

# TOWARDS ASM FORMALISATION IN MOZAMBIQUE: A CASE STUDY



ALLIANCE FOR  
RESPONSIBLE MINING



LEVIN SOURCES

#### **Autors**

#### **Levin Sources**

Rosanna Tufo

Lucie Goulet

#### **Alliance for Responsible Mining**

Baptiste Coue

#### **Collaborators**

#### **Alliance for Responsible Mining**

Juan Pérez García

Carolina Escobar

#### **Design and layout**

Juliana Morales

Alliance for Responsible Mining

[www.responsiblemines.org](http://www.responsiblemines.org)

[arm@responsiblemines.org](mailto:arm@responsiblemines.org)

Levin Sources

[www.levinsources.com](http://www.levinsources.com)

[hello@levinsources.com](mailto:hello@levinsources.com)

# TABLE OF CONTENT

- 1** Introduction
- 2** Towards artisanal and small-scale mining (ASM) formalisation in Mozambique
- 3** Deep dive on cooperative support – case studies from Inhambane, Tete and Zambezia in Mozambique
- 4** How government engagement and capacity building can help foster the formalisation and development of the ASM sector in Mozambique
- 5** Conclusions



## INTRODUCTION

The Alliance for Responsible Mining (ARM), in partnership with Levin Sources and Genesis Lda. has implemented from October 2021 to October 2022 a project seeking to operationalise the government's artisanal and small-scale mining (ASM) development strategy in Mozambique.

The project was funded by The Ministry of Mineral Resources and Energy (MIREME) of Mozambique via the Mining and Gas Technical Assistance Project (MAGTAP) funded by the World Bank.

This initiative aimed to support the formalisation process and implementation of good mining practices in three pilot areas, through the adapted support of four ASM cooperatives covering the provinces of Inhambane, Tete, and Zambezia. The project's participants were four pilot cooperatives and government officers from the National Mining and Geology Department (DNGM) and the targeted provinces. The project included ongoing capacity building of government officials, through the involvement of the implementation of extension services delivered by the team.

Additionally, the consortium developed recommendations for extension services systems following the project implementation.

This publication aims to compile the lessons learned and recommendations for future interventions through three case studies arising from the accompaniment of four cooperatives and public authorities at the local and national levels to operationalise the ASM strategy of the government.

## About the Organizations

**ARM** is a leading global expert on artisanal and small-scale mining (ASM), with a mission to empower artisanal and small-scale miners, their organisation and the adoption of good practices, promoting favourable environments for the inclusion of ASM in the formal economy. ARM works to transform the ASM sector into a socially and environmentally responsible activity while improving the quality of life of artisanal miners, their families, and communities.

**Levin Sources** is the B Corp certified, go-to consultancy enabling governments, businesses, investors and civil society to build sustainable, valuable and equitable minerals value chains. It helps build a just and sustainable sector that generates enduring value for humanity by upholding human rights, protecting the environment, and facilitating sustainable development in line with major voluntary and mandatory Environmental, Social and Governance (ESG) standards.

**Genesis Lda** is a Mozambican company dedicated to providing consultancy services in the areas of Sustainability, Human Resources, Project Management and Logistics.



## TOWARDS ASM FORMALISATION IN MOZAMBIQUE

With an estimated 100,000 to 300,000 people working in it, the artisanal and small-scale mining (ASM) sector in Mozambique is responsible for a significant portion of the country's mining output, especially for minerals like gold.

However, formalisation continues to be a struggle in Mozambique, in particular for miners who are the backbone of the ASM sector even if the geological characteristics of the country are generally not attractive to large-scale operations. One reason for this difficulty is the country's recent history and the dependency on an agriculture-led economy and humanitarian aid, resulting in significant shifts in economic priorities.<sup>1</sup>

To address these challenges, in 2017, the Mozambique government developed a roadmap for the ASM sector, including working with cooperatives towards formalisation by addressing challenges beyond the legalisation process.

Formalisation also means implementing good mining practices (production, health and safety, environmental impact) and improving the economic sustainability of cooperatives to ensure their long-term prospects.

