EXERCISE-3.

PRE-STUDY MEMO AND WORK PLAN

POLLUTANTS MANAGEMENT AT GOLD MINES

1.0 INTRODUCTION

1.1. Audit Mandate.

The Controller and Auditor General is required to carry out performance Audit (Value for Money Audit) for the purpose of establishing the economy, efficiency, and effectiveness of any expenditure pursuant to section 33 (1) of Public Finance Act No. 6 of 2001.

1.2 Audit Process and Aim of this Memo.

The audit process includes an initial data collection, a pre-study and main study on monitoring of mining environmental impacts.

The aim of this pre-study memo is to gather information in order to acquire knowledge in particular problems of environmental pollutions resulting from mining activities. This document is for the consumption of the Controller and Auditor General and other decision makers within the NAO. It also informs and solicits views from the auditee on the main direction of the pre study.

2. BACKGROUND TO THE PRE-STUDY

2.1 MOTIVATION

The main reason for carrying out a pre-study on pollutants management in Geita Gold Mine follows the immense public outcry on environmental devastation

caused by economic activities at the mine. This concern was also expressed by the President of the third phase government His Excellency President Benjamin William Mkapa[1] at Geita Gold Mine. His emphasis was basically on environmental protection and preservation with emphasis on management, handling and control of hazardous materials. It was also alleged that poor governance, exploration and exploitation of mines contribute to the environmental degradation[2].

The seriousness of the environmental problem was also reflected by the fact that the government came up with the national environment policy. This policy identified a number of environmental problems and these were to be tackled through sectoral policies.

Therefore, this pre-study is motivated on the one hand by the fact that it wants to evaluate as to whether these sectoral policies on mining which include minimization of risk, management of disposal of hazardous wastes, other wastes and emissions, are being transformed into ministerial objectives and targets with due regards to integration into procedures and controls to enable performance measurement.

On the other hand, this pre-study is motivated by the fact that right now addressing environmental issues is one of the ten core issues of the fourth phase government i.e. to ensure environmental conservations so that future generations may inherit a beautiful country with a secure base for sustainable development[3].

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[1] The Guardian, Tuesday December 27th , 2005
[2] Guardian, Saturday July 1, 2006
[3] Daily News Monday January 2, 2006

3. METHODS APPLIED IN THE PRE-STUDY

3.1 SELECTION OF AUDIT OBJECTS

Reasons for selecting these audit objects i.e. Kahama Gold Mine (now Barrick Bulanhulu Gold Mine under Barrick Tanzania), Resolute Lusu Nzega Gold Mine, North Mara and Geita Gold Mine were :

- They are big gold mines that are material as regards to this audit
- Easier to collect data than small mines

3.2 METHODS OF DATA COLLECTION

In carrying out this pre-study, a number of techniques were applied including meetings and interviews. The audit team carried out deliberations with the Ministry of Energy and Minerals on 17th June 2005 with the head of inspectorate subsection (Chief Inspector of Mines).

The team also had discussions with the management of the Vice President's Office including the Director of Environment. The team had interviews with the environmental scientists at the National Environment Management Council (NEMC) on 9th September 2005.

Another interview was held with the members of Journalists' Environmental association of Tanzania (JET) on 30th November 2005. The team also conducted an interview with the research fellow Dr. Kassim Kulindwa of the University of DSM on 10th January, 2006. Discussions were made with Mr.Tundu Lissu from LEAT (Legal Environmental Activists of Tanzania).(Currently member of Parliament).

The data collections also included review of the following documents:

- Environmental Management Act of 2004.
- The Mining Act No. 5 of 1998 and regulations 1999.
- National Environmental Policy of 1997.
- National Strategy for Growth and Reduction of poverty, 2005.
- International Standards Organisation ISO 14001 Environmental Management System.

Another data collection technique to be undertaken but yet to be done is the physical observations inspection of the mining sites. The pre-study tries to explore the existence of the protection and management of the environment as stipulated by law upon the ministry of Energy and Minerals, compliance with International Standard organization (ISO) 14001 of 2004 as regards to Environmental Management System recognized by the International Community.

