

# Uranium mining in Niger

A case study

*Uranium mining symposium  
Richmond VA, 11 March 2010*

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# Uranium mining in Niger

- **Introduction**
- **Mines**
- **Water**
- **Air**
- **Earth**
- **People**



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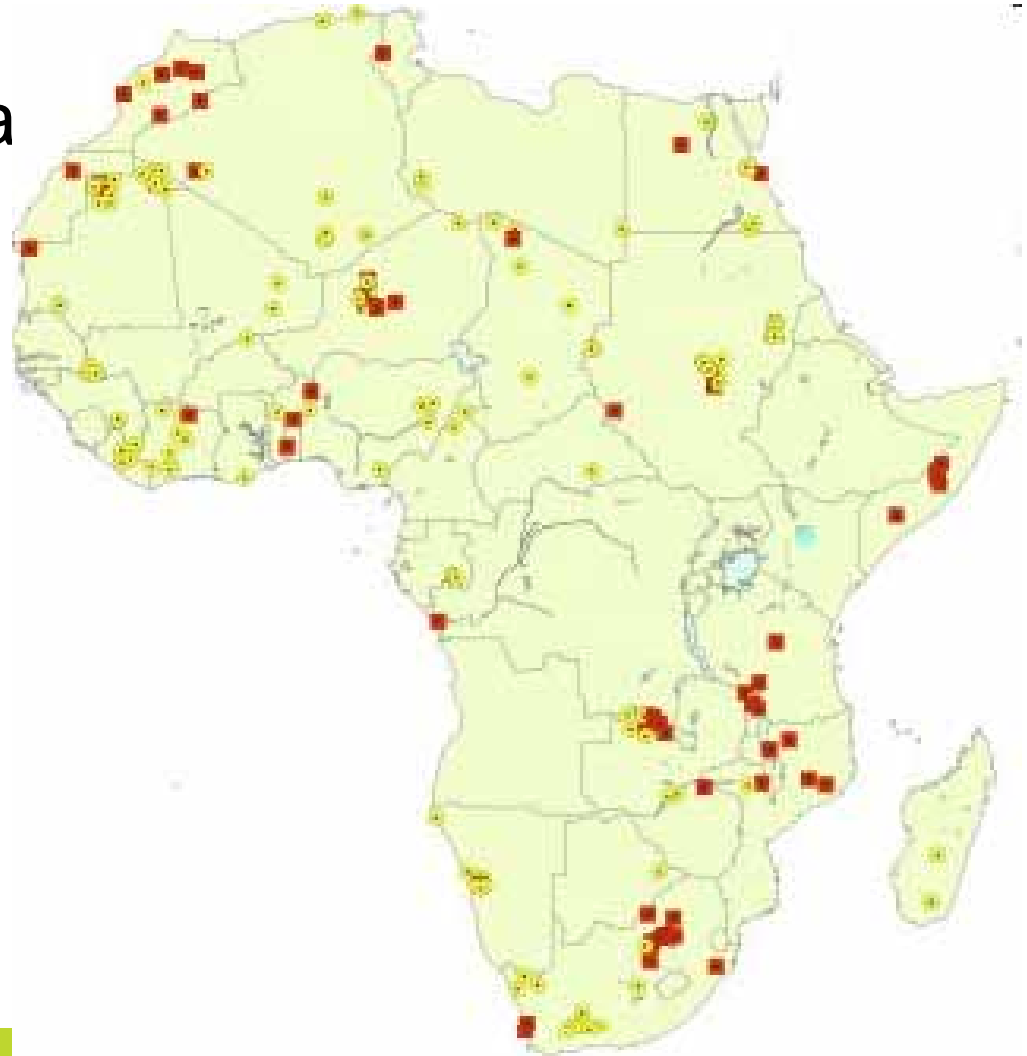
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# Introduction – new colonialism

## **Uranium rush in Africa**

- Namibia
- South Africa
- Gabon
- CAR
- DR Congo
- Morocco
- etc.



