

International Symposium on Uranium Raw Material for the Nuclear Fuel Cycle:

**Exploration, Mining, Production,
Supply and Demand, Economics
and Environmental Issues**

**23–27 June 2014
Vienna, Austria**

Experience of IAEA UPSAT Mission to Uranium Sites as a Means of Sustaining Best Practice for Uranium Production in Tanzania

D.A. Mwalongo, A. Kileo & I. S. N. Mkilaha
Tanzania Atomic Energy Commission

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Introduction

- Uranium exploration and feasibility studies in the country found several economical uranium projects
- The Country had no specific laws for regulating uranium mining;
- **Tanzania Atomic Energy Commission prepared the following:**
 - Initiated the Review of Atomic Energy Act;
 - Developed new regulations;
 - Initiated studies to establish preliminary baseline data
 - Conducted national uranium training courses, workshops and seminars to different stakeholders
 - Co-ordinated with allied government institutions in harmonizing uranium mining and milling regulatory procedures;
 - Participated in meetings with stakeholders to review the Environmental Impact Assessment report for Mkuju River Uranium project; and

Need for International Support

URANIUM MINING IN TANZANIA: ARE WE READY?

Community Scoping Study in the Exploration Areas
and the Legal Framework

- The Country self-appraisal on the readiness to regulate uranium mining, esp. in an environmentally “sensitivity” area
 - The review was tasked to appraise countries preparedness for overseeing the Uranium Production Cycle special focus on Mkuju River Project
- Superb experience gained for future of the uranium industry in the country

1. REGULATORY SYSTEM: LEGISLATIVE OVERLAPS (1/3)

Ministry of Minerals and Minerals (MEM)	Tanzania Atomic Energy Commission (TAEC)	National Environmental Council (NEMC)	Ministry of Natural Resources and Tourism(NRT)
Mining (Radioactive Minerals) Regulations 2010 Mining (Environmental Management and Protection) Regulations 2010	Radiation Safety in Mining and Processing of Radioactive Ores, Regulations 2011	Environmental Management (EIA and Audit) Regulations 2005	Exploration and mining of Oil, Gas and Uranium in Game reserve
Special Mining License	- License to prospect, prepare site and construction, ore processing & transport and facility decommission and closure	Project registration	Consent to operate

1. REGULATORY SYSTEM: LEGISLATIVE OVERLAPS (2/3)

Ministry of Minerals and Minerals (MEM)	Tanzania Atomic Energy Commission (TAEC)	National Environmental Council (NEMC)	Ministry of Natural Resources and Tourism(NRT)
Rehabilitation bond	Insurance funds for decommissioning and closure	Environmental performance bond	Payment of concession cost and protection fee

Legislative harmonization (3/3)

1. Steering Committee
Senior government

2. Task Force
MEM TAEC NEMC MNRT

3. Reference Group
OSHA SUMATRA MoWI



2. Sustainable uranium production life-cycle (1/2)

Recommendations	Implementations/Overseen implantation
<p>-MEM and TAEC officially report on uranium exploration, resources, production plans to NEA/IAEA Uranium Group</p>	<p>Government very positive</p>
<p>-Review of logistical arrangements- trucking movement, worker rotation, materials control etc</p>	<p>Operator Very Positive to compliance</p>
<p>-Recombine the tailings (SCATS and TSF) and placement in one area and then using in-pit disposal as mined out areas become available</p>	<p>Operator Very Positive to compliance</p>

2. Sustainable uranium production life-cycle (2/2)

Recommendations	Implementations/Over seen implantation
Review the TSF area in terms of dam design, geotechnical stability and solution confinement as the tailings area is filled	Operator Very Positive to compliance
Review TSF structure: Located in a poorly consolidate lithological setting	Operator Positive to compliance

Health, Safety and the Environment (1/3)

- Conduct a hands-on radiation assessment
- Long term stability and confinement of infrastructures for tailings and SCATS
- Review water (including the re-use of process water) and related discharge management plans
- Review and revisit scenarios and models for possible TSF failure

Health, Safety and the Environment (2/3)

- Establish an Environmental Monitoring(EMP) plan in consultation with the community,
- Establish a Community Consultation Committee (CCC) to keep matters of interest such as the sustainability objectives of the EMP under review
- Emergency preparedness and response integrated to the HSE management at the operator level and to the national radiological emergency program
- The Operator and Regulatory establish a robust monitoring program for the routine operation of the uranium mining and milling- Report other but also include incident and accident scenarios

Health, Safety and the Environment (3/3)

- Establish stakeholder engagement and public awareness programs
- The security plans for off-site transport of yellowcake should be established by involving the operator, regulatory body, transport authority and public security agencies
- Prepare suitable security regime at the port for yellowcake storage and export

Social Licensing

- MRP enjoys a social license at the local level, being well accepted by the local and regional communities
- Uranium mining as a whole in URT is experiencing varied levels of public acceptance- there are some skepticism or resistances
 - Resistance is most pronounced in central part where the social license has not been achieved-
 - Blocking efforts for exploration to progress for potentially promising projects

This report comes with important recommendations to the governing authorities to reconsider the move to allow Uranium mining to be carried out in Tanzania, but instead look at the long term impacts that will come from this activity.