*“Initially, we didn't know how to share benefits or to calculate profits or operational costs. Our focus was on the extraction and on sales,” explained José Daniel Vilanculo, Vice secretary and Communication Officer of the Sonhos de Indudo cooperative (Inhambane) that extracts clay. “Since working with the project, we've started to take all these criteria into account, subtracting from the profit the expenses that relate to brick making.”*

*Education is another example of extension services beneficial to cooperatives, especially “the education around being part of a cooperative. Today, any member of Yapa can explain what a cooperative is, how it emerges, how it gets organized based on the statutes, rules. Thanks to the training, attitude around belonging to a cooperative evolved a lot. Every member now feels ownership,” said Artur Brito, President of the Yapa Cooperative.*

<sup>1</sup> Hilson G, Mondlane S, Hilson A, Arnall A, Laing T. Formalising artisanal and small-scale mining in Mozambique Concerns, priorities, and challenges F-19016-MOZ-1. 2021

The project involved four cooperatives, including Sonhos de Indudo and Yapa, selected following government guidance and a best-practice assessment. Selection criteria included the level of cooperative organisation and governance, production information and dynamics, health and safety and ASM legitimacy. The sites cover the metals and minerals most extracted in Mozambique. They are:

- **In Tete:** a gold cooperative/SME
- **In Zambezia:** a cooperative mining gemstones including tourmaline, beryl, and industrial minerals like tantalite
- **In Inhambane:** two cooperatives extracting clay which is then processed for construction materials and other purposes (like pottery and kitchen stoves)

## Working with the cooperatives on ASM formalisation: a participatory approach

The project kicked off with sites and mining area assessments. Following multi-stakeholder discussions with the government, provincial services and cooperative members, the team drafted action plans for each cooperative focused on most critical issues to support the formalisation process. Crucially, the cooperatives were integral to the design and implementation of each action plan.

This participatory approach has been key to the project's success to date.

*“I liked how project experts incorporated the reality of the miners in the field, teaching the cooperative members face to face during open discussions. If one of our members had some query, then he could directly speak to these people, and most of the topics were solved,” Brito said.*

## Activities undertaken according to the plans included:

- **Organisational and governance support.** The revision of the cooperative statutes, ensuring all members are aware of and agree with their content, and better definition of the internal governance of each cooperative by clarifying its main structures and roles.
- **Legal and licensing support,** including the official publication of cooperative documents and definition of the ASM-designated area for the approval of the Ministry. For instance, Vilanculo from the Sonhos de Indudo cooperative explains they were able to “officially register by publishing its Statutes in the Official Bulletin of the Republic of Mozambique. We always wanted to do it as it was our Achilles heel”.
- **Creation and training of Occupational Health, Hygiene and Safety** committees. Miners were trained on risk and hazard identification and implementing mitigation measures.
- **Technical training and capacity building** on improved mineral processing techniques and development of infrastructure at the mine sites.
- **Introduction to environmental impact assessment and management,** and testing of alternatives to mercury use for gold extraction.
- **Market analysis and marketing plan** for clay products with Vilanculo declaring that “thanks to the project, our work is known at national and international scale”.

Throughout, the partners followed an approach which gives miners maximum ownership of the process. For instance, in June 2022, partners ran a monitoring and evaluation (M&E) session at the cooperative in Zambezia during which miners shared their level of satisfaction and the activities they liked and didn't like.

Overall, participants said they were happy with project interventions, the learning they gained from implementation techniques and how it improved the cooperative. “I appreciate the vision the project brought, including training, because they helped us approach our work from a technical rather than archaic point of view,” Vilanculo explained.

The main challenge to date is the delay in the approval process for the designated area where miners are operating, which is a requirement for all artisanal miners to be able to extract minerals and metals.

## Ongoing capacity building with government officials: setting the ground for the implementation of extension services

Government representatives were involved since the first action, including in the initial assessments, validating action plans for the cooperatives and supporting the implementation of the activities and services described above.

Members of the ASM department at the Ministry of Mines and Energy (MIREME) and representatives from the provincial mining services joined several technical missions. They took ownership for sharing learnings with the members of their teams through presentations on each activity implemented at the mine sites.

In addition, all the actions with the cooperatives were documented by the project team into “operation sheets”, which are simple guides summarising the processes and methods to replicate similar activities in other mining areas.

In July 2022, the consortium organised a “train the trainers” for about 30 representatives from MIREME, across different functions and locations. The material covered included Occupational Health and Safety, gravimetric processing (to capture gold), equipment maintenance and soft blasting for gemstones extraction. The session targeted those government officials responsible for the support and development of the ASM sector, who will oversee the delivery of extension services.