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# Introduction – Niger

- 40 years of uranium mining in Niger
- “Sustainable pollution”
- Local NGO Aghir in’Man
- French laboratory CRIIRAD
- Sherpa, Medicin du Monde, ROTAB



# Introduction – Niger

## Challenges

- Lack of transparency
- Industry power
- Security



# Uranium mines

**SOMAIR** open pit mine – city of Arlit



# Uranium mines

## **COMINAK** underground mine - Akokan

- AREVA NC 34%
- SOPAMIN 31%
- OURD (Japan) 25%
- ENUSA (Spain) 10%



# Uranium mines

**Milling** – uranium extraction from ore



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# Uranium mines

## Waste storage - tailings

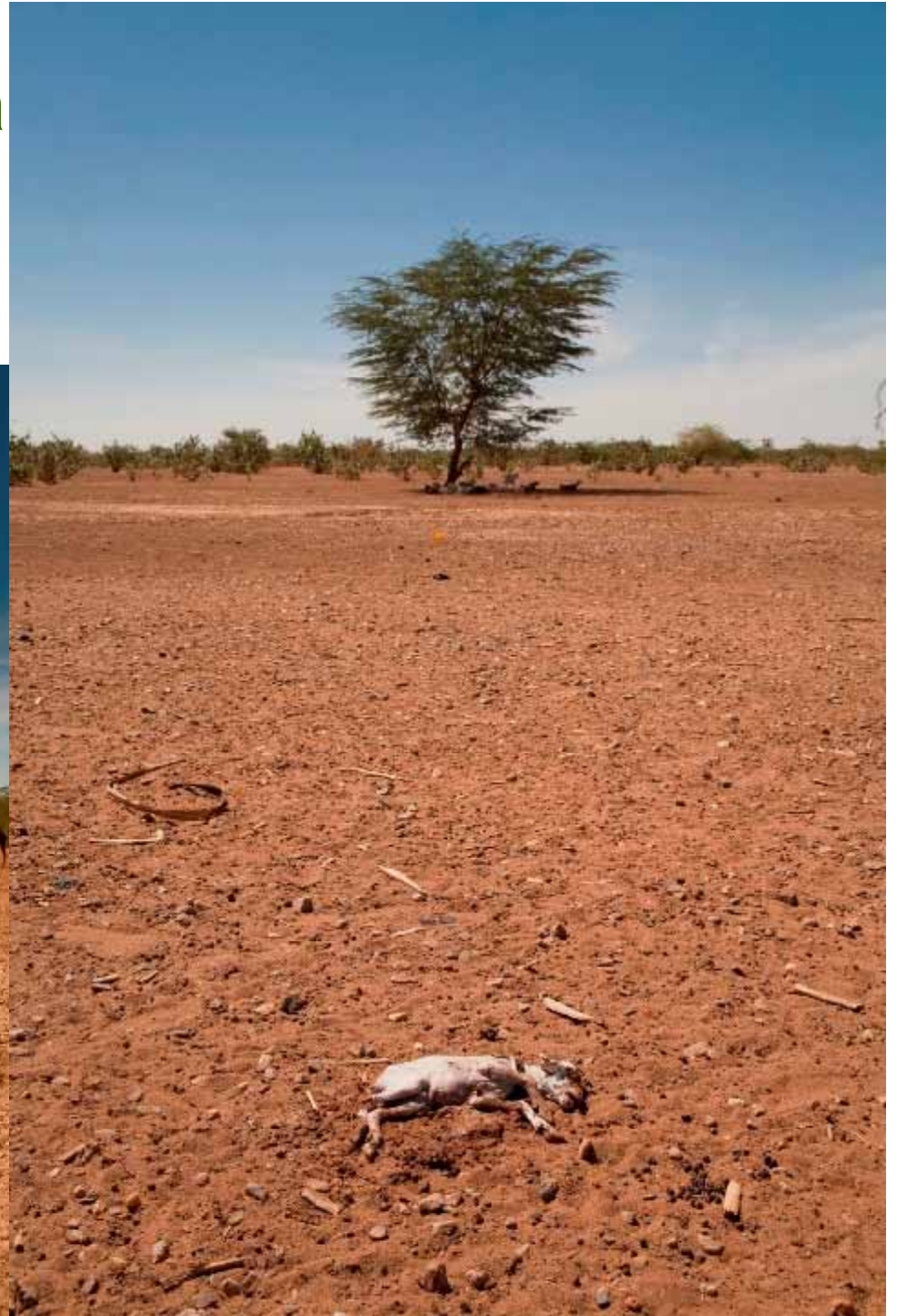


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# Water use



# Water

## Water pollution – first identified in 2004

### CRIIRAD & IRSN

- alpha activity
- uranium

tableau 8 : résultats des analyses d'eau - SOMAIR - mission IRSN mai 2004

Nom de l'échantillon	Activité en radium dissous (Bq.l <sup>-1</sup> )		Concentration en uranium total (µg.l <sup>-1</sup> )	
	activité	incertitude	concentration	incertitude
Puits 214	0,06	0,01	156	15
Puits 248	0,03	0,02	41	4
Puits 2002	0,12*	0,01	66	6
Jardin d'Artil	0,02	0,01	8,4	0,8
Zone urbaine	0,04*	0,01	**	**

\* mesure à partir d'un échantillon prélevé après la mission

\*\* absence de mesure

tableau 9 : résultats des analyses d'eau - COMINAK - mission IRSN mai 2004

Nom de l'échantillon	Activité en radium dissous (Bq.l <sup>-1</sup> )		Concentration en uranium total (µg.l <sup>-1</sup> )	
	activité	incertitude	concentration	incertitude
COMI8	0,01	0,004	183	19
Jardin Akokan	0,05	0,01	3,0	0,3
COMI12*	0,14	0,01	**	**
Cercle Cadres*	0,14	0,02	**	**

\* mesure à partir d'un échantillon prélevé après la mission