Christian Council of Tanzania

Tanzania Episcopal Conference

The National Muslim Council of Tanzania

Social Licensing

Opposition: International motivated

conference of IPPNW -
International Physicians
for the Prevention of
Nuclear War and ura-
nium-network.org,
Germany- in cooperation
with LHRC (Legal and
Human Rights Center)
Tanzania, Rosa
Luxemburg Foundation
East Africa Regional
Office, NaCUM (National
Coalition on
Uranium Mining) and
CESOPE

URANIUM-MINING: IMPACT ON HEALTH AND ENVIRONMENT



**Tuesday October 1 to
Sunday October 6
2013**

**Location:
Dar Es Salaam and
Bahi /Dodoma
United Republic of Tanzania**

Social Licensing

Community meeting are paid

Bahi Community meeting

Venue: Bahi Mission, 10.00 h

Resistance to Uranium - Mining in Central Tanzania

Health Impact: Uranium as Heavy Metal and Source of Radiation:

Introduction

Anthony Lyamunda, CESOPE, Tanzania

Scientific basis

Doug Brugge, Prof, MD, USA

Human health

Dale Dewar, MD, Physicians for Global Survival (IPPNW)Canada

Environmental Impact

The Experience with Uranium Mining in Germany from 1950 - 1990

Sebastian Pflugbeil, PhD, President German Society for Radiation Protection

Social, Economic and Political Impact

Experiences in Australia

Dave Sweeney, ACF (Australian Conservation Foundation), Australia

The Experience with Uranium Exploration in Falea, Mali

Delegation from Mali

Political Impact in Tanzania

Tundu Lissu, Member of Parliament, Lawyer, Tanzania (*Invited*)

View of Young Tanzanians

Racheal Chagonja, Tanzania

Questions and Answers-Period & Panel Discussion

of Presenters and Thomas Seifert, Prof, Senior Research Geologist, Germany

Thursday, October 3, 2013

Transfer Participants from Dodoma to Dar es Salaam

Afternoon: Press Conference

** Tanzania to become Africa's 3rd biggest uranium producer * Govt
wants mining sector to contribute more to GDP growth By Fumbuka*

Tanzanian churches oppose uranium mining (Article)

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URANIUM MINING: Tanzania faces the devil's choice, experts warn



Water source used by local community members at Cheli Isanga in Bahi District. Uranium mining is water intensive, if mined, mined and processed in this area there will be water based conflict between locals and the investors.

"The government should quickly stop the exploration and mining of uranium," the Rev. Leonard Mtaita, a Lutheran who is the council's general secretary, told ENInews on 15 June. "It is an extremely poisonous mineral that has a serious impact on people and the environment. We are concerned the government does not have the capacity to deal with its threats."

Lesson Learnt from Gas Protest



Social Licensing

- The prepare a prospectus or handbook for investors, with special attention to requirements for uranium exploration and mining
- Functional Separation for government to be both strategic partner and regulator
 - Possible risk of conflict of interest or moral hazard
 - The separation should be attempted after a sustainable regulatory capacity is built
- To underpin and retain the social license, a Community Consultative Committee (CCC) should be formed and supported
 - Chaired by a local representative
 - Have representation from local community stakeholders, local government officials, NGOs, and the operator
 - This committee should be the vehicle of communicating aspects of environmental studies and its management and the Corporate Social Responsibility (CSR) programme to public

Awareness programs



Schools



Military

Capacity Building (1/2)

- Competency-based training requires a carefully graded approach based on, or applied to, specific grades of job, and particular job descriptions:

classical 5 tier system proposed.

- Novice
- Advanced Beginner
- Competent
- Proficient
- Expert

Capacity Building (2/2)

MRP DASHBOARD: MILESTONE-DRIVEN, INTEGRATED SOCIAL LICENCE AND CAPACITY-BUILDING



Map milestones and competencies into an activity matrix

Conclusion

IAEA UPSAT Mission had +Ve impact for uranium mining industry in Tanzania

- For Regulators

- Operators

- Shareholders and Stakeholders

ACKNOWLEDGEMENT

-International Atomic Energy
Agency (IAEA)



REFERENCE

IAEA Report of the International expert review of the operations and regulation of uranium exploration and mining projects in United Republic of Tanzania, *27 May to 5 June, 2013*

Thank you for your Attention



Mt. Kilimanjaro