samples together with the companies, but the results were not in accord...! We don’t even have resources to analyze water samples...”

Similar capacity constraints were faced by the CNRP. The legislation on radioprotection mandates the agency to undertake surprise inspections (*inspections inopinés*). However, such inspections have not yet been practiced because of the need to economize with available resources. For the general (annual) inspections, conducted jointly with the mining operators, no common standard for control is applied.⁶⁰ NGOs frequently criticized the CNRP for negligence and lack of independent controls. The pastoral NGOs also explained that while pastoral organizations have mounting concerns regarding the impacts of radioactive pollution on their livestock, they did not find that CNRP was equipped to monitoring the risks pertaining to livestock.⁶¹

A number of *ambiguities in the environmental regulations* were identified by the interviewees. Most notably, this included that the stipulation with regards to rehabilitation of min-

ing sites in the *Code Minier* was too vague, without sufficient detail as to what level of rehabilitation is required and how actions shall be evaluated.⁶² This was confirmed by civil servants, explaining that there is yet no qualified mechanism to monitor corporate implementation of rehabilitation plans. Further, finances for rehabilitation are managed entirely by the company in question and the state is not able to verify if the expected actions have been undertaken. Civil servants in the Ministry of Mines and Geology noted that this question will likely be addressed as part of the forthcoming revision of the *Code Minier*.⁶³ Moreover, the specification of norms for environmental protection defining what constitutes pollution is not yet undersigned by the minister. This means that surveillance does not have a reference document for enforcement.⁶⁴ Further, work-related illnesses experienced by uranium mining staff are not officially recognized by the Ministry of Health. This prevents mine workers from receiving compensation and medical treatment.⁶⁵

6. DISCUSSION

The uranium mining sector plays a critical role in the Nigerien economy, generating considerable economic revenue for the state, which since 2007 is championing an ambition to return 15% to the affected zones. On top of this, companies contribute with their own voluntary budgets to local development. Altogether, this provides a substantial po-

⁵⁹ Interviews #20, 21

⁶⁰ Interview #13

⁶¹ Interviews #27, 28

⁶² Interviews #1, 2, 20, 21

⁶³ Interviews 1, 2

⁶⁴ Interview #9

⁶⁵ Interviews #22, 23, 24

tential source of funding for development initiatives, as recognized for instance in the foreseen budget for the implementation of the “3N Strategy” in addressing the urgent issues of food security and poverty (High Commission of the Initiative 3N, 2012). Still, Niger’s revenue from the industry represents only close to 20% of the crude export value, which, in turn, dwarfs the development assistance finance received. For instance, in 2010 the export value of uranium represented more than twice the development assistance finance. Further, given the criticism of the weaknesses in the actual practice of the principles of revenue repartition, it is unclear to what extent the revenue is spilling over into larger societal benefits, in particular for the rural populace experiencing environmental and health impacts of the sector at first hand.

This study has found that Niger has seen the elaboration of a considerable legislative and formal institutional framework for the environmental governance of the uranium mining sector. This includes the provisions contained in the *Code Minier* and the assessment of environmental impacts and measures for radioprotection. It also includes the land tenure reform and recently the Pastoral Law with its recognition of use rights for herders and transhumants. These advances are noteworthy and can be credited to the substantial efforts of committed people both within and outside government.

Development cooperation has contributed to fostering many of the advances in the general legislative and institutional framework, which today provides the foundation for environmental governance in the sector. These contributions include 1) the decentralization and land tenure reform and the legal recognition of pastoral rights, 2) the building of general administrative capacity in the

mining sector, 3) the facilitation of revenue transparency through the EITI, 4) specific capacity building for medical services and waste and water management in the mining zones, and 5) funding to civil society organizations engaged in monitoring environmental impacts and building local institutional capacity. However, it appears that the engagement of mining corporations in pushing for higher standards and the conformity with international norms may have been at least equally important in stimulating governance improvements. In the same vein, the recent ability to secure improved state revenue from the industry is said to be determined principally by international market competition and price fluctuations.

6.1 Grave environmental governance issues

Despite this formal administrative framework, the uranium mining sector, and the mining sector in general, is operating in the face of severe grievances from affected local populations and transhumant and pastoral peoples. While there are few consolidated accounts of these impacts publically available to date, the primary evidence from the interviews in this study shows the gravity of the situation as perceived by a range of the key actors directly implicated in the mining zones. In the critique offered by the interviewees in this study, the existence of these impacts was explained primarily by deficiencies in the public administration, including considerable constraints in implementing the legislative and institutional framework. There was contention from corporate staff with regards to the impacts born and that the industry in fact complies with all government regulations. Yet, interviewees irrespective of their affiliations as civil servants, NGO staff

or corporate executives were unanimous in spelling out a range of serious weaknesses in the ability to monitor and thus sanction claims to compliance.

The specific challenges pertaining to the environmental governance in the uranium mining sector forms part of the considerable implementation constraints previously observed in the country. Referring to the environmental legislation in general the Government of Niger (2000) noted that “... *these texts’ application often suffers from numerous breaches, namely because of lack of complementary texts and lack of a concerted institutional follow up and evaluation framework*”. This includes limited monitoring of environmental impacts, status and natural resources (Government of Niger, 2010). The recognition of these challenges appear also in a report from a consultancy mission commissioned by the EU, identifying under-resourced public services, notably in the decentralized governments, insufficient translation of legal provisions into regulatory structures, incoherence between plans and strategies, and competition between state institutions (Agrifor, 2006).