## DEEP DIVE ON COOPERATIVE SUPPORT – CASE STUDIES FROM INHAMBANE, TETE AND ZAMBEZIA IN MOZAMBIQUE

“In the province of Tete, the project brought in changes to the ways the miners work, helped introduce new techniques and supported the cooperative in improving occupational health.”

Amilton Cesar, Formalisation Officer for the province of Tete.



Improving mining operational practices was only one of many aspects of formalisation the project and the Tete-based Eduardo Mondlane cooperative worked on together. Below, we dive into three targeted approaches that the project and pilot cooperatives developed as part of broader action plans implemented at each site over eight months.

- **In Inhambane:** organisational development, market analysis and business management with a clay producing cooperative
- **In Tete:** assisting the Eduardo Mondlane gold cooperative in setting up a sustainable water management infrastructure
- **In Zambezia:** integrating environmental management into the formalisation approach at the Yapa cooperative

With the project concluding in October 2022, the goal is now for the Mozambique government to integrate the approach and learnings from this process into their wider formalisation strategy for ASM.

## **Inhambane:** seeking sustainability for clay cooperatives by improving market understanding and enterprise management

The Sonho de Indudo cooperative uses the clay it extracts to produce bricks for local and provincial markets. The clay bricks value chain is primarily local and presents significant potential for community socio-economic development. During the project's kick-off assessment, it became clear that the cooperative needed to improve its management and sales to generate enough revenues to reinvest in operating costs and income for miners and to guarantee the sustainability of clay bricks production.

As a result, organisational and commercial aspects were central to their action plan. From day one, the project and cooperative members collaborated to strengthen the governance, the job description inherent to each role, and the joint decision-making process among members. Strengthening the organisation was a precondition to improve commercialisation and sales.

## **The work on improving the commercialisation was organised in three stages:**

### **1. Market analysis of clay products**

The market analysis, carried out by project specialists and representatives from the government, mapped out market segments and opportunities for clay products, in particular for clay bricks. It focused on the construction sector, including tourism and public infrastructure.

The analysis involved interviews and meetings with over 20 stakeholders in the province of Inhambane and the city of Maputo. The information collected outlined the strengths and weaknesses of clay products, as well as market opportunities and challenges. The analysis also provided information on the technical requirements from clients for clay products.

### **2. Sharing the outcomes of the market analysis with the cooperative**

The market analysis was a practical exercise rather than a comprehensive and theoretical study. Therefore, the next step was to ensure the learnings from it were transferred to the cooperative in an actionable way. To do so, the project organised a session where members received simple printed information with the results of the market analysis. They had an opportunity to ask questions, share their views and start brainstorming ideas and actions.

### **3. Facilitate discussions and support development of a business and action plan to improve sales**

The last and most important and rewarding stage: seeing how Sonho de Indudu members developed a business and action plan based on the market analysis outcomes. This included reviewing financial and logistical processes as well as the management of the cooperative. This is how the project supported the cooperative for this action:

- First, the cooperative reflected on which market segments to focus on based on the market analysis results and what was most feasible to them. This activity also resulted in the cooperative wanting to develop its own branding for its products.
- In addition, members decided to include after-sale services in their offer, which implies having an expert foreman supporting clients doing construction work with bricks produced by the cooperative. This can increase the value proposed to clients and differentiate them from the many bricks producers in the area.
- Finally, the discussions resulted in the development of an overall business plan where they listed actual and potential clients and engagement channels for each of them and a marketing campaign. The plan included a forecast for sales and associated production and operating costs for the coming 18 months. This complemented the work the cooperative started doing to record sales and production costs, giving members the chance to quantify costs and revenues and to improve the financial management of the cooperative and returns for members.

*“Since the cooperative started to record production and sales information, the members were surprised, first by the level of monthly income earned jointly, and then by the profit attainable after deducting costs,” Nelson Candieiro, Formalisation Officer for the Inhambane province, explained about the outcome.*

The fact the Sonho de indudo cooperative was able to develop their business plan towards the end of the project supports how the cooperative has strengthened its organisational management.

## Tete: developing a sustainable water infrastructure

The ASM gold cooperative of Eduardo Mondlane, in Tete, is located in a dry area where it hardly rains. Collecting the water required for mineral processing involves a 6-kilometres drive to the closest river. When the project selected Eduardo Mondlane as one of four pilot sites, the infrastructure to store the water consisted of two

quite small non-hermetic holds, even though the process relies on its constant use. The consequence was that the miners had to go every week to collect water at the river. This process was resource-heavy and unreliable, at the mercy of a truck breaking down, of funds being available to hire a vehicle, and of water levels in the river. Developing better water storage and recycling was identified as a work stream that would really benefit the cooperative’s efficiency.

