

## MINE WATER & MINE WASTE MANAGEMENT

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# MINING & SUSTAINABILITY | IN KENYA

*Stories from the international training programme on  
mine water and mine waste management - ITP308*




## Mining and sustainability - stories from Kenya

Mining provides livelihood for millions of people across the world, and Kenya is no different. However, while the benefits of mining are apparent, few other industries impact the environment in such an obvious and intrusive way.



Land degradation due to mining activities.





## **Challenges to sustainability**

Mining, in particular the waste left by mining, impacts the surrounding environment and the people depending on it. Social impacts on the local communities can be born from environmental impacts, such as reduced availability of water or pollution. Additionally, large influx of people seeking opportunities in mine areas can also cause social unrest or conflicts with locals. Economic impacts can be positive, providing jobs and livelihood, but are heavily dependent on changes in mineral prices and the finite mineral resources available.

Highly polluted water at an artisanal mining site.



## Inspection and governance

Governance of the mining industry requires knowledge about a broad spectrum of subjects, from geology and geochemistry to social impacts and human rights. Managing and mitigating the environmental and social impacts of mining has come to be one of the most considered aspects when planning, reviewing and permitting mining projects.



Two inspectors monitoring polluted water carrying heavy metals from a mine site.



# Joyce Imende

Environmental inspector



## **Environmental awareness on the rise in Kenya**

With more than 15 years of experience at the National Environmental Protection Agency (NEMA), Joyce Imende has been with the relatively young agency since the very beginning. Throughout her career, she has seen the awareness of environmental concerns grow: both on grassroot levels and within government management.

## **To inspect and having to be an expert on everything**

Despite the positive trend of environmental awareness, challenges to efficiently safeguard the environment in Kenya remains, according to Joyce.

Inspectors have a heavy duty when they are called upon to carry out enforcement and review reports. Whether it be issues connected to mining, plastic or water quality, an inspector must understand the specific challenges in each situation, and know how to indentify risks for environmental or social impacts. Without capacity training, the quality of these inspections are left vulnerable.


After having partaken in the ITP308 together with other colleagues, Joyce now feels that NEMA is gaining in-depth capacity to successfully review and inspect mines in Kenya.

*"For me as an environmental inspector, the ITP308 has been an eye opener."*



## Capacity training for mine inspections

While mining in countries differ from each other, the core challenges are often the same. Sharing experiences and knowledge is important in order to adopt best practices and govern the mining activities in the best way possible. By bringing together professionals from different fields of expertise, we can develop and strengthen interdisciplinary approaches to mining and sustainability.

