

# AUDA-NEPAD Implementation Completion Report

## Southern Africa Tuberculosis and Health Systems Support project, 2017–2024

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## SUMMARY

The Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project, initiated in 2016, addressed significant challenges in tuberculosis (TB) control and occupational lung diseases in southern Africa, where mining and other industries led to high exposure risks. Miners were seven times more likely to contract TB than the general population, exacerbating the spread of drug-resistant strains. The project, implemented across Lesotho, Malawi, Mozambique, and Zambia, with regional leadership from the African Union Development Agency-New Partnership for Africa's Development (AUDA-NEPAD) and the East, Central and Southern Africa-Health Community (ECSA-HC), focused on improving TB control, and occupational health and safety (OHS) services.

Key challenges included gaps in occupational health systems, inadequate mine-health regulatory capacity, and limited involvement of private mining companies in disease control. The project supported OHS legislation reviews, human capacity development, and the establishment of centres of excellence (CoEs), such as the OHS CoE in Zambia. Innovations and operational research provided valuable insights and built a foundation for future interventions.

Over seven years, the SATBHSS project achieved significant progress in strengthening TB and occupational disease management, enhancing regional and cross-border disease outbreak preparedness, and promoting a multi-disease approach to health. The project emphasised the importance of sustaining its gains through continuous mentorship, updating OHS legislation, and ensuring ongoing support from the African Union (AU), AUDA-NEPAD, AU member states, and development partners.

## SITUATION DURING APPRAISAL

**The Southern African Development Community (SADC) region's main economy is based on agriculture, mining, transport, and construction, which are associated with occupational hazards**

Mining-related exposures are associated with an increase in the burden of occupational diseases and accidents in the region. Tuberculosis and occupational lung diseases (OLDs) were among the highest burdens in five countries in southern Africa, due to mobility of workers, especially miners, who were seven times more likely to contract TB than the general population. This has also contributed to the spread of drug-resistant TB strains in the population.

**Most SADC countries have not rectified International Labour Organization (ILO) instruments on Occupational Health and Safety**

The ILO provides key guidance on occupational safety and health (OSH) through Conventions 155, 161, and 187. However, most SADC countries have not ratified these conventions, resulting in a lack of comprehensive OSH policy frameworks in the region.

**Limited availability of occupational health and safety services in the region**

The main challenges in OHS include limited access to OHS services, inadequate or non-existent national legislation, and the absence of OHS policies. The growing informal economy, particularly in

small and informal mining operations, creates various occupational hazards, including exposures to heavy metals and silica-containing dust, and physical hazards in the workplace.

**The Declaration on TB in the Mining Sector was signed during the SADC heads of state meeting in Mozambique in 2012**

The Declaration outlined key challenges related to occupational health in southern Africa, particularly within the mining sector, where job migration contributed to the spread of infections. Issues faced by miners, ex-miners, and their communities included the lack of cross-border medical referral systems, inadequate legal protection for mineworkers, and lack of surveillance, post-employment follow up, and compensation for OLDs. Occupational health and safety challenges included gaps in occupational health systems and services, inadequate mine-health regulatory capacity in most countries, and limited involvement of private mining companies in efforts to control TB and other diseases. The SATBHSS project was developed to address these issues, specifically in Lesotho, Malawi, Mozambique, and Zambia. In 2020, the project was restructured and refinanced to incorporate COVID-19 pandemic response efforts.

## PROJECT DEVELOPMENT OBJECTIVES

The project development objectives (PDOs) were (i) to improve coverage and quality of TB control and OLD services in specific areas in the participating countries, (ii) to strengthen regional capacity to manage



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TB and occupational diseases, and (iii) to strengthen country-level and cross-border preparedness and response to disease outbreaks. The PDOs were technically sound and relevant, and evolved based on early implementation learnings. It was envisioned that five communities of practice (CoPs) would be established for cross-country knowledge sharing in TB care, laboratory and surveillance, research and evaluation, occupational health and safety, and project components.

#### **Relevance of the project development objectives**

##### ***The ongoing concern for World Health Organization reports is undiagnosed and untreated TB cases (missing TB cases) as the source of spreading TB infection***

The project prioritised districts in the four countries based on high disease burdens, border towns, hard-to-reach areas, and high-risk populations (such as miners and ex-miners). The project focused on both demand and supply interventions to enhance early case detection, integrating OHS into public health systems, through capacity building of OHS practitioners in early detection of OLDs and TB. Countries improved mine inspections to meet international standards. However, the direct impact of OHS activities on case detection and treatment success rates could not be validated.