\*\* absence de mesure

The logo for Greenpeace, featuring the word "GREENPEACE" in a bold, white, sans-serif font on a green rectangular background.

# Water

**Water pollution**  
confirmed by GP:

- alpha activity
- uranium
- radon-222
- metals (iron, molybdenum, selenium)
- chemicals (nitrates, sulphates)

No pollution Imouraren



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# Water

AREVA 2009:

*“Monthly bacteriological, twice-yearly radiological, and annual chemical analyses show no signs of contamination.”*

Station	Ra 226 (Bq/l)	Uranium (µg/l)
ARLI 2002	0,07 à 0,15	40 à 69
ARLI 2020	0,01 à 0,02	10 à 20
ARLI 2028	0,01	12 à 22
ARLI 2038	0,01 à 0,02	10
ARLI 218 br	0,02	22 à 51
ARLI 282-2	0,02	30 à 55
ARLI 285-2	0,02	21 à 35
ARLI 637 br	ND	ND
Suppression 1	0,01 à 0,02	20 à 28
Suppression 2	0,02 à 0,03	17 à 25
Suppression ZI	0,02 à 0,036	17 à 27,5

"Analyses chimiques et radiologiques des ouvrages hydrauliques eau potable de SOMAIR" 2006-2008

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# Water

**Caetité, Brazil**

“INGÁ e notificaram a Prefeitura Municipal de Caetité e as Indústrias Nucleares do Brasil (INB) a suspenderem imediatamente o consumo de água em três pontos onde foram detectadas a presença de radioatividade alfa e beta”



# Water

Alka Hamidou:

*“The pump 150 m. to the west was closed, supposedly because it is not fit to drink.”*



Air

Dust



# Air



Air

Radon



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# Air

## Radon

- one spot 3-7 times higher than normal



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## Air

AREVA 2009

“(...) sets a cumulative dose limit for the public of 5 mSv over a 5-year period (or 1 mSv per year). This **limit is respected** around the mines and in the neighboring towns of Arlit and Akokan.”