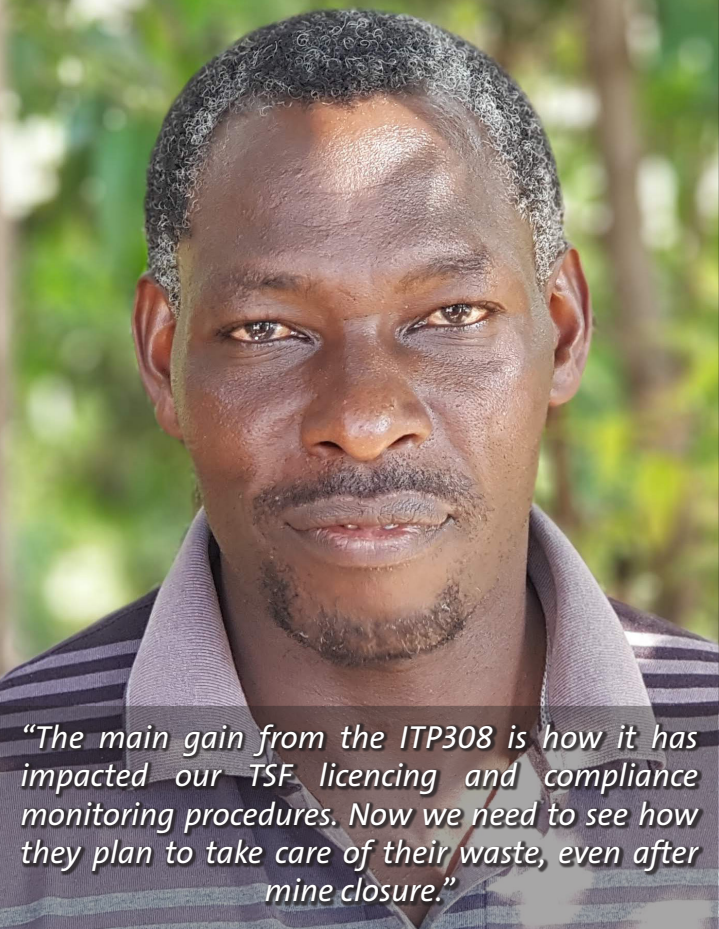


Field visit at the tailings storage facility in Boliden, Sweden, during the ITP308 course.



# Colin Ngigi

Inspector of mines



*"The main gain from the ITP308 is how it has impacted our TSF licencing and compliance monitoring procedures. Now we need to see how they plan to take care of their waste, even after mine closure."*

## Ensuring safe mining in Kenya

With his position at management level within the Ministry of Petroleum and Mining (MoPM), Colin Ngigi is directly involved in the agency's efforts to fulfil its aim: ensuring that Kenyan mining activities are safe and according to the law.

## The challenge to achieve sufficient competence

According to Colin, one of the major areas of concern at MoPM is the competence level of its staff. Although ambitions are high, inspectors are finding many challenges in their work due to the lack of proper training and the wide scope of up-to-date knowledge required to conduct good inspections. Colin is concerned that the relevant national universities programs have some catching up to do to be at par with recognised international standards, and he explains that it is challenging for the agency to train staff internally due to lack of funds.

As such, capacity training is now sought elsewhere to ensure high competence in inspections. Colin emphasises how external training programmes like the ITP308 bring positive organisational change to the activities of MoPM. According to him, staff that are able to attend training get deeper understanding of their role and tasks as inspectors. In addition, the inspectors usually feel more confident and able to deal more efficiently with disagreeing mine operators after trainings.



Woman digging in old mine waste to re-process and extract gold in south-western Kenya.



### **Artisanal small-scale mining (ASM)**

About 150 million people across the world are directly or indirectly dependent on ASM. As ASM-workers are generally untrained, environment and safety practices are usually very poor. Dangerous substances such as mercury and cyanide in gold processing often have devastating impacts on human health as well as on entire ecosystems.



# Elizabeth Ngotho

Environmental inspector



*"I think there is a lot of success in bringing different authorities together in Sweden to discuss the issues of mining. We have come to realise that we cannot separate the issues of the environment from just viewing mining as an economic activity."*

## Mining and development in Kenya

With her background in both environmental and developmental studies, Elizabeth Ngotho specialises in community development within environmental boundaries at NEMA. A growing concern in Kenya is how to make mining activities more beneficial for the local populations, especially in artisanal small-scale mining (ASM) contexts.

## The complexity of ASM

From a state regulatory perspective, ASM poses a huge challenge to inspectors. Elizabeth worries that the wrong approach to ASM could result in a backlash of severe livelihood degradation for the most vulnerable.

Instead of not recognising ASM workers and viewing the entire activity as a crime against the environment, Elizabeth believes that the state should aid them in becoming organised and regulated. In doing so, some basic practices of environmental protection can at least be put in place. She argues that an extensive analysis of these issues are warranted to find long-term and sustainable solutions, and time is of the essence. As long as the matter remain in status quo, vulnerable people will be exposed to harm and devastating environmental degradation will continue.





*"The ITP308 is an International Training Programme committed to knowledge sharing for government officers working with mining and sustainability across the world."*



## **Training programme**

The ITP308 includes a three week course in Sweden, led by experts from government, academia and industry. The course is followed by 10 months of project work supported by a mentor from the Geological Survey of Sweden, SGU.



## **Worldwide networks**

The programme builds and encourages worldwide networks on the subject of mining and sustainability. Professional connections and collaborations are built on transparency and sharing of expertise.



## **Development cooperation**

The programme is funded by the Swedish International Development Cooperation Agency, Sida, and performed by SGU in collaboration with SEPA and LTU. Eligible countries may apply through the online application.

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