The decentralisation reform and the innovations in the pastoral legislation have spelled out much-needed improvements in clarifying the formal structures for mediating land tenure and resource claims (e.g. Bolwig et al., 2009). However, it is well known that the reform still requires substantial support in order to be effective. While the communes have received extensive mandates, a serious capacity gap remains in terms of handling these responsibilities. Other studies have previously documented how the land tenure reform and registration of rural land claims, in particular for pastoralists, have encountered much inertia. Detailed evidence in this regards is provided by Benjaminsen et al. (2008), showing how the implementation of reform itself

has at times worked against its original objectives. This includes that the low institutional capacity of governance agencies have opened for struggles between competing claim-holders, where formal rights of male agriculturalists generally have had preference.

While the Pastoral Law has outlined progressive regulations to protect the rights of livestock herders and transhumants, the actual formalisation of use rights into *Terroirs d’Attache* appears to be almost non-existing, and the state and corporations are critiqued for showing little if any respect for these rights. In a wider historical perspective, the appropriation of pastoral land for mining activities must also be linked to the inconsistent role of the state towards pastoral livelihoods. Concerned NGOs have reported numerous unresolved cases of physical violence, harassment, individual murders and collective assassinations among pastoral peoples over the last decades (Zakara et al., 2011; Collectif Tchinchaghen, 2008).

Studies of extractive industries and the operation of MNCs in developing countries have often-times been framed in relation to the hypothesis of a ‘resource curse’, i.e. that there is more motivation to suppress democratic institutions when quick monetary gains can be made on centralized resource exploitation through extractive industries (Harford and Klein, 2005). Still, efforts to identify statistical correlations between mineral wealth and the democratic quality of governmental institutions have provided inconclusive results (Brunnschweiler and Bulte, 2008). This should not be surprising since governance comprises of complex social contingencies. The de facto performance of institutions can hardly be studied only by means of quantitative science.

Rather, the present study supports the argument recently put forward by Dam and

Scholtens (2012) that what is at stake is a “*curse of poor institutional quality*”. In this view, CSR guidelines and voluntary ‘good governance’ initiatives, as exercised by the uranium mining corporations in Niger, should be credited for their good intentions. Indeed, elsewhere some positive examples are available where CSR standards and awareness of international conventions, such as the International Labour Organisation’s (ILO) labour standards and the UN Human Rights Charter have enabled local leaders to mobilise and prompt the industry to take action (e.g. Hallboom, 2012). However, the ISO standards applied by corporations in Niger are limited in their scope; they refer only to compliance with national legislation and do not provide an international objective baseline against which to audit compliance.

When considering corporate business models in general, research has found that espoused principles are in fact rarely internalised in practice (Slack, 2011). In this regard, Campbell (2012) argues, with regards to the African mining industry in general: “*No quantity of CSR can correct ... deeply rooted and country-specific structural issues. Rather current approaches to CSR tend to reproduce the shortfalls of the past disaggregated agendas imposed by external actors, to the detriment of the appropriation of coherent inter-sectoral social and economic development objectives and their implementation through public policies*”.

6.2 The ‘crisis narrative’

By and large, development cooperation to Niger over the last decade has, in budgetary terms, been principally focused on the immediate issues of food insecurity, disaster risk reduction and recovery, population growth, and the provision of basic public health and social services. Meanwhile, the few activities that have explicitly attended to the environ-

mental issues associated with the mining sector represent a minimal fraction of the aid budget. There is little evidence that development cooperation has undertaken support through capacity building in the area of environmental governance of the mining sector, such as to the CNRP and BEEI, despite clear resource deficiencies being articulated. As shown, the main orientation has been towards other sectors, and the bulk of the interventions in the mining sector have supported further diversification and expansion of operations with relatively limited emphasis on ensuring the environmental and social safeguards.

How come the environmental issues associated with the uranium mining sector in Niger appear to have been overlooked by development cooperation partners? That is, why has environmental governance of the uranium mining sector received so limited attention relative to the general aid portfolio, and even the support to diversification and expansion of the mining sector? Arguably, there is something wrong when development cooperation funding to the promotion of the mining sector is in fact further aggravating the development challenges, which other arms of donor agencies are concerned with resolving. Lack of consolidated monitoring information cannot be an explanation; development cooperation frequently reacts to anecdotal evidence in the launch of environmental programmes, influenced by the intractable uncertainties surrounding environmental issues and the underlying world views shaping the definitions of environmental problems (Levine, 2002; Davies, 1992; Sato et al., 2011).

Rather, one reason may have to do with the general perspective that development cooperation has adopted on Niger. An existing body of research into Niger’s environmental governance has pointed to a selective em-

phasis of development cooperation on food security, population growth, and desertification. Shaped by the veracity of, and attention drawn to, hunger and food insecurity in Niger – and in the Francophone Sahel at large – development cooperation interventions in the past decades have been largely based on a narrative rooted in a ‘crisis orthodoxy’, notably evoking climatic change, population growth and environmental degradation as key causes (Mortimore and Adams, 2001). Through the years, this has stimulated projects and programmes with emphasis on food aid, anti-desertification strategies through afforestation and sustainable agricultural practices. The reliance on food aid and creation of dependency on external inputs to farming (such as fertiliser) has partly worked contrary to its espoused objectives and in many cases actually undermined local food production and self-sufficiency. For instance, the gradual constraining of livestock herding has served to reduce endogenous nutrient cycles driven through the grazing and mobility of livestock (La Rovere et al., 2008).