##### ***The project was aligned to national and regional sector harmonised and standardised frameworks, strategies and guidelines of the participating countries on TB, health systems strengthening, and occupational health standards***

The project helped countries to update occupational health services guidelines, develop standard operating procedures (SOPs), and establish codes of practice for occupational health services, which improved medical surveillance in the mining sector. It also built human resource capacity in occupational health. The regional entities (the AUDA-NEPAD and ECSA-HC) were instrumental in the development of guiding documents to advance the OHS agenda.

##### ***The project adapted to the changing environment during implementation***

The project remained relevant in the face of the global Pandemic and natural disasters. In partnership with other regional stakeholders, the AUDA-NEPAD developed COVID-19/OHS

guidelines, which were adopted by countries in various sectors, including mining, education, health, and service industries.

##### ***The project was highly relevant and supported regional collaboration of the components, by working closely with the national ministries of health, mining, and labour***

The AUDA-NEPAD provided technical assistance in the review of OHS regulations and mine inspections, and supported the development of country-led CoPs and CoEs. Mentorship was instrumental in enhancing dialogues, knowledge exchange, and sharing of technical expertise.

#### **Success of the project development objectives**

##### ***Occupational health communities of practice and mine safety standards adopted by countries***

Interviews and field visits across the countries and with external stakeholders showed significant achievements. The AUDA-NEPAD focused on strengthening OHS, which led to the development of a CoP for managing OLDs, an inspection compliance tool, and SOPs for occupational hygiene laboratories. These tools enhanced the quality of government mine inspections and improved compliance within the mining industry.

##### ***Occupational health and safety practitioners trained***

The AUDA-NEPAD supported numerous short-term training opportunities to upskill OHS practitioners in improving the quality and coverage of TB and OLDs in the mining sector. A total of 2 869 OHS inspectors, occupational hygienists, medical doctors, radiologists, and nurses were trained. Training covered the measurement of hazardous chemical substances, occupational noise, the use of portable or tabletop Fourier-transform infrared spectroscopy (FTIR) silica analysis machines and the Nanozen, occupational health principles, ILO Classification of Radiographs of Pneumoconioses, and OHS/COVID-19.

##### ***Occupational health and safety policies, legislations, standards, and guidelines updated or drafted***

The review of the legislation was preceded by a regional study, viz. 'The state of mine health regulation and occupational health and safety services'. A finding was that the project countries do not have

up-to-date occupational exposure limits (OELs). The technical guidance was provided to assist the countries in reviewing/developing legislation to address issues of OHS and capacity building. Thirty-one legislations/regulations were reviewed; eight were adopted. However, the legal OHS environment remains weak as most of the legislation has not been finalised. This may adversely affect the utilisation of skills, hinder access to services, and reduce compliance.

### ***Occupational health and safety and compensation regulations strengthened***

The AUDA-NEPAD planned to facilitate OHS and compensation regulations convened at the Southern Africa Inter-Governmental TB and Silicosis Compensation Engagement – a collaboration with the Tshiamiso Trust and the Medical Bureau for Occupational Diseases (MBOD) in South Africa. The outcomes were the Occupational Health Services Blueprint, and the appointment of an SADC compensation champion. The Tshiamiso Trust agreed to use the existing Occupational Health Service Centre (OHSC) to conduct benefit medical examinations (BMEs) for ex-mine-workers.

### ***Private sector engagement in TB response***

The AUDA-NEPAD conducted a study on private sector engagement in TB control in 2019. Private sector engagement varied by country. Malawi focused on for-profit private healthcare providers, non-profit private healthcare, and Christian Health Association of Malawi and Islamic faith clinics. In Mozambique, the aim of private sector engagement was to improve compliance with regulations through the national Drug Regulatory Authority. Lesotho had two models, viz. purchase of health services, and a memorandum of understanding (MoU) with private for-profit providers, through which the Ministry of Health provided free TB medication. In Zambia, the model was based on the inclusion of for-profit healthcare providers, pharmacies, and traditional healers, through service-level agreements with private for-profit health facilities.

### ***Communities of practice on occupational health and safety***

Mine Health Regulation CoPs were established to promote joint learning, training, and knowledge dissemination on mine-health regulations. The CoPs engaged government officials and agencies such as the World Health Organization (WHO), TB Union, SADC, and International Organization for Migration (IOM).