*“The introduction of the water management system was one of the most positive aspects for the cooperative action plan implementation with the Eduardo Mondlane cooperative in Chifunde,” Amilton Cesar, Formalisation Officer for the province of Tete, declared as the project concluded.*

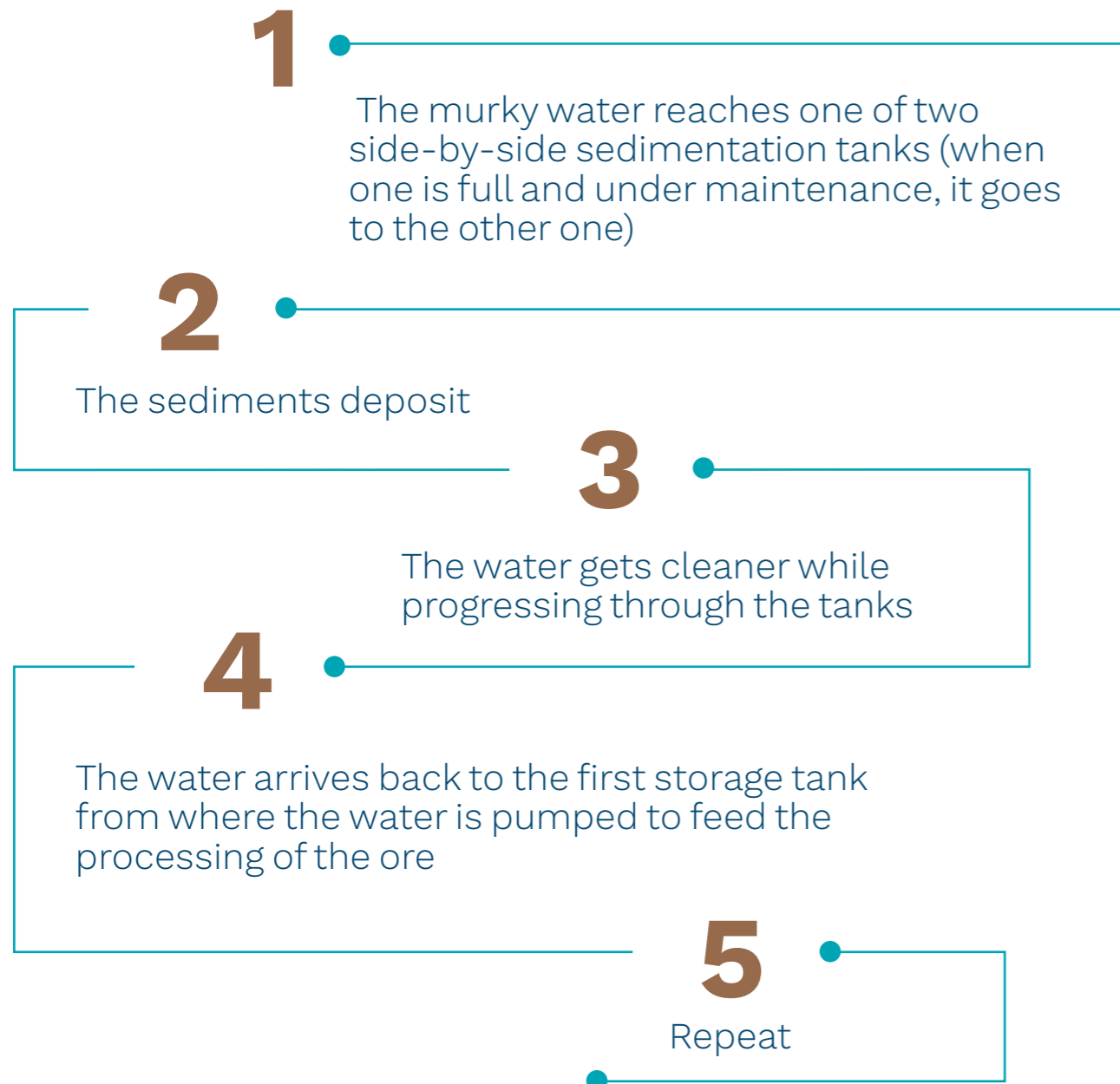
The availability and operational cost of getting water were important to address to get the production flowing and generate sufficient income that would help the miners engage with responsible entrepreneurship. The project aimed to contribute to a processing system that would be both more efficient and reduce the impact on the environment through less water being wasted.