Through this ‘crisis orthodoxy’, development cooperation has often-times emphasised technical climate change adaptation measures in order for Niger to achieve sustainable development (e.g. Government of Niger, 2006b). In the Sahelian region in general, the countries’ anti-desertification action plans continue to emphasise techno-centric adaptation strategies at the expense of recognition of the active role potentially played by the ‘vulnerable’ groups themselves (Tschakert, 2007). While the facts on food insecurity and hunger are sadly undeniable, their interpretation through linear and deterministic causal assumptions between climate variability and societal conditions is problematic. It ignores that in the Sahel, as in other semi-arid locales, extreme climate variability is the norm,

and assumptions regarding a straightforward causal relationship between climate change and the impacts on human livelihoods in the Sahelian region disguise the role played by adaptation strategies and coping capacities (Batterbury and Forsyth, 1999; Thébaud and Batterbury, 2001; Nielsen and Reenberg, 2010; Nielsen and Vigh, 2012). These in turn depend on a wide range of environmental, economic and social change experienced by the population, mediated by the more or less adequate institutional arrangements put in place by the government, corporate actors and foreign development partners.

6.3 A convenient blind spot?

The mobilisation of dystopian accounts of climate change and environmental degradation has elsewhere been used to explain governance failure and motivate centralistic and techno-centric development programs, while removing attention from the vested interests of donor countries and elites in the host countries (Verhoeven, 2011; Leach and Fairhead, 2000). From this perspective, there is a risk that the ignorance of mining-related environmental issues and the crisis discourse on desertification and food insecurity may serve as instruments to divert attention from geopolitical interests in the country’s mineral wealth. Indeed, with the growing international interest in exploiting Niger’s mineral wealth, it seems that complementary narratives must be evoked.

Donor countries that are critically dependent on nuclear energy comprise some of the principal importers of Niger’s uranium ore. The uranium mining sector is thus intricately linked to the geopolitical energy security interests of some donor countries. Indeed, the three donor countries most heavily engaged in the support to the diversification of the

mining sector are all uranium dependent with large nuclear energy sectors (France, Japan, Canada). Such countries may prefer to import uranium ore from Niger rather than mine the geological deposits known to exist on their own territory. For instance, while the majority of the uranium deposits in European countries have been depleted, deposits are said to remain dormant and unexploited, for instance in France (IAEA, 2009). A growing number of local and indigenous resistance movements in industrialized countries have been empowered to successfully protest against the negative impacts of uranium mining (e.g. Conde and Kalis, 2012). While development assistance has made substantial contributions through legislative frameworks and civil society capacity building, marginalized rural locales in low-income countries such as Niger arguably still struggle to obtain a similar voice.

When robust and transparent problem identification is missing from donors' country analyses and strategies, then one may wonder about the trustworthiness of existing prioritisation. In particular, when it comes to the international exploitation of Nigerien uranium, it opens for speculation that vested geopolitical objectives of donor countries are influencing the demarcation of development cooperation interventions. Indeed, it has previously been suggested that European and, perhaps in particular, French development cooperation includes security objectives where aid is not expected to be altruistic (SEE, 2010). Similarly, it has previously been acknowledged that while progress has been achieved, development cooperation still suffers from shortfalls in the donor's problem diagnosis (Böjo and Reddy, 2003). Concerns have also been expressed that OECD countries represented in the Development Assistance Committee (DAC) fall short of applying

their own guidelines for environmental policy integration, mainstreaming and impact assessment (e.g. OECD, 2000). There are also documented examples of donors' political decisions being made to fulfil the desires of national audiences rather than the interests and needs of the population in the recipient countries (e.g. Brunbech, 2011).

7. CONCLUDING REMARKS

The present study suggests that the development cooperation to Niger has provided important contributions to general environmental governance, helping to improve both legislative and institutional structures and, to a lesser extent, their implementation. However, the approach to environmental issues associated with uranium mining, and mining in general, has been ambiguous. It is argued that the grave environmental governance issues associated with uranium mining have so far represented a 'blind spot' in the aid portfolio. Underlying reasons may have to do both with how the development challenges of the country are construed and with vested geopolitical interests of donors.

The implementation constraints faced in Niger's uranium mining sector is not surprising in the context of a country which is struggling with underfinanced public institutions and one of the world's highest levels of poverty. However, it does suggest that corporate claims to compliance are not, at present, verifiable through the government regulatory mechanisms and that severe grievances are left unaddressed. This ought to present a convincing argument to proactively consider how development cooperation may strengthen both its formal recognition of the issues and its concrete support through fund-

ing allocations and technical interventions to help the Nigerien government improve policy implementation. Given the considerable resource and capacity constraints identified in government agencies responsible for the enforcement of the legislative frameworks, there is an open door for development cooperation to clarify its priorities and step up its support.

As regards its uranium mining sector, Niger is pitted in a difficult situation. After close to five decades of co-evolution between the industry and the nation building of the state, the national government has become economically dependent on the revenue. The Nigerien executives have expressed the urgency of increasing tariffs and strengthen oversight with corporations. However, Niger is competing with other low-income countries eager to attract investors, and also depend on the technical know-how of mining corporations.

What opportunities could be seized in the future strategies and programs? The new Nigerien development strategy, which shall guide donor support (the PDES), emphasizes multiple aspects of the mining sector, ranging from further diversification to the quality of its governance. With regards to the latter, this should be interpreted as an invitation from the Nigerien government to development cooperation donors. However, in the PDES marginal commitment is expressed regarding the environmental and human health impacts of the industry. Nor does the recent Presidential announcement on the efforts to renegotiate revenue shares with mining companies show an awareness of such priorities. In forthcoming negotiations, following the multi-donor Roundtable held in November 2012 in Paris, there will thus be a need to carefully interpret the strategy and the obligations of Niger's international development

partners. It could be hoped that the concerns expressed in this report, from people experiencing the impacts of the uranium mining industry first hand, will be included in the priority list for this negotiation.

