

Approaches to Reduce the Use of Mercury in Artisanal and Small Scale Gold Mining

Under

THE SUSTAINABLE MANAGEMENT OF MINERAL RESOURCES PROJECT (SMMRP), TANZANIA

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1. General ASM Overview

- ❑ Artisanal and Small Scale mining activities (ASM) in Tanzania involve the mining and extraction of gold, gemstones and a variety of building and industrial minerals.
- ❑ ASM encompass owner of primary mining licences (PMLs); labourers, mineral brokers, and service providers such as food vendors and technicians.



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General ASM Overview *cont...*

- A baseline survey conducted in 1996/97 estimated ASM to range from 550,000 to 1,000,000 people; Ratio of individuals engaged in gemstones to gold to other types of minerals being 11:8:1.
- Mining, milling, processing and recovery of gold by the ASM have been experiencing the use of rudimental equipment.
- Gold recovery still depends on amalgamation.



General ASM Overview *cont...*

ARTISANAL SMALL SCALE GOLD MINING

- Recently, some improvements have been noted in mining methods compared to processing (millings, crushing, and sluicing).
- Cyanide use has become popular in the lake victoria area, where cyanidation is used to leach tailings that were mainly discarded by ASGM.



Challenges



Home processing

River panning



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Some impacts



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4. Approaches to reduce Mercury use under SMMRP

SMMRP Overview

- SMMRP is a 5-year technical assistance project (2009-2014)
- Project Financing:
 - IDA Credit - USD 50M
 - Government of Tanzania - USD 5M
- Coordinated by the Minerals Division and the Geological Survey of Tanzania (GST)



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SMMRP Components

| | |
|-----------------------|-------------------------------------------------------------|
| • Component A: | Improving the Benefits of the Mineral Sector for Tanzania |
| • Component B: | Strengthening Governance and Transparency in Mining |
| • Component C: | Stimulating Mineral Sector Investment |
| • Component D: | Project Coordination, Management, Monitoring and Evaluation |



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Approaches to reduce Mercury use under SMMRP *cont...*

SMMRP Baseline studies

- The ASM assessment will establish the present situation in the field, including the impacts, behavioral changes and legacies of past interventions.



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Coverage of ASM interventions under SMMRP

Approaches to reduce Mercury use under SMMRP *cont...*

SMMRP Extension Services

- This will strengthen ZMOs, RMOs and ASM trainers to address issues in mining such as processing technology, environment, and health, community consultation, training, and organization and formalization of artisanal mining activities



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Approaches to reduce Mercury use under SMMRP *cont...*

SMMRP Small Grants Scheme

Small grants scheme under SMMRP will:

- Promote simple mining and processing technology which will use less mercury
- Promote exploitation of industrial minerals whose processing does not require mercury
- Support fair trade initiatives



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Conclusions

- ❑ Mercury use has got many challenges in terms of health and environment in ASGM
- ❑ Currently no best alternative has been demonstrated adequately to replace mercury in ASGM
- ❑ The Government through the Sustainable management of Mineral Resources Project is dedicated to assist ASM to improve their livelihoods and to demonstrate best practices, including the removal of barriers to alternative technologies to mercury



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