To do so, the team created a storage infrastructure for water, and incorporated a closed water circuit around new gravimetric concentrating methods, where water is used to moisten the ore and help the ore goes down the sluice. Proper water management (availability and continuous flow) can contribute to improved recovery of the gold and efficiency at work.

The project engaged with the miners on the technical aspects of setting up a closed-circuit water storage and recycling system. The technical expert from the project team designed the plan for the water recycling system with two main objectives:

- Ensure the ore processing capacity would not be affected by maintenance needs (e.g. tank getting full).
- Ensure the pumped water for the processing is always clean and not full of sediments.

Based on these two considerations, a two-phase system made of three tanks was set up. After processing the ore:



Once the dimensions of the tanks were defined based on the processing capacity of the cooperative, the cooperative started digging. The initial tests were conclusive, even though some steps were still missing at the end of the intervention to make the water recycling system fully operational due to the project's time constraints. Considering it allows for an improved storage of the water and in a significant amount, the miners will save both money and time thanks to this new infrastructure

## Technical parameters and operating costs of the water recycling system

	Use of water in processing	External water supply	Operating cost	Water loss	Volume of stored water
<b>Before</b>	32 m <sup>3</sup> /week	128 m <sup>3</sup> /month	104,000 MTN/month	32 m <sup>3</sup> /week	7.8 m <sup>3</sup>
<b>Now</b>	32 m <sup>3</sup> /week	20 m <sup>3</sup> /month	17,000 MTN/month	5 m <sup>3</sup> /week	32 m <sup>3</sup>

## Zambezia: integrating environmental management into the formalisation approach

The cooperative of Yapa, in Zambezia, extracts gemstones and industrial minerals in a forested area.

As the project started, miners wanted to increase the production, introduce mechanical tools, and set up a mining camp. All these developments could lead to significant, irreversible impacts onto the environment (deforestation, landscape, river pollution) when they aren't carried out responsibly.

*"The greatest impact of the project was the transfer of useful knowledge for the mining activity. The content was aligned with the real context of the community and gradually improved the administrative, technical and mental capacity of the miners. I believe that this shared knowledge will be transmitted from generation to generation," Carlos Pahate, Formalisation Officer in the province of Zambézia, explained.*

In Mozambique, ASM groups that operate in a Designated Area – which is the aim of Yapa – should comply with basic environmental rules. Therefore, in addition to working with the miners to strengthen their organizational and business capabilities and to improve their technical skills, the project integrated environmental management into the formalisation approach. This, through a really comprehensive approach so that the miners can get ownership of the process.

When miners operate informally (in the case of Yapa, the declaration of a Designated Area for artisanal mining is still pending), implementing environmental actions can be burdensome as they can consider it a low-benefit and risky issue because:

- Producing in an environment-friendly manner may require extra efforts, or at least be perceived as such by miners who primarily want to make a decent living from their work.
- Uncovering bad environmental practices may expose miners to increased administrative burden, financial costs and fines.

To overcome these challenges, the project team approached the environmental action plan in a participatory, progressive and comprehensive way.

The team invited government officers, both from the national ASM department and the provincial authority, to take part in the different activities. Several objectives were pursued:

- 1)** To increase miners' awareness of the environmental impacts of mining operations and their obligation to comply with the to-be-defined good practices.
- 2)** To identify the main environmental impacts (including their frequency and impact level) and specific and realistic mitigation actions miners could implement.
- 3)** To inform sections of the Environmental Management Program to be elaborated by the provincial authority (pilot application based on a new regulation still to be approved).

## How the project delivered the practical implementation:

### Step 1:

An introduction to the environmental approach for the miners delivered at the mining camp, including the basic concepts in relation to environmental management, detailing the four components it relates to (biodiversity of -fauna and flora-, air, rocks, water). The training showed how every human activity generates positive and negative impacts and that the key is to be aware of them and engage in a risk-mitigation strategy (basic actions that reduce the negative outputs and maximise the positive ones). This helped the miners gain confidence in the process and prepare them to be more engaged in the next stage.