There are also opportunities for development cooperation partners and agencies to exert their mandate in home countries. Through its Policy Coherence for Development agenda, donor regions such as the European Community have espoused a commitment to intervene not only in the host countries of extractive industries, such as in Niger, but equally within their own political systems if their actions are proven to have detrimental impacts abroad. This objective ought to receive specific attention in donor countries relying on imports of uranium ore from Niger. This should serve to alleviate what at present appears as a conflict of interest in their engagement in the Nigerien uranium mining sector. Inspiration may here be drawn from recent guidelines for the supervision of MNCs adopted by the United Nations (in "Protect, Respect and Remedy: a Framework for Business and Human Rights"), which encourage home governments to take improved responsibility for the extra-territorial actions of their registered corporations.

REFERENCES

- Abdou, I. (2012): Identification des variables clés en vue d'anticiper le changement dans l'industrie extractive : Analyse structurelle (Identification of key variables in order to anticipate the changes in the extractive industry: Structural Analysis). Institut, de Strategie, d'Evaluation et de Prospective, Niamey.
- Agrifor (2006): Profil environnemental du Niger (Environmental profile of Niger). Final Report, April. Retrieved from: http://ec.europa.eu/development/icenter/repository/Niger_CEP_2006.pdf.
- AfDB (2010): Groupe de la BAD et le Niger Ensemble pour gagner la bataille du développement (AfDB and Niger set to win the battle for development). Retrieved from: <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/NIGER%20profil%20OK.pdf>.
- AfDB and OECD (2008): African Economic Outlook, Niger. Retrieved from: <http://www.oecd.org/dataoecd/13/4/40578324.pdf>.
- Araujo, C., Araujo-Bonjean, C., Brunelin, S. (2012): Alert at Maradi: Preventing Food Crises by Using Price Signals. *World Development*, in press.
- AREVA (2011): AREVA et le Niger, un partenariat durable. Engagements pour une croissance responsable (AREVA and Niger, a lasting partnership. Commitment to responsible growth). Retrieved from: <http://www.aveva.com/FR/activites-592/un-partenariat-durable-avec-le-niger.html>.
- AREVA (2012): Investissements sociétaux dans la Région d'Agadez (Societal investments in the Agadez Region). Internal summary, AREVA, Niamey.
- Barlow, R. and Snyder, W. (1993): Taxation in Niger: Problems and Proposals. *World Development* 21(7): 1179-1189.
- BEEEI (Bureau d'Evaluation Environnementale et des Etudes d'Impact) (2005): *Recueil des textes législatifs et réglementaires sur l'évaluation environnementale et les études d'impact* (Collection of legislative and regulatory texts on environmental impact assessment). Ministère de l'Hydrolique, de l'Environnement, et de la Lutte Contre la Dessertification. Republic of Niger, Niamey.
- Benjaminsen, T. A., Holden, S., Lund, C., and Sjaastad, E. (2008): Formalisation of land rights: Some empirical evidence from Mali, Niger and South Africa. *Land Use Policy* 26: 28–35.
- Bigotte, G., and Obellianne, J. M. (1968): Découverte de minéralisations uranifères au Niger (Discovery of uranium mineralisation in Niger). *Mineral. Deposita* (Bed.) 3: 317—333.
- Bolwig, S., Cold-Ravnkilde, S. M., Rasmussen, K., Breinholt, T., Mortimore, M. (2009): Achieving sustainable natural resource management in the Sahel after the era of desertification: Markets, property rights, decentralization, and climate change. DIIS Report 2009:7.
- Brunbech, P. Y. (2011): The Poor of Noakhali: Danish Development Assistance Policy and Rural Development in Bangladesh. *Contemporary European History* 20 (2): 183–205.

- Brunnschweiler, C. N. and Bulte, E. H. (2008): The resource curse revisited and revised: A tale of paradoxes and red herrings. *Journal of Environmental Economics and Management* 55: 248–264.
- Böjöö, J. and Reddy, R. C. (2003): Status and Evolution of Environmental Priorities in the Poverty Reduction Strategies. An Assessment of Fifty Poverty Reduction Strategy Papers. Environmental Economics Series, paper no. 93. World Bank.
- Campbell, B. (2012): Corporate Social Responsibility and development in Africa: Redefining the roles and responsibilities of public and private actors in the mining sector. *Resources Policy* 37: 138–143.
- CAPAN (Collectifs Agro-Pastoral Au Niger) (2012): Carte de chiffre de vaccination (Map of vaccination numbers). CAPAN, Niamey.
- CARE Niger (2009): Rapport de l'atelier sur la validation de l'étude d'impact environnemental et social du Projet Pétrolier du Bloc d'AGADEM (Report of the workshop on the validation of the study of environmental and social impact of the Project Oil Bloc Agadem). Internal report.
- Capus, G., Bourrellier, P., Souley, M. (2004): Uranium Mining in Niger; Status and Perspectives of a Top Five Producing Country. Paper presented at the World Nuclear Association Annual Symposium 8-10 September 2004 – London.
- Chambre de Commerce, d'Industrie et d'Artisanat du Niger (undated): Investir au Niger (Invest in Niger). Retrieved from: <http://www.droit-afrique.com/images/textes/Niger/Nigerper cent20-per cent20Guideper cent20investirper cent20Niger.pdf>.
- Checkland, P., & Scholes, J. (1999). *Soft Systems Methodology in Action*. New York: Wiley
- Cold-Ravnkilde, S. (2012): While We Wait for Equal Trade. How the EU can Support Rather than Undermine Local Dairy Producers in Niger. Report commissioned by CARE DK and Billital Marobé. Retrieved from: http://pressemeddelelse.info/e10/parker/pm/2f4f8643a7cbf7e6/mc110603/download/f817c5_milk_report_low.pdf.
- Collectif Tchinquagen (2008): La malédiction de l'uranium - Le Nord-Niger victime de ses richesses (The curse of uranium - North-Niger victim of its wealth). Retrieved from: <http://www.terra.org/data/dossierniger.pdf>.
- Cominak (2011): *Rapport Environnementale, Social et Sociétal 2011. Compagnie Minière d'Akouta* (Environmental, social and societal report. Mining company Akouta). Cominak, Niamey.
- CNC (Commissi e Nationale de Concertation of the ITIE) (2009): Rapport de mission de verification de la collecte et de la reconciliation des revenus miniers et petroliere (Report from the verification mission on the collection and reconciliation of mining and petroleum revenues). Revenu 2005-2006.
- CNC (Commissi e Nationale de Concertation of the ITIE) (2011): Rapport de mise en oeuvre 2011 (Implementation report 2011). Rapport de mise en oeuvre 2011.