The pre-study focuses on the management of the environmental effects which are likely to be caused by the mining activities in Tanzania particularly the gold mining industry.

3.3. DESCRIPTION OF THE AUDIT AREA

The major actors according to the legal framework of the mining sector are Ministry of Energy and Minerals, Vice President's Office –Environment, other ministries, National Environment Management Council, and Local Government Authorities. The way they interact is depicted in the system graph (in Appendix One of this document). Functions of these actors are as narrated in the legal text in Appendix Four attached to this document.

4.0. FINDINGS OF THE PRE- STUDY:

After meeting a good number of stakeholders in the area of mining and environment a number of weaknesses were noted which would amount to environmental pollution with negative consequences to human beings and habitats. These weaknesses include the following:-

1. Non-compliance with Mining Environmental Management Regulations, delayed Environmental Impact Assessment, and lack of Environmental

Management Plan as shown in the following table:

MINE	DATE OF LICENCE	DATE OF COMMENCEMNT	DATE OF E.I.A.	EMP	REMARKS
Kahama Gold Mine	5/9/1994	2001	1998/1999	-	E.I.A. after issuance of license.
Resolute Lusu Nzega Gold Mine	1993/1997	1998	-	-	E.I.A Not Available
North Mara Gold Mine	1996	Inaugurated in 2002	-	-	E.I.A Not Available
Geita Gold Mine	1999	2000	-	-	E.I.A Not Available

Source: Interview with MEM and LEAT Officials

From the above table it was learnt that:

a) All mining licenses under this pre-study were issued in the first place without being accompanied by Environmental Impacts Assessments (EIA) and Environmental Management Plan (EMP) contrary to regulation 4 (1) of the Environmental Management and Protection Regulations of 1999. (Responsible authority- MEM)

b) In North Mara Mining it was learnt that liquid effluent is discharged without an authorization from the water officer under section 15A of water utilization (Control and Regulations Act of 1974). This polluted water flows into river Mara resulting into hazardous effects to both human beings and habitats. (Responsible authority- MEM and Water Authority)

2. Failure to establish mining advisory committee at the MEM.

According to the Mining Act of 1998 the Ministry of Energy and Mineral Resources was supposed to establish Mining Advisory Committee whose members are a group of professionals from NEMC and Water authorities. However, todate the same committee has not been established.

3. Mining operations near human settlements

According to the Mining Act of 1998 the distance between human settlement and mining areas should not be less than 200 meters apart. However, the situation in North Mara Gold Mine is that residents are living at distance of 20 meters from the mine. (Responsible authority- MEM and Ministry of Lands and Human Settlements)

4. Seepage of harmful cyanide sludge into the river water

At Geita Gold Mine along the walls of the tailing dams, seepage cyanide sludge seep into the river and people utilize the river water domestically. This water proves to be polluted and this is evidenced by death of animals, birds, fish and other creatures.(Responsible authority- MEM)

5. **Laxity in environmental control in Gold Mines:**

This would appear to be caused by lack of qualified personnel to monitor the environmental impacts, lack of Environmental Impact Assessment guidelines national wide though the Mining Act requires for their existence at all gold mines.(Responsible authority -MEM and NEMC)

6. **Surface soil material removed for mining purposes are** not saved for use in reclamation programmes.

It has been learnt that sand piles are transported to overseas for further refinery with a purpose of extracting minerals which is contrary to the Mining Act of 1998 requirements.

5. CONCLUSION

The above observations show insufficient applications by the concerned authorities in applying the requirements of the acts and respective regulations.

Therefore, National Audit Office concludes that further audit work in this area should be undertaken.

