AIDE MEMOIRE
Southern Africa Tuberculosis and Health Systems Support Project (P1
Summary of Regional Progress, Lessons, and Next Steps
Mid-Term Review Mission, April 22 to May 14, 2019

I. SUMMARY OF FINDINGS AND ACTIONS

1. **Introduction and Acknowledgements:** From April 22 to May 14, 2019, the World Bank conducted a mid-term review (MTR) mission of the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) Project. Based on an Issues Paper developed in close consultation with the client countries and regional organizations, the MTR included country review missions to the four SATBHSS countries—Lesotho, Malawi, Mozambique, and Zambia—and review of regional interventions coordinated by the Eastern Central and Southern Africa Health Community (ECSA HC) and the African Union Development Agency—New Partnership for African Development (AUDA-NEPAD). Because of the regional TB epidemiological context and the transboundary nature of the TB and TB/HIV epidemics, the mission team met with select Ministries and agencies of the Government of South Africa, including the National Department of Health, the National Institute of Occupational Health, and the Medical Bureau of Occupational Diseases. A performance score card assessment helped to gauge ECSA HC and AUDA-NEPAD's performance based on client country feedback. Results were presented at the Regional Advisory Committee meeting with ECSA HC and NEPAD, with the aim of developing action plans to address technical and coordination issues identified by the countries.

2. The objectives of the MTR were to: (i) Revisit the original Theory of Change and project design to reassess key directions the project should pursue to achieve the Project Design Objectives (PDO) and to better respond to national and regional priorities; (ii) Review progress on implementation and achievement of national and regional public goods, as well as reflect on lessons learned in the two years of project implementation; (iii) Review, and adjust as needed, project activities within the context of adopting best-buy interventions in TB care and prevention and responding to disease outbreaks and emergencies in countries participating in the project and in the region; and (iv) Review project management performance (fiduciary, technical, and safeguards) and identify actions to be undertaken going forward.

3. This Aide Memoire offers a summary assessment of regional-level interventions implemented by ECSA HC and AUDA-NEPAD, interventions coordinated with South Africa and other bordering countries, and a status update on the evolving regional technical context. This Aide Memoire complements country Aide Memoires and focuses on interventions targeting the transboundary dimensions of the TB epidemic, and efforts to strengthen regional preparedness for infectious disease outbreaks.

4. The Bank team extends sincere gratitude to the Governments of the Kingdom of Lesotho and the Republics of Malawi, Mozambique, and Zambia, as well as to ECSA HC and AUDA-NEPAD for their thorough preparations before and fruitful collaboration throughout the mission. The mission thanks the Government of South Africa for technical coordination on regional cross-border aspects of the project and for identifying areas to further deepen cross-border surveillance and technical response to TB and other infectious diseases. The mission sincerely appreciates technical inputs from the World Health Organization (WHO) Africa Regional Office and in-country, the International TB Union, the Southern Africa Development Community (SADC), and the US Centers for Disease Prevention and Control (CDC), including the National Institute for Occupational Safety and Health (NIOSH).

5. **Regional Context:** Globally, TB is the leading cause of death due to a communicable disease. Within this context, the Southern Africa region has the highest per capita burden of TB and one of the persistently high death rates per capita from TB and TB/HIV. SATBHSS participating countries are categorized by the WHO as high burden countries for TB, TB/HIV or multi-drug resistant TB (MDR-TB). In addition to having a large TB disease burden, Southern Africa is off track toward achieving the WHO's End TB Strategy targets to reduce TB incidence and mortality by 90% and 95% respectively by 2035. TB treatment coverage in the four participating countries is low, ranging from 48% in Lesotho to 68% in Malawi, implying that many TB cases are missed and treatment outcomes are low.

6. As in the rest of the world, TB in Southern Africa is driven by poverty; the HIV epidemic, combined with poverty, has compounded Southern Africa's devastating TB burden. Close intraregional economic activity has facilitated the spread of disease across porous borders, underscoring the need for coordinated regional actions. Participating SATBHSS countries share the characteristic of cross-border migration of mineworkers. Regionally, among mineworkers and ex-mine workers, levels of TB/HIV coinfection surpass 62% and TB incidence rates are up to seven times higher than among the general population. Weak and outdated occupational health systems with virtually non-existent primary prevention mechanisms in mining areas exacerbate these problems. TB has well-documented transboundary effects and substantial negative spill-over effects that underscore the importance of a coordinated regional response.

7. Further, the emergence of MDR-TB is undermining health systems and economic gains in these countries and in the Southern Africa region more broadly. These countries' health systems have been ill-equipped to deal with the TB burden in that they: (i) struggle to screen, diagnose, and place TB patients on treatment in time; (ii) fail to detect many cases; (iii) have outdated or non-existent occupational and mine health legislation/regulations; (iv) lack adequate management of MDR-TB; and (v) have weak disease surveillance systems.

8. In addition to grappling with a complex TB and TB/HIV burden, the Southern Africa region has experienced—since 2016 (Project launch)—disease outbreaks such as listeriosis, cholera, foot and mouth disease, and weather induced events like Cyclone Idai, with considerable public health consequences. Cross-border areas have proven to be the most vulnerable to these outbreaks and events. For example, Cyclone Idai resulted in the displacement of people in both Mozambique and Malawi, leading to the establishment of camps in border towns. These camps—often overcrowded—create an enabling environment for the rapid transmission of diseases like TB or cholera.