- Conde, M., Kallis, G., (2012): The global uranium rush and its Africa frontier. Effects, reactions and social movements in Namibia. *Global Environmental Change* (in press).
- Council of the European Union (2011): EU resumes full development cooperation with Niger. Press release 185, 20 June 2011. Retrieved from: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/122909.pdf
- Dam, L. and Scholtens, B. (2012): The curse of the haven: The impact of multinational enterprise on environmental regulation. *Ecological Economics* 78: 148–156.
- Daouda, H. (2012): Conférence de Presse de l'ONG AGHIR IN'MAN (Press conference of the NGO AGHIR IN'MAN). *Sabel DimancheI*, 3 Sept. 2012.
- Davies, S. (1992): Green conditionality and food security: winners and losers from the greening of aid. *Journal of International Development* 4 (2): 151-165.
- Denton, F., Sokona. Y., Thomas, J. P. (2001): *Climate change and sustainable development strategies in the making: What should West African countries expect?* Retrieved from: <http://www.oecd.org/dataoecd/22/15/1934776.pdf>.
- de Jode, H. (ed.) (2010): Modern and mobile. The future of livestock production in Africa's drylands. IIED and SOS Sahel International UK. Retrieved from: <http://pubs.iied.org/pdfs/12565IIED.pdf>. ECHO (2012): Humanitarian Implementation Plan (HIP) Sahel Region Of West Africa. <http://ec.europa.eu/echo/files/funding/decisions/2012/HIPs/sahel.pdf>.
- EITI (2012): <http://eiti.org/about>, accessed December 2012.
- European Commission (2008a): *Document de Stratégie Pays & Programme Indicatif National. Période 2008-2013* (Country Strategy Paper & National Indicative Programme. Period 2008-2013). Final version.
- European Commission, (2008b): *Convention de financement entre la Commission et la République du Niger. Renforcement et diversification du secteur minier* (Financing Agreement between the Commission and the Republic of Niger. Strengthening and diversification of the mining sector). NIR/9999/000) VIIIème FED, Convention No. 6594/NIR.
- European Commission (2010): *Niger—Programme de Renforcement et de la Diversification du Secteur Minier (PRDSM)* (Niger – Programme for the Strengthening and Diversification of the Mining Sector). CRIS No. 2002/015-988 – 8 ACP NIR 054.
- FAO (United Nations Food and Agriculture Organization) (2001): *Country Pasture / Forage Resource Profiles – Niger*. Retrieved from: <http://www.fao.org/ag/AGP/AGPC/doc/Counprof/niger/niger.htm>.
- Government of Niger (1993): Code Minier (The Mining Code). Retrieved from: <http://faolex.fao.org/docs/pdf/ner85879.pdf>.
- Government of Niger (2000): National Action Program for Combating Desertification and Natural Resources Management. Report to the UNCCD. Retrieved from: <http://www.unccd.int/ActionProgrammes/niger-eng2000.pdf>

- Government of Niger (2003): La stratégie nationale et le plan d'action en matière de diversité biologique (The national strategy and action plan for biodiversity). Retrieved from: <http://bch-cbd.naturalsciences.be/niger/nerfra/strategie/sommaire.htm>.
- Government of Niger (2006a): Décret d'application de la loi minière (Implementing decree of the Mining Law). Decree n0.2006-265/PRN/MM/E of 18 August 2006. Retrieved from: <http://www.droit-afrique.com/images/textes/Niger/Nigerper cent20-per cent20Decretper cent20applicationper cent20loiper cent20miniére.pdf>.
- Government of Niger (2006b): National Adaption Program of Action. Report to the UNFCCC. Retrieved from: <http://unfccc.int/resource/docs/napa/ner01e.pdf>.
- Government of Niger (2009): Quatrième Rapport National sur la Diversité Biologique (Fourth National Report on Biological Diversity). Retrieved from: <http://www.cbd.int/doc/world/ne/ne-nr-04-fr.pdf>.
- Government of Niger (2010): Rapport National sur les Progrès vers l'atteinte des Objectifs du Millénaire pour le Développement (National Report on Progress towards achieving the Millennium Development Goals). Retrieved from: http://www.pnud.ne/Rapport_OMD_2010.pdf.
- Government of Niger (2011): Revue des Dépenses Publiques 2010 du Secteur Rural (Review of the Public Expenses 2010 in the Rural Sector). http://www.strategie-developpement-rural-niger.org/public/images/ressource/sdr22112011111857rdp_2010_web.pdf.
- Greenpeace (2010): Left in the dust. AREVA's radioactive legacy in the desert towns of Niger. Greenpeace International. Retrieved from: <http://www.greenpeace.org/international/en/publications/reports/Left-in-the-dust/>.
- Guidolin, M. and Guseo, R. (2012): A nuclear power renaissance? *Technological Forecasting & Social Change* 79(9) (2012) 1746-1760.
- Hallboom, B. (2012): The intersection of corporate social responsibility guidelines and indigenous rights: Examining neoliberal governance of a proposed mining project in Suriname. *Geoforum* 43: 969–979.
- Hesse, C. and Cutola, L. (2006): Climate change and pastoralists: Investing in people to respond to adversity. Sustainable Development Opinion, IIED. Retrieved from: <http://pubs.iied.org/pdfs/11059IIED.pdf>.
- High Commission of the Initiative 3N (2012): *Initiative "3N" pour la Sécurité Alimentaire et Nutritionnelle et le Développement Agricole – les Nigerien Nourissent les Nigériens* (Initiative "3N" for Food and Nutritional Security and Agricultural Development - the Nigerien nourish Nigerians). Strategy framework and estimated program for the period 2012-2015.
- IMF (International Monetary Fund) (2008): Niger: Stratégie de Développement Accéléré et de Réduction de la Pauvreté 2008-12 (Niger: Poverty Reduction Strategy Paper). IMF Country Report No. 08/149. Retrieved from: <http://www.imf.org/external/french/pubs/ft/scr/2008/cr08149f.pdf>.