6.0 SELECTION OF AUDIT PROBLEM

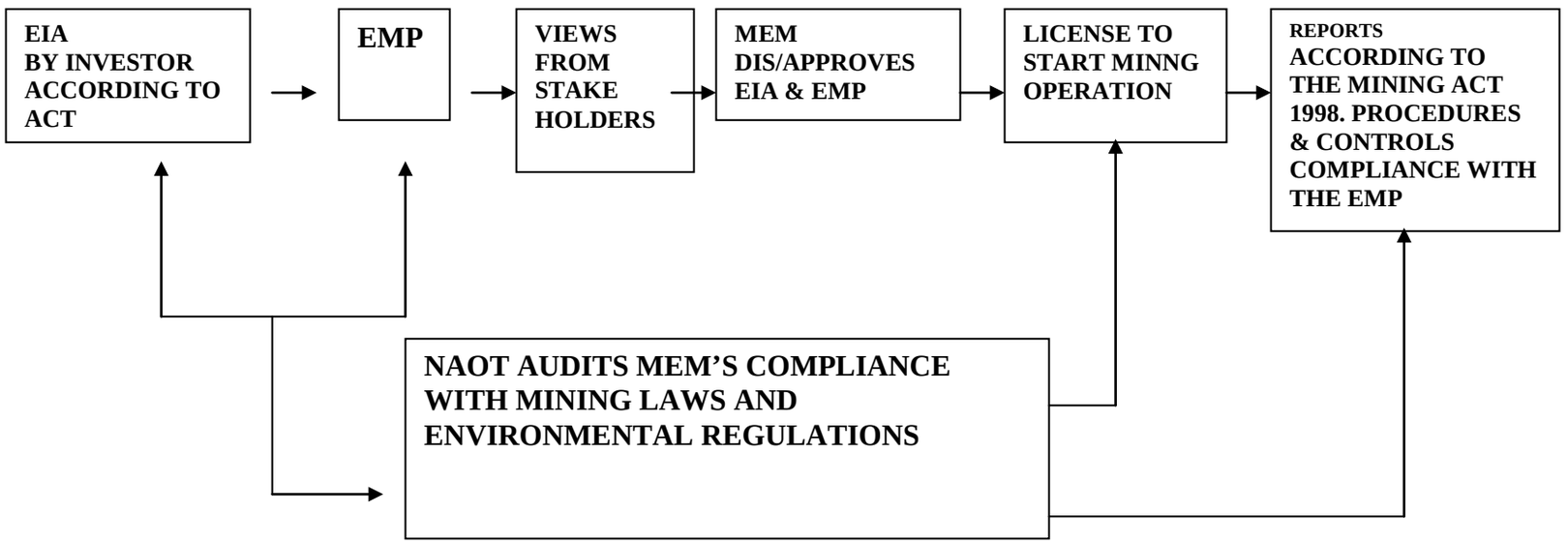
Based on the findings of the pre-study, the team identified Geita Gold Mine to be the focus of the study and eventually examination due to the following audit reasons:

a. Geita Gold Mine is an open mine where the accessibility of studying the whole process of environmental control is more favourable than in the other mines.

b. Traveling to Geita Gold Mine would appear to be less costly than the other mines.
c. If management of the environmental degradation at Geita Gold Mine is not closely controlled, it may result into environmental pollution, land degradation, loss of habitats for wildlife and loss of national heritage. All these have subsequent economic effects in terms of reduced productivity of river and lake waters, reduced land productivity, as well as uncertainty of the future tourist industry.
d. Environmental degradation at Geita Gold Mine is a structured and long term problem concerning sustainability and quality of human life where the MEM has a key role in checking that Environmental standards are being upheld.
e. The team will come up with recommendations that will improve the operations of MEM regarding upholding environmental standards.

7.0 AUDIT DESIGN:

FLOW CHARTS FOR APPROVAL AND MONITORING OF MINING OPERATIONS AND WHAT NAOT WILL FOCUS IN ITS AUDIT



7.1 Purpose and Scope of this Audit

This audit is directed on evaluating as to whether the Ministry of Energy and Minerals properly carries out its role of monitoring and managing the environmental consequences from mining activities in Tanzania. This audit covers a period of almost 16 years i.e. from 1990 todate.

