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REPORT ON IMPLEMENTATION OF RETURN TO WORK PLAN FOR ZAMBIAN PARTICIPANTS AT THE REGIONAL TRAINING WORKSHOP FOR THE LOW VALUE MINERALS AND MATERIALS (LVMM) SECTOR HELD IN ADDIS ABABA, NOVEMBER 9-12, 2015

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INTRODUCTION

The first regional training workshop for the Development Minerals project was held in Addis Ababa, Ethiopia in 2016. Zambia was represented by Government officials, Academia and Artisanal and Small Scale miners. The team resolved to jointly implement the Return to Work programme.

RETURN TO WORK PROGRAMME

The Zambian Team developed a Return to Work Programme focussing on Environment, Community, Health and Safety. The following were the main planned activities for implementation:

1) To review and re-organize available geological data to clearly identify development minerals available in Zambia, starting with Lusaka Province where the development minerals sector is noticeably active;
2) To package available information on mineral occurrence, potential for future exploitation, current operations, and opportunities for value addition to artisanal and small scale miners;
3) To undertake visits to mining sites to observe the following:
    a) If there is any value addition process being carried out in the operation;
    b) The environmental impacts of the operations, and mitigation measures being enforced if any;
    c) Impact of the mining operation on:
        i. Gender and health
        ii. Community relations development
        iii. Community health
        iv. Occupational health and safety
4) Upon establishing what is obtaining on the ground, organize sensitization and networking workshops where the various operators in the development minerals sector can be equipped with knowledge on how to run their operations more efficiently in order to minimize the negative environmental and social impacts.

EXPECTED OUTCOMES

Successful implementation of the RWP was expected to achieve the following outcomes:

1) Clear identification of development mineral resources available in Zambia.
2) Improved availability of information on development minerals among stakeholders including artisanal and small scale miners.
3) Artisanal and small scale miners and other stakeholders sensitized on the environmental, community, health and safety impacts and other related issues arising from exploitation of development minerals.
4) Improved networking among players in the development minerals sub-sector.

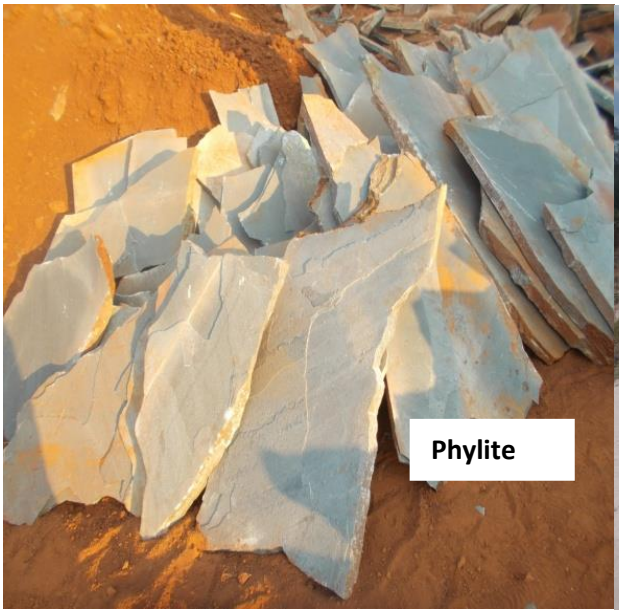
IMPLEMENTATION OF THE RETURN TO WORK PROGRAMME

1. DESK REVIEW

A desk review was done using available geological data to establish the types of development minerals available in Zambia and in Lusaka Province in particular. Lusaka Province was identified for implementation of the Return to Work programme due to a number of reasons including extensive exploitation of development minerals in the area and ease of access by the team which was based in Lusaka. The study revealed that Lusaka had a variety of development minerals most of which were under exploitation. These included limestone, dolomite talc, sand, phyllites and slates. The scale of operation ranged from large scale mechanized quarries to small unlicensed operations.

2. FIELD VISITS

The team undertook several visits to mining and quarrying sites around Lusaka.



Some development minerals being exploited in Lusaka, Zambia

The site visits revealed that the majority of players in the development minerals sector in Lusaka were artisanal and small scale miners who used simple and very basic tools for their operations. In addition, most of these artisanal miners were illegal as they were not licenced. The development minerals sector in Lusaka city and surrounding areas was booming due to the rising demand for construction materials from the growing construction sector. Zambia is one of the highly urbanized countries in Africa. The high urbanization has put a strain on existing urban infrastructure especially housing. Therefore, the construction of new houses, roads and other public infrastructure to carter for the rising urban population presents an opportunity for the development minerals sector to grow and contribute more effectively to national development and poverty alleviation through job creation. However, this has sadly not been the case in Lusaka. Most of the artisanal miners in the sector remain trapped in a poverty cycle partly due to the fact that they are fragmented and hence have no bargaining power causing them to sell their products at low prices, sometimes below the market value.

a) Lilayi Talc Mine

Talc at this mine was being exploited by artisanal miners. The operations only involved extraction of the material by excavating the land to access the Talc which was marketed just after extraction without any on-site value addition. The large pits left after excavation posed a risk to the surrounding community. This was worsened by the fact that this mining activity is taking place in a residential area. The pictures below show the health and safety risks for the miners on site:

Unprotected miners at a Talc Mine in Lusaka

b) Kanyanja Limestone Site

This mine is located in the outskirts of Lusaka and is equally operated by artisanal miners. The commodities being mined at this site were Limestone and Phylite (flat stone). The team observed that the mine pits were left open once the miners had extracted the minerals. Since these miners were illegal, they had no sense of meeting any environmental obligations resulting from their operations. Furthermore, the team also observed during the site visit that the miners were using fire to weaken the rock before breaking it, thereby causing extensive deforestation in nearby forests by cutting down trees for use as firewood in their operations. The lack of technology, coupled with lack of knowledge on proper mining methods contributed to the environmental degradation on site which could have been otherwise mitigated.