### Step 2:

Identify mining-related environmental impacts. To survey the operation and gain an initial idea of the environment and potential impacts, the miners drafted a map of the area where they located the extraction and processing sites, the roads and pathways, the mining infrastructure (camp), the main elements of the environment (forest, rivers, residential area...) and other economic activities (crops). This helped identify the nature and locations of potential impacts. Building from here, the project team, miners and government officers, conducted a field visit to estimate the importance of each element making up the environment of the mining operation, and to identify how the latter could affect the first. Back at the mining camp, the group sorted listed possible impacts per component, rating them in a simple manner (frequency\*seriousness = total impact).

### Step 3:

Identify mitigation measures. After this, the participants identified some good practices the miners could implement to mitigate the main risks highlighted in the previous exercise. The miners identified washing the ore in the riverbed as a major impact. Based on their own observation, overtime fishes have run away and it sometimes became impossible to wash clothes or get water for cooking due to high levels of sediments. To reduce this impact, they committed to improve the mineral selection process so to not carry as much ore to the riverbed, and thus reduce the turbidity of the water. The project suggested washing the ore in a separate processing plant fuelled by the water channeled from the river. A sedimentation tank downstream would ensure that the water that goes back to the river is clean. Following this reflection, the project's technical expert worked with the miners to outline a system that could suit their needs. The project's timeframe did not allow for the construction, but the miners are convinced this investment would be useful and promised to work on its building.

Beyond these concrete steps towards identifying an action plan, **thanks to a comprehensive and participatory methodology, the miners are now aware of the environmental challenges, got ownership of the approach, and are better prepared to integrate all of this into their formalisation process.** In the own words of Sr Brito, president of the Yapa cooperative:

*“By using games, questions, maps, the project team raised awareness among cooperative members of the ways the environment is affected and how we can stop causing additional damage, how we can help the environment and avoid the vegetation and the water to be ruined”.*

While most of the actions are still to be implemented, the participation of the provincial authority in these activities as well as the delivery of a practical implementation sheet should facilitate further tailored engagement from the government with the miners to reduce the environmental impacts. Learnings from the Yapa cooperative can then be rolled out to other ASM cooperatives.





**HOW GOVERNMENT  
ENGAGEMENT AND  
CAPACITY BUILDING  
CAN HELP FOSTER  
THE FORMALISATION  
AND DEVELOPMENT OF  
THE ASM SECTOR IN  
MOZAMBIQUE**



Without government engagement, there can be no operational national Artisanal and small-scale mining (ASM) formalisation strategy.

To achieve this, we built on the project's dual mission of implementing a roadmap focused on formalising ASM pilot areas and developing recommendations for an extension services system. This meant switching the focus from a traditional one-off training session to developing a programme of complementary tools and activities that would allow for ongoing stakeholders engagement and learning.

To deliver on capacity building, officers from the department of ASM (DEMAPE) in the Directorate for Geology and Mines (DNGM) of the Ministry of Energy and Mines (MIREME) and provincial (SPI) and district (SDAE) authorities' representatives were engaged in the entire process.

### 1. Engagement and ongoing capacity building on site during project implementation

Considering the project's short timeframe and its ambitious goals, the team identified the best approach to deliver efficient capacity building for the government from the get-go.

The main strategy: to engage officers from DEMAPE and SPI/SDAE throughout the implementation of activities.

In practical terms, this meant increasing the share of the budget allocated to government engagement and actively involving them in most project activities.

The engagement included four main components:

**a. Government representatives took part in the participative development of cooperative-specific action plans.** The project team suggested that DEMAPE and SPI/SDAE officers accompany all "strategic actions", which are defined as activities pivotal to the ASM cooperative formalisation process. This also meant developing technical methods and tools (e.g. assessment methods, technical recommendations, participatory exercises) to help implement them.

**b. Government officials were involved in all these strategic actions, so that they could experience first-hand what supporting the cooperatives formalisation process meant.** They observed and contributed to the project team's implementation of extension services.

**c.** To make the most of government colleagues' participation, **the project team organised briefings and debriefing meetings** to run them through the methods and activities the project was implementing.

**d.** To conclude each strategic action, in addition to delivering a report, **DEMAPE staff who had participated in the project activity organised a presentation for those colleagues who had not, to transfer the methods learned.**

### 2. Delivery of operational sheets

To capture the methods and tools used by the project team throughout the implementation of extension services across thematic areas (organisational, legal, technical, commercial, environmental, social, etc.), the project team developed operational sheets.