### ***Centre of Excellence in Occupational Health and Safety (CoE-OHS)***

The CoEs were innovative, catalytic, and satisfactorily undertaken despite delays in infrastructure development. The Occupational Health and Safety Institute (OHSI) renovations and equipment procurement were delayed until the last year of implementation, due to bureaucracies in procurements. The SATBHSS project, through its CoEs, has demonstrated impactful OHS models that provide value for money, effectively leveraging donor and government investments. The next step is to scale these models within and beyond the countries, through strategic partnerships. The CoEs provided a unique and powerful platform for testing innovative solutions to address challenges related to TB and OLDs in the region.

### ***Research studies and advocacy***

Research conducted through the SATBHSS, led by the AUDA-NEPAD, was successful at both regional and country levels; findings were disseminated via knowledge-sharing forums. Twenty-eight papers and reports have been published in international peer-reviewed journals, with more than 20 citations. An additional nine manuscripts are under review. The AUDA-NEPAD provided technical assistance and mentorship to countries in their research agenda. Research findings will be more widely disseminated, to be used for advocacy in TB and OHS programming.

### ***EFFICIENCY***

The economic analysis conducted during the project's appraisal, in 2016, identified the focus on OLDs and mining communities as a highly cost-effective strategy. By addressing the factors driving TB infections in mines and labour-sending areas, the project aimed to support economic growth through increased export earnings and transfer payments.

### ***AUDA-NEPAD efficiency***

A 2019 client satisfaction survey, conducted during the mid-term review, found the AUDA-NEPAD's country support to be effective, particularly in mine-health regulation and occupational health capacity building. However, improvements were needed in conducting regional training and workshops, and implementation support visits.

### ***Factors that affected implementation and outcomes***

#### ***Simple design for a complex regional project***

The project was well structured, with clearly defined objectives and scalable components. The roles and responsibilities of the implementing partners were understood at both regional and national levels.

#### ***Readiness for implementation***

While the project was well designed and scalable, the time needed for initial preparations, such as resource development, baseline studies, and their role in guiding project activities, was underestimated. Additionally, the readiness of participating countries varied.

#### ***Gaps in the results framework***

Gaps remained in the detection and care, treatment and compensation of OLDs, throughout the project.

#### ***Human resources and organisational capacity***

Although the project was implemented satisfactorily, restructuring at AUDA-NEPAD was an issue for both the organisation and the project countries, affecting organisational capacities and implementation progress.

#### ***Legislation and regulations***

The OHS implementation faces challenges such as the slow revision and development of OHS laws, and the underutilisation of sampling equipment, which reduces the project's ability to contribute effectively to the PDOs.

#### ***Technical assistance and capacity building on occupational health and safety***

Technical assistance from regional agencies (the AUDA-NEPAD, ECSA-HC, ILO and WHO) and the World Bank was significant in addressing OHS, TB, and OLD at national levels.



### **Advocacy and knowledge sharing**

The CoP and advocacy events that targeted forums at continental, regional, and national levels, including heads of state, ministers, and technocrats, generated momentum for countries to review their policies and legislation with support from policymakers. Evidence shared in these forums also benefited non-project countries such as Eswatini, which has incorporated OHS into its national health strategy.

### **AUDA-NEPAD PERFORMANCE**

The AUDA-NEPAD project team comprised four technical officers with experience in OHS advocacy and project management. The countries reported that human resources were inadequate to support the implementation of action points agreed upon during CoP-OHS meetings. This affected the availability and implementation of AUDA-NEPAD technical skills, and consultants were employed to address the gap.

#### **Best practices**

##### ***Centre of Excellence on Occupational Health and Safety, Zambia***

The CoEs were innovative and catalytic, and their work was successfully carried out despite delays in infrastructure development. The innovative CoE model has demonstrated a cost-effective approach to OHS and public health, leveraging donor and government investments while serving as a valuable regional public health asset. The next step is to up-scale it within and beyond Zambia, through strategic partnerships. Going forward, the CoEs need comprehensive support in health system strengthening, to fully capitalise on the benefits of infrastructure, staffing, and equipment maintenance.

##### ***Joint occupational health and safety inspections***

Integrating joint OHS inspection structures into existing national frameworks led to early success, by promoting smooth collaboration, effective planning, and resource efficiency. The project also helped countries understand the interconnected roles of the national ministries of health, labour, and mines in advancing OHS.

### **SUSTAINABILITY**

Sustainability is key to healthcare development programmes, ensuring that benefits extend beyond individual project funding. The SATBHSS project incorporated several sustainability elements, including user training, equipment procurement, and robust maintenance service packages to extend the lifespan of equipment. However, a financial sustainability analysis at the appraisal stage revealed that TB and OHS programmes were given low priority in domestic resource allocation.