- Imoureran SA (2012): Communiqué de presse (Press release). *Sahel Dimanche*, 14 Sept. 2012, p. 24.
- IAEA (International Atomic Energy Agency) (2009): World Distribution of Uranium Deposits (UDEPO) with Uranium Deposit Classification. IAEA-TECDOC-1629. Retrieved from: http://www-pub.iaea.org/MTCD/publications/PDF/te_1629_web.pdf.
- IEA (International Energy Agency) (2007): IEA Energy Technology Essentials – Nuclear Power, March 2007. Retrieved from: <http://www.iaea.org/techno/essentials4.pdf>.
- INS-Niger (Institut National de la Statistique) (2011): *Annuaire Statistique 2006-2010* (Annual Statistics 2006-2010). Ministry of Economy and Finance, Niamey.
- INS-Niger (2012): *Statistique du Commerce Extérieur 2007-2011* (Statistics on foreign trade 2007-2011). July 2012. Ministry of Economy and Finance, Niamey.
- International Standard Organisation (2012): ISO 14001:2004(en): Environmental management systems — Requirements with guidance for use (publically available summary). Retrieved from: <https://www.iso.org/obp/ui/#iso:std:iso:14001:ed-2:v1:en>.
- Joseph, A. (2008): *Culture en danger. Quand l'uranium menace le pastoralisme nomade* (Culture in danger. When uranium threatens the nomadic pastoralism). *Air-Info* 72, 5-20 March 2008.
- La Rovere, R., van Keulen, H., Hierneux, P., Szonyi, J., Schipper, R. A. (2008): Intensification scenarios in south-western Niger: Implications for revisiting fertilizer policy. *Food Policy* 33: 156–164.
- La Rovere, R., Hiernaux, P., van Keulen, H., Schiere, J. B., Szonyi, J. A. (2005): Co-evolutionary scenarios of intensification and privatization of resource use in rural communities of south-western Niger. *Agricultural Systems* 83: 251–276.
- Larsen, R. K., Gerger Swartling, Å., Powell, N., May, B., Plummer, R., Simonsson, L., Osbeck, M. (2012): Framework for supporting the dialogue between regulatory policy and local climate change adaptation: Insights from case study research in Sweden, Canada and Indonesia. *Environmental Science and Policy* 23: 12-23.
- Leach, M., & Fairhead, J. (2000). Fashioned forest pasts, occluded histories? International environmental analysis in West African Locales. *Development and Change* 31: 35–59.
- Leblanc, M. J., Favreau, G., Massuel, S., Tweed, S. O., Loireau, M., Cappelaere, B. (2008): Land clearance and hydrological change in the Sahel: SW Niger. *Global and Planetary Change* 61: 135–150.
- Levine, A. (2002): Convergence or Convenience? International Conservation NGOs and Development Assistance in Tanzania. *World Development* 30 (6): 1043–1055.
- Lund, C. (1997): *Niger – en politisk og økonomisk oversigt (Niger – a political and economic overview)*. Danida, Ministry of Foreign Affairs. Copenhagen, Denmark.

- Mark, M. (2011): French nuclear group to monitor health at Niger uranium mine. Guardian.co.uk. Retrieved from: <http://www.guardian.co.uk/global-development/2011/dec/12/french-nuclear-group-monitor-health-niger>.
- Meyer, C. (2010): 'Tuareg Activist Takes on French Nuclear Company. Spiegel Online International. 04/02/2010. Retrieved from: <http://www.spiegel.de/international/world/uranium-mining-in-niger-tuareg-activist-takes-on-french-nuclear-company-a-686774.html>.
- Ministry of Economy and Finance (2011): Etat consolide d'execution financiere du titre V du budget national 2010 (budget d'investissement de l'etat 2010). (Consolidated status of the financial execution of Title V of the 2010 national budget (investment budget of the state 2010). Final version.
- Ministry of Economy and Finance (2010): Etat consolide d'execution financiere du titre V du budget national 2009 (budget d'investissement de l'etat 2009) (Consolidated status of the financial execution of Title V of the 2009 national budget (investment budget of the state 2009). Final version.
- Ministry of Economy and Finance (2009): Etat consolide d'execution financiere du titre V du budget national 2008 (Budget d'investissement de l'etat 2008) (Consolidated status of the financial execution of Title V of the 2008 national budget (investment budget of the state 2008). Final version
- Ministry of Economy and Finance (2008): Etat consolide d'execution financiere du budget d'investissement de l'etat 2007 (Consolidated status of the financial execution of investment budget of the state 2009). Final version.
- Ministry of Economy and Finance (2007): Etat consolide d'execution financiere du budget d'investissement de l'etat 2006 (Consolidated status of the financial execution of investment budget of the state 2006). Final version.
- Ministry of Economy and Finance (2006): Etat consolide d'execution financiere du budget d'investissement de l'etat 2005 (Consolidated status of the financial execution of investment budget of the state 2005). Final version.
- Ministry of the Interior and Public Security, Decentralization and Religious Affairs (2012): *Cadre de politique nationale de décentralisation* (National policy framework on decentralisation).
- Ministry of Mines and Geology (2012a): Untitled list of corporations in the extractive industry. 4 pp.
- Ministry of Mines and Geology (2012b): Production Uranium-Gold 2008-2012. Internal statistics. Niemay.
- Ministry of Planning and Community Development (2012): Plan de Developpement Economique et Social (PDES) 2012-2015 (Economic and Social Development Plan 2012-2015). Version 30 July 2012.
- Mortimore, M. J. and Adams, W. H. (2001): Farmer adaptation, change and 'crisis' in the Sahel. *Global Environmental Change* 11: 49-57.
- Nielsen, J. Ö. and Reenberg, A. (2010): Temporality and the problem with singling out climate as a current driver of change in a small West African village. *Journal of Arid Environments* 74: 464-474.