These short documents, very practical in nature, summarise the steps taken for each work stream. They explain processes, methods, tools and key results. The government can use them in the future to appropriate and replicate the activities described and complement the practical knowledge government officers gained during their involvement.

In total, the project delivered 13 operational sheets throughout its implementation.

### 3. Training of trainers

Over the course of a week-long training of trainers, about 30 representatives from government agencies most involved in the ASM sector at the national and provincial levels learnt about health and safety (general H&S, emergency response, ventilation, retention work, and electrical hazards), gravimetric processing and detonation and explosive use in gemstones mining.

The training combined theoretical sessions with practical demonstrations with the equipment available. For instance, attendees were able to use sample machines from the MIREME National Repository similar to the one due to be delivered to partner cooperatives.

#### **4. National workshops: ASM strategy and extensions services and recommendations**

The project organised two national workshops throughout its implementation, which doubled as structural capacity building opportunities for the government. These were an opportunity for discussion and exchange between government representatives.

**1. National workshop to reflect on the ASM legal framework, formalisation strategy and its piloting:** About 30 participants reflected on the government ASM development and formalisation strategy, the international good practices paper submitted by the project and the institutional and legal review of the ASM sector in Mozambique prepared by the project lead.

The institutional and legal review identified limitations in the current legislation and institutional structure which might hinder the formalisation of the ASM sector. Participants then had a chance to discuss practical recommendations to overcome these challenges.

During the workshop, attendees identified gaps in terms of stakeholders knowing the content of this strategy. They concluded that the ASM development and formalisation strategy needed to be revised in its format, translated in Portuguese and proactively promoted not only at the national level but also at the provincial and district ones.

**2. Workshop on recommendations for an extension services system.** The second workshop took place towards the end of the project. Participants discussed the project team's practical recommendations to strengthen and build a national system for extension services to be implemented locally. Attendees reviewed the proposal in detail, looking at opportunities and limitations and offering additional ideas. These were all integrated into the final recommendations report.

During the workshop, participants had the chance to learn from the experience of the agricultural sector, where extension services have been implemented for many years. In that sector, extensionists can support rural development with a focus on the economic actors working in agriculture. Many of the experiences and the concept of rural development are relevant for the ASM sector.

Participants concluded that the sector would benefit from the establishment of a network of extension services agents, generalists in their experience, who would be able to connect miners with technical specialists as needed.

Following the workshop, the project team produced terms of reference for extension services for the ASM sector in Mozambique, which could support their implementation in the future.





## CONCLUSIONS



The project achieved its objectives of effectively contributing to the formalisation process of three mining cooperatives. It also equipped the government with comprehensive training material and operational guidance for future implementation of the national ASM development strategy.

It gave members of the Directorate for Geology and Mines (DNGM) an opportunity to engage with the project activities, gain a solid experience and thorough didactic material to pursue the development and formalisation efforts of the mining groups in the future (on-going support at the mine site and around the mining communities, 13 operation sheets, a training of trainers and 9 technical training modules), as well as reports and group exercises that will facilitate designing the future institutional system in order to establish mining extension services in a sustainable way (2 seminars, 3 good practice, analysis and recommendation reports and 1 document outlining terms of reference for the implementation of extension services in the ASM sector in Mozambique).

The transition from a pilot project to an institutional system, providing extension services to miners, will need much more time and effort than that provided by the Formalisation of Artisanal and Small-Scale Mining project. Apart from the technical aspect of such operationalisation, the government, based on the experience of the project implementation, should also consider introducing new institutional systems - terms of reference for state agencies, budgeting, the appointment of technicians at provincial and district level, procedures, etc. - to make these services functional.

The future of mining extension services in Mozambique is in this order, dependent on MIREME's ability to implement a plan for regulatory reform and institutional restructuring, which we felt had begun over the final weeks of the project's life.

Challenges remain for the Mozambican government to manage the formalisation of its ASM sector. However, the roadmap launched by the government in 2017 and knowledge sharing projects like the one ARM and Levin Sources finalised with expert partners working with key stakeholders in mining communities and provinces open a window of opportunity to strive on operationalizing a national strategy capable to benefit the miners and to make the mining sector a powerful pillar of development for the country.





## **Alliance for Responsible Mining**

[www.responsiblemines.org](http://www.responsiblemines.org)

[arm@responsiblemines.org](mailto:arm@responsiblemines.org)

## **Levin Sources**

[www.levinsources.com](http://www.levinsources.com)

[hello@levinsources.com](mailto:hello@levinsources.com)