To boost sustainability at a regional level, the AUDA-NEPAD has established a Human Capital and Institutional Development (HCID) Directorate, where the Human Capital Division houses OHS issues after the finalisation of the project. The Directorate has two staff members seconded to the SADC, and has established a multisectoral and multidisciplinary TB/silicosis/OLD SADC governance structure, supporting regional efforts to end TB and other OLDs.

For effective sustainability of the CoE-OHS, a hybrid funding model is required to allow resource mobilisation from domestic and external sources. It should also strengthen research and consultancy services – both in-country and regionally – and advocate for a ring-fenced budget for the CoE-OHS from the Government of Zambia.

### **LESSONS AND RECOMMENDATIONS FOR REGIONAL AND COUNTRY LEVELS**

The lessons and recommendations from the seven-year implementation of the SATBHSS project are instrumental to ensure that learnings are applied in future regional health projects.

#### **The AUDA-NEPAD regional staff complement supported the countries in the targeted implementation of occupational health and safety interventions, where technical expertise was lacking**

The AUDA-NEPAD staff complement needs to be bolstered for future regional operations (beyond external experts), based on evolving technical needs to boost OHS interventions.

#### **Occupational health and safety regional support provided critical infrastructure and equipment and capacity building, which was useful for the SATBHSS project and led to the establishment of occupational health and safety clinics, targeted at mining populations**

We recommend adoption and finalisation of the remaining OHS country legislations and policies to accelerate institutionalisation and financing of OHS interventions, within the national ministries of health, labour, and mining.

#### **The AUDA-NEPAD propelled the advocacy agenda on TB and occupational health and safety at country and continental levels; however, we note the decreasing domestic financing in TB and occupational lung diseases**

Future projects should have targeted advocacy and innovative message-delivery platforms, including community ambassadors at the regional level. The AU platform should be utilised and outcomes of advocacy efforts should be tracked and assessed. For example, the United Nations High Level Meeting on TB has been instrumental to setting and monitoring global TB targets. The SADC Declaration on TB in the Mining Sector, in 2012, should also be monitored to assess country progress.

#### **Sustainability**

Implementation, using country government structures and enhancing capacity, is critical for ensuring that the SATBHSS project interventions are sustained beyond the life of the project.

#### **Maximise partnerships at regional level**

The partnership between the AUDA-NEPAD, ECSA-HC, and World Bank, as well as the Regional Advisory Committee and CoPs, provided supportive regional mechanisms for the SATBHSS project. This ensured complementary financing and reduced duplications of efforts and transaction costs, with economies of scale in the provision of technical assistance. The partnership was supported by joint implementation support missions led by the World Bank, ensuring comprehensive follow up and supervision of project activities.

#### **Engagement with external consultants and non-governmental organisations**

When working with external consultants, non-governmental organisations (NGOs), or multiple implementing entities, it is critical to ensure effectiveness and uniformity in the delivery of interventions so that agreed-upon service delivery is of acceptable quality. This requires close monitoring and supervision. We noted

a good practice in Mozambique, where the IOM supported the implementation of the OHS clinics with a good success rate, despite the slow transition and future sustainability not being assured.

**The regional coordination role should be facilitative and not overburdened by protocols and procedures**

Despite facing challenges in bureaucracy and implementation, the AUDA-NEPAD demonstrated agility by focusing on core technical areas in OHS and creating effective knowledge-sharing platforms. It also built strong partnerships with the ILO Brazil, MBOD, SADC, and AU.

**The multisectoral approach to occupational health and safety service delivery at regional and national levels was game changing in resources sharing and coordination**

Combined with regional guiding documents, this approach enables the replication of service delivery across countries, with the use of standardised OHS tools and SOPs. We recommend that the AU, AUDA-NEPAD, AU members states, development partners, and the donor community sustain the project gains, focusing on legislative and regulatory frameworks.

**The community of practice created a forum for collaboration and information sharing between regional stakeholders, academia, industry, and regulatory institutions to share lessons and best practices on occupational health and safety issues**

Regional conferences and knowledge-exchange forums should continue as tools for stakeholder education and capacity improvement, sustaining buy-in to the OHS improvement agenda. This should extend beyond the mining and minerals industries; national policies and tools should be inclusive of all sectors in which OHS is needed.

**Information management to track occupational health and safety and inform decisions on continuous improvement is a critical tool to support countries in measuring their progress in occupational lung disease and TB outcomes**

Countries do not currently have indicators to track OHS outcomes. The project supported the development of an OHS information system, but this is yet to be fully rolled out. Integration into national information systems would have been useful. [📌](#)