- Nielsen, J. Ö. and Vigh, H. (2012): Adaptive lives. Navigating the global food crisis in a changing climate. *Global Environmental Change* 22(3): 659–669.
- OECD (2000): Donor Support for Institutional Capacity Development in Environment: Lessons Learned. DAC. Evaluation and Aid Effectiveness 3.
- OECD (2008): Niger. Retrieved from: <http://www.oecd.org/countries/niger/40578324.pdf>.
- Pagel, M., Cavellec, S., Forbes, P., Gerbaud, O., Vergely, P., Wagani, I., Mathieu, R. (2005): Uranium deposits in the Arlit area (Niger). Mineral Deposit Research: Meeting the Global Challenge Session 3: 303-305.
- Rahm, D., Swatuk, L., Matheny, E. (2006): Water resource management in Botswana: Sustainability and economic development. *Environment, Development and Sustainability* 8: 157–183.
- Reuters (2011): Niger president seeks more value from uranium price. July 17 2011. Retrieved from: <http://af.reuters.com/article/metalsNews/idAFL6E7IH03Z20110717>.
- Reuters (2012): Niger secures \$4.8 billion in donor cash for development. Retrieved from: <http://www.euronews.com/newswires/1726676-niger-secures-4-point-8-billion-in-donor-cash-for-development/>.
- ROTAB (Network of organizations for transparency and budget analysis) (2009): Publiez ce que vous payez – Transparence Niger (Publish what you pay – Transparency Niger). Bulletin No 15, Sept. 2009.
- ROTAB (2012): Publiez ce que vous payez – Transparence Niger (Publish what you pay – Transparency Niger). Bulletin no. 29, June 2012.
- Sahel Working Group (2011): Escaping the hunger cycle: pathways to resilience in the Sahel. September 2011. Retrieved from: <http://www.groundswellinternational.org/sustainable-development/burkina-faso/escaping-the-hunger-cycle-pathways-to-resilience-in-the-sahel/>.
- Salifou, A. (2012): Actions societales. AREVA au Niger (Societal actions. AREVA in Niger). Areva Mines Niger, Niamey.
- Sato, J., Shiga, H., Kobayashi, T., & Kondoh, H. (2011): “Emerging Donors” from a Recipient Perspective: An Institutional Analysis of Foreign Aid in Cambodia. *World Development* 39 (12): 2091-2104.
- SEE (Société d’Études et d’Évaluations Sarl) (2010): Joint evaluation of the cooperation of the European Commission, Belgium, Denmark, France and Luxembourg 2000-2008.
- Slack, K. (2012): Mission impossible?: Adopting a CSR-based business model for extractive industries in developing countries. *Resources Policy* 37: 179–184.
- Thébaud, B. & Betterbury, S. (2001): Sahel pastoralists: opportunism, struggle, conflict and negotiation. A case study from eastern Niger. *Global Environmental Change* 11: 69-78.
- Tierney, M. J., Nielson, D. L., Hawkins, D. G., Roberts, J. T., Findley, M. G., Powers, R. M., Parks, B., Wilson, S. E. (2011): More Dollars than Sense:

- Refining Our Knowledge of Development Finance Using AidData. *World Development* 39 (11): 1891-1906.
- Tschakert, P. (2007): Views from the vulnerable: Understanding climatic and other stressors in the Sahel. *Global Environmental Change* 17: 381–396.
- Turner, M. D., Ayantunde, A. A., Patterson, K. P., and Patterson, E. D. (2012): Conflict Management, Decentralization and Agropastoralism in Dryland West Africa. *World Development* 40 (4): 745–757.
- UNDP (2009): Programme de pays pour le Niger (2009-2013) (Country Programme for Niger (2009-2013)).DP/DCP/NER/1. Retrieved from: <http://web.undp.org/africa/programmedocs/NIGER-CPD-2009-2013.pdf>.
- Verhoeven (2011): Climate Change, Conflict and Development in Sudan: Global Neo-Malthusian Narratives and Local Power Struggles. *Development and Change* 42(3): 679–707.
- Warren, A., Batterbury, S., Osbahr, H. (2001): Soil erosion in the West African Sahel: a review and an application of a local political ecology approach in South West Niger. *Global Environmental Change* 11: 79-95.
- Wise Uranium Project (2012): New Uranium Mining Projects – Niger. Retrieved from: <http://www.wise-uranium.org/upne.html>, updated 12 June 2012.
- World Bank (2003): Memorandum of the President of the International Development Association to the Executive Directors on a Country Assistance Strategy of the World Bank for the Republic of Niger. Report No. 25203-NIR. Retrieved from: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2003/01/07/000094946_02122104093541/Rendered/PDF/multi0page.pdf.
- World Bank (2012): World Development Indicators Online, retrieved from: <http://data.worldbank.org/country/vietnam>. Accessed 2012-04-03.
- World Bank (2012): *Projet d'Appui aux A la Compétitivité et aux sources de Croissance (PrACC)* (Support project for the competitiveness and sources of growth (PrACC)). Aide Mémoire Projet.
- World Nuclear Association (2010): Uranium Markets. Web article published July 2010. <http://www.world-nuclear.org/info/inf22.html>.
- Zakara, G., Sani, A., Harouna, A., Kadri, A. (2011): *Les violations collectives des droits humains fondamentaux. Cas des régions de Tillabéry et Dosso – Niger* (Collective violations of fundamental human rights. Cases from the regions of Dosso and Tillabéry - Niger). IWGIA Report 12; IWGIA - AREN.