During the main study, Geita Gold Mine will be scrutinized for environmental management adherence as an area of examination.

7.4 SOURCE OF AUDIT CRITERIA

The Audit criteria will be derived from the following acts:

1. The Mining (Environmental Management and Protection) Regulations, 1999-Part II regulation 4 (1) – application to be supported with EIA & EMP.
2. The Mining (Environmental Management and Protection) Regulations 1999 Part II regulation 7 (4) -Publicity for application with EIS & EMP.
3. The Mining (Environmental Management and Protection) Regulations, 1999 Part II regulations 8(1).
4. The Mining (Environmental Management and Protection) Regulations 1999 Part III regulation 16 (1).
5. The Mining (Environmental Management and Protection) Regulations, 1999, Part III, regulation 18 – Provision of reports.
6. Mining (Environmental Management and Protection) Regulations, 1999 Part IV regulation 24 (b) – Reclaimed land and structures to be left stable.
7. Mining (Environmental management and Protection) Regulations, 1999, Part III regulation 19 (1).
8. The Mining (Environmental Management and protection) Regulations, 1999 part III regulation 12 (b) – (c) and regulation 13.
9. The Mining Environmental Management and Protection fifth schedule made under regulation 12- Environmental standards.

7.5 AUDIT CRITERIA

1. We expect that every mineral right is supported by EIA and EMP with exception of those under section 64(2) of the Mining Act.
2. We expect that all applications for mineral licenses are published in local news papers in both Kiswahili and English languages

3. We expect that the documents for applications of licenses are deposited in the office of local authority and the Zonal mines office.
4. We expect that the copies of environmental impact statement and environment management plan are copied to :
   (i) Rural areas- the village council and the district allocation committee.
   (ii) In or near urban areas- the town, municipal or city authorities
   (iii) The appropriate basin water body.
   (iv) The ministry responsible for environment, water, tourism, natural resources, Agriculture, Lands and Antiques.
   (v) The National Environment Management Council.
5. We expect that the holders of mineral rights have authorizations from the licensing authority for discharging air emission, aqueous, and solid waste.
6. We expect that the holders of an authorization submit to the licensing authority in each year, full and summarized results of all monitoring undertaken; details of actual emissions, discharges and wastes; and a statement of the number of cases and circumstances in which limits established by the standards (in fifth schedule) have been exceeded.
7. We expect that no discharge of liquid effluent is made to the environment without authorization issued by the water officer.
8. We expect that the standards for water effluent and receiving waters are complied with.

Exercise-3

The purpose of this exercise is to test the capability of participants in developing researchable questions when planning for the environmental audit using performance audit approach.

DESIGN MATRICES

S/NO	AUDIT QUESTIONS AND SUB-QUESTIONS	DATA COLLECTION		
		WHAT	HOW TO OBTAIN	HOW TO COMPILE AND ANALYSE
1.	Is the EIA carried out before the issuance of the mining licence?			
1.1.	Are there any National EIA guidelines; if yes, are these guidelines followed when preparing EIAs of a particular project?			
1.2.	Is there any laid down system to ensure that all the institutions (for environment) are well informed of the EIAs and EMP before issuance of license?			
1.3.	Are the stakeholders involved in the preparation of EIAs and implementation of EMPs? If yes, how?		(i)	
2.	Is the authority for discharging pollutants into the river, and other sensitive areas (environment) sought?			
2.1.	Does the authority test the pollutants before being discharged?			
3.	How is the seepage of harmful cyanide sludge controlled?			
4.	**Is land reclamation carried out using appropriate material?**			
4.1.	Are the displaced materials due to mining used for reclamation purpose?			

S/NO	AUDIT QUESTIONS AND SUB-QUESTIONS	DATA COLLECTION		
		WHAT	HOW TO OBTAIN	HOW TO COMPILE AND ANALYSE
4.2.	Are the inspections for ensuring compliance with plans and standards regarding land and water management adhered to?			
5.	Are the inspections carried out suing relevant equipment and qualified personnel?			1.