However, COMINAK 2008:

Dose 2008 at the gendarmerie: 1.36 mSv

90% of this dose due to radon emissions mine

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# Earth

## Soil

- one sample higher than exemption limits



Earth

Scrap metal



# Earth

## Streets of Akokan



## People

### **Salifou Adinfo, ex-worker**

“We worked with our bare hands! The mining company never informed us about the risks.”

### **Fatima Daoui**

“AREVA is coming to our country and making money, but we are the ones suffering”



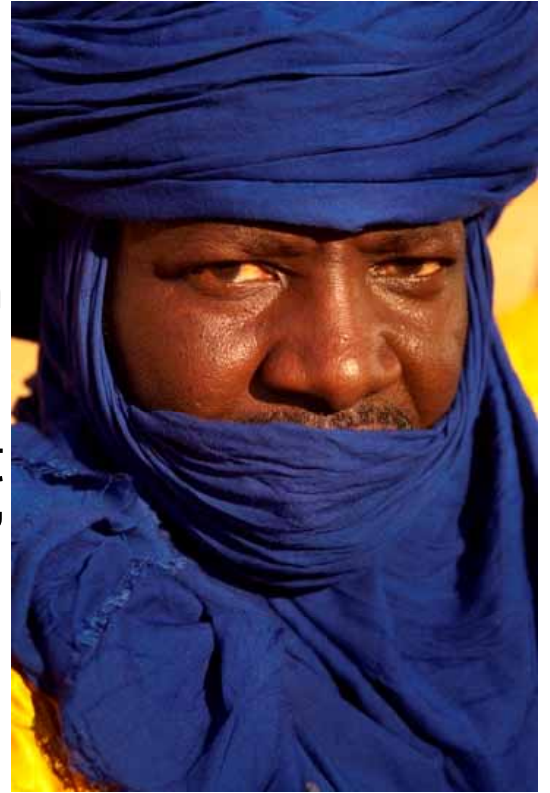
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# People

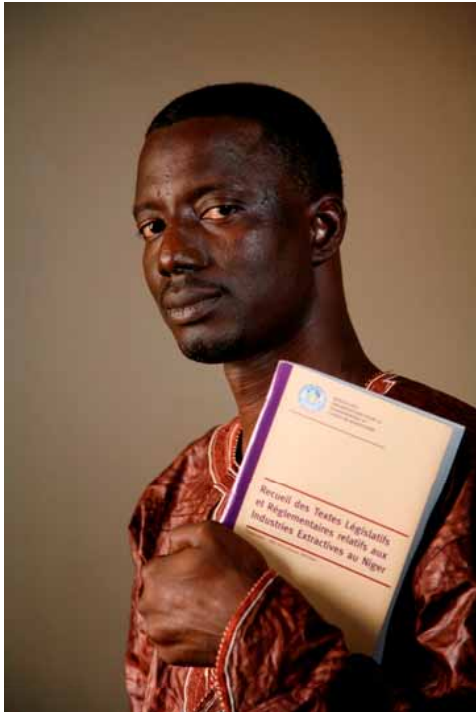
## **Almoustapha Alhacen**

“Uranium must contribute in the reduction of poverty. It is evident that if it does not contribute, it is not worth it.”



## **Marou Amadou**

“After 40 years of operation and AREVA’s presence in Niger, us Nigeriens, we feel we have not had our fair share.(...) More than 2 out of 3 lightbulbs in France are lit by uranium from Niger.”



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# People



# Conclusions

- Lot to be learned from Niger – long-term legacy
- AREVA: “We don’t want another Arlit”
- Transparency has its limits
- Need for independent comprehensive assessment impacts
- AREVA should publicly recognize problems & act
- Nuclear power harmful from beginning nuclear chain –  
no role in sustainable energy future