Limestone and Talc mine at Kanyanja

c) Katuba Sand Quarry

Like the other mine sites that the team visited, Katuba Sand Quarry, also located outside Lusaka City was operated by artisanal miners and the operations were not mechanized. The Miners worked either as individuals or in small groups. Since they are fragmented but operate from the same place, they are highly exploited by the transporters who buy the commodity from them for resell at a much higher price. Due to lack of bargaining power, the miners would sell sand at a paltry $5 for a 20 tonne load which the transporter would resell for as much as $180 to $200 at a construction site.

Sand being loaded onto a truck at Katuba Sand Quarry

GENDER, HEALTH, COMMUNITY SAFETY AND HEALTH ISSUES

1. Gender

In the visited sites around Lusaka, men accounted for well over 80-90% of artisanal miners (see Table 1). However, it must be noted that at national level, the development minerals sector accounts for one of the highest women participation in the mining sector in comparison with other minerals types such as base metals. At the visited sites, women participation was prominent in transportation (hauling up) of materials, sorting stones, bagging materials and other auxiliary services such as (cooking and cleaning). These evident gender roles were clearly reflected at all the mine sites that were visited.

a. *Lilayi Talc*

b. *Kanyanja Flat Stone mine*

c. *Gender roles in artisanal mining*

d. *Katuba Sand quarry*

Male dominated artisanal mines and roles of women

The team held a number of interviews with the male workers at the mine sites that were visited so as to understand some of the underlying reasons for low female participation in the mining operations. Some of the reasons given were as follows:

- Underlying cultural and social views; mining is generally regarded as a man's job;
- Sexual harassment;
- Lack of motivation; and
- Labor intensive nature of artisanal mining operations does not favour women.

2. Occupational Health and Safety

The team observed that the mining operations at the sites were heavily labour intensive. The miners were exerting a lot of physical strain on their bodies. The lack of Personal Protective Equipment (PPE) coupled with poor sanitation observed at the visited sites further increased the health risks facing the miners. Basic safety equipment such as helmets, safety boots, gloves and dust masks were viewed as a cost

not worth undertaking as this expenditure did not have a direct revenue implication. Furthermore, pit accidents and wall collapses were quite common in these operations, sometimes leading to loss of life or permanent disability. Some of the causes of occupational health and safety deficiencies in small-scale mining identified by the team included lack of awareness on chronic occupational diseases arising from exposure to dust, vibrations, etc. The pictures below illustrate the occupational health risks at the mine sites visited.

Potential health risks affecting artisanal miners

3. Community relations development

Artisanal and Small Scale mining of development minerals has potential to play a more significant role in poverty alleviation and rural development it is the major and in some cases only income earning activity for the players involved. With regard to the pricing of

the commodities, Talc was sold for $45 per tonne while flat stones/dimension stones were going for $15 per tonne. Whether or not the sector is a net contributor to sustainable development is a matter for discussion but one thing is clear; mining of development minerals by artisanal and small scale miners will go on for many years to come.

In order to enhance the sector's contribution to rural development, there is need to make deliberate investment in building entrepreneurship skills among the miners and ensure that environmental obligations are adhered to in order to minimize the negative environmental impacts of mining. It was observed that there were no eminent conflicts with the communities at the visited sites as the mining activities were conducted by members from the local communities. This however, had a negative implication in that it weakened community checks and balances as the communities were unable to effectively hold the miners accountable for the pollution and environmental degradation which were directly affecting community health and safety.

a) Packaging Talc for sale

(b) Heap of flat stones ready for sale

4. Community health

The team noted the following issues that were affecting the health of communities around the mines:

- Dust emanating from excavations;
- Destabilized terrain/landslides and collection of water in excavated pits which were a breeding ground for mosquitoes hence increasing the prevalence of malaria and other water borne diseases in nearby communities;
- Risk of communicable diseases due to poor hygiene and lack of sanitation at mine sites; and
- Noise pollution from blasting and air pollution which could pose respiratory tract diseases in affected communities.

Destabilized terrain and open excavations

Firewood used as catalyst during rock blasting

CONCLUSION

The Return to Work Project was successfully implemented although some planned activities such as developing and conducting tailored training programmes for the miners could not be undertaken mainly due to financial constraints. However, the team undertook extensive sensitization on environment, community health and safety during the visits to the mine sites with a view to share knowledge gained from the regional training workshop that was held in Ethiopia. This information was generally well-received and the miners took the opportunity to share their challenges. The

implementation of the Return to Work Project was very beneficial as it provided an opportunity for the team members to appreciate the ASM development minerals sub-sector in Zambia and put into context the knowledge acquired during the training. Since Zambia was selected as a focal point country for the Development Minerals project in Southern Africa, it will provide an opportunity to build on the return to work project and further build capacity among stakeholders in this sector.