ANNEX I. LIST OF INTERVIEWEES

<i>#</i>	<i>Name</i>	<i>Position</i>	<i>Institution</i>	<i>Date</i>
1	Mr. Abdou, Abdourahamane	General Manager	Ministry of Mines and Geology	13 Sept. 2012
2	Mr. Hama, Abdou	Head of Division	Division for Mining Environment and Classified Institutions	13 Sept. 2012
3	Dr. El Hamet, Maï Ousmane	Director General	Centre for Geological and Mining Exploration (CRGM), Ministry of Mines and Geology	10 Sept. 2012
4	Mr. Abdou, Souley	Secretary General	Ministry of Planning and Community Development	12 Sept. 2012
5	Mr. Idrissa, Omar Maïga	Director	Investments and Cooperation Office, the Ministry of Planning and Community Development	11 Sept. 2012
6	Colonel Adamou Outéni, Issaka	Secretary General	High Commission of the Initiative 3N	12 Sept. 2012
7	Mr. Allasane, Seyboun	General Manager	Ministry of the Interior and Public Security, Decentralization and Religious Affairs	11 Sept. 2012
8	Mr. Boubacar, Soumaila	Head of Division	National Institute of Statistics	12 Sept. 2012
9	Mr. Yacouba, Boureïma	Director	Evaluation Bureau for Environmental Impact Assessments (BEEEI)	12 Sept. 2012
10	Mr. Oumarou, Hamadou	Director	Coordination Office of the Program to Strengthen and Diversify the Mining Sector	14 Sept. 2012

<i>#</i>	<i>Name</i>	<i>Position</i>	<i>Institution</i>	<i>Date</i>
11	Mr. Maman Sani, Amadou	Technical Assistant	Permanent Secretariat of the Code Rural	17 Sept. 2012
12	Ms. Bron, Florence	International Technical Assistant	Permanent Secretariat of the Code Rural	17 Sept. 2012
13	Mr. Kando, Hamadou	Head of Technical Services	National Centre for Radio Protection (CNRP)	13 Sept. 2012
14	Mr. Ari Koura, Mahamadou	Program Manager	Extractive Industries Transparency Initiative (ITIE)	11 Sept. 2012
15	Mr. Ousmane, Djibo	Deputy Coordinator	The Group for Reflection and Action on the Extractive Industries (GREN)	18 Sept. 2012
16	Mr. Bozari, Boubacar	Secretary General	The Group for Reflection and Action on the Extractive Industries (GREN)	18 Sept. 2012
17	Mr. Hama, Noma	Secretary	The Group for Reflection and Action on the Extractive Industries (GREN)	18 Sept. 2012
18	Mr. Foureira, Maiga	Environmental Manager	AREVA Mines Niger	19 Sept. 2012
19	Mr Ibrahim, Coumo	Director General Adjoint	AREVA NC Niger	19 Sept. 2012
20	Ms. Salifou, Yayé	Head of Communications	COMINAK	17 Sept. 2012
21	Mr. Capobianco, Michel	General Manager	COMINAK	17 Sept. 2012
22	Mme Ousmane, Naomi	Deputy Coordinator	Network of Organizations for Transparency and Budget Analysis (ROTAB)	11 Sept. 2012

<i>#</i>	<i>Name</i>	<i>Position</i>	<i>Institution</i>	<i>Date</i>
23	Mr. Saïdou, Arji	Program Manager	Network of Organizations for Transparency and Budget Analysis (ROTAB)	11 Sept. 2012
24	Mme Abdou, Mariétou	General Treasurer	Network of Organizations for Transparency and Budget Analysis (ROTAB)	11 Sept. 2012
25	Mr. Almoustpha, Alhassen	President	AGHIR IN'MAN	12 Sept. 2012 (tele-meeting)
26	Mr. Amani, Mohamed	Program Manager	Support Initiative for Development (AID)	17 Sept. 2012
27	Mr. Touraoua Ibrahim, Yahaya	Permanent Secretary	The Agro-Pastoral Collectives of Niger (CAPAN)	14 Sept. 2012
28	Abankawel Iltinine	Secretary General	The Agro-Pastoral Collectives of Niger (CAPAN)	14 Sept. 2012
29	Mr. Boureima, Dodo	Executive Director	The Association for the redynamisation of herding in Niger (AREN)	10 Sept. 2012
30	Mr. Wright, Peter	Technical Advisor	CARE Niger	14 Sept. 2012
31	Ms. Haahr, Marianne	Program Manager	CARE Denmark	4 Sept. 2012 (tele-meeting)
32	Ms. Teule, Rianne	Program Manager	Greenpeace International	5 Sept. 2012 (tele-meeting)
33	Mr. Garba, Sani	Program Manager, Infrastructures Section	Delegation of the European Union to Niger	17 Sept. 2012
34	Mr. Boubacar, Habibou	Program Manager	French Development Agency	17 Sept. 2012