9. The impacts of TB, TB/HIV, and occupational lung disease manifest in loss of human capital, lost economic productivity, and transboundary health effects due to cross-border transmission of TB and drug-resistant cases. TB and TB/HIV are among the top contributors of years of life lost due to premature mortality in the region, especially for the most productive age groups (25-60 years).

10. **Project Scope and Value-Added:** The SATBHSS project was conceptualized in response to the challenges of addressing a complex TB and TB/HIV epidemic in Southern Africa. In addition to tackling TB and occupational lung diseases, the project is supporting investments to strengthen underling health systems and select high-impact, multisectoral occupational health interventions in the mining and labor sectors. SATBHSS supports participating Governments to: (i) tackle TB and other lung diseases linked to the historical and ongoing cross-border movements of migrant laborers to and from South Africa; (ii) build systems and roll out high-impact TB and occupational lung disease prevention services focused on the fast-growing domestic mining sectors of participating countries (large-scale and small-scale); and (iii) strengthen surveillance and response to infectious disease outbreaks in cross-border areas. The project supports implementation of the SADC Heads of State Declaration on TB as an Emergency of 2012 and the Maputo Declaration on Health Laboratory Systems (2008), which emphasize strengthening diagnostic capacity and systems for better disease control outcomes toward Universal Health Coverage and the Sustainable Development Goal target to end TB by 2030. Continued high-level political support of SATBHSS objectives is reflected by designation of the project by Heads of States as an African Union Flagship Initiative in Kigali in 2017 and strong leadership by Permanent Secretaries of Ministries of Health, Mines, Labor, and Finance through the project's Regional Advisory Committee. The project is a unique regional vehicle to implement the WHO's End TB Strategy and most importantly is supporting Southern Africa to confront a disease with well-documented transboundary effects and negative externalities. MDR-TB is one of the world's largest antimicrobial resistant challenges and the project is systematically supporting countries to coordinate investments to be able to detect and respond to the growing threat of MDR-TB.

11. Like other communicable diseases, TB and TB/HIV disproportionately impact the region's poorest populations. The project contributes to the World Bank Group's twin goals to reduce poverty and promote shared prosperity by reflecting institutional commitment to addressing regional public good. TB has

transboundary effects that individual countries in Southern Africa are ill-equipped to tackle alone. Given that TB impacts miners, ex-miners, and their households the most, this project directly contributes to the development and protection of Southern Africa's human capital.

12. **Summary Findings and Conclusions:** The MTR concluded that the SATBHSS project technical design, governance, and implementation arrangements remain largely relevant and appropriate for the Southern Africa context. The regionally agreed targeting criteria, prioritizing populations and geographic areas with documented vulnerability to TB and TB/HIV, was found to remain largely relevant to the TB and TB/HIV epidemiologic contexts. Targeted geographic areas include: mining communities, high TB burden regions, high HIV burden regions, transport corridors, prisons and cross-border areas of the four target countries. Miners, ex-miners, their families, labor-sending areas, and health workers are direct beneficiaries. Based on recent evidence of the high incidence of TB among health care workers[1], the Regional Advisory Committee decided to add health care workers as one of the high priority target groups. In addition, through funding from the project and other partners, over the past two years countries have generated evidence and mapping of the geographic distribution of the TB and MDR-TB burden. Subject to the availability of additional resources, there is a strong interest to expand geographic coverage of the project after the MTR. This is meant to target and saturate geographic areas with high impact TB interventions to achieve maximum impact. In addition, the results framework will be revised to reflect recently-completed SATBHSS project-funded surveys.

13. In terms of TB prevention and management outcomes, the project has contributed to substantial regional and country level improvements to the TB epidemic response. Notable contributions include: (i) ECSA HC support to countries to harmonize the diagnosis, treatment, and cross-border referral of TB and in the process implement International Standards of TB Care; (ii) scale-up of interventions that strengthen the TB continuum of care within and between countries in collaboration with SADC, the Global Fund, and other regional actors, thereby reducing interruption of TB care—a major source of drug resistance and mortality; (iii) critical regional technical support to countries to design and roll out intricate and costly TB interventions, including design of sputum transportation systems for the efficient management of TB, and training health care workers in diagnosis and management of MDR-TB in collaboration with the WHO's accredited centers in Rwanda and Italy; (iv) piloting ground-breaking work in health care worker screening across the region; and (v) building human resource capacity in specialized occupational health areas critical for primary prevention of dust-induced lung disease as well as the timely and accurate screening of miners and ex-miners across the region in partnership with NIOSH.

14. Laboratory management and mentorship is an important area of common need and weakness in the SADC region (outside of South Africa), yet it is central to the successful response to TB. Countries are ill-positioned to strengthen laboratory systems on their own. Through regionally coordinated activities, two labs in Zambia achieved ISO accreditation, and three labs in Lesotho moved closer to four-star SLIPTA rating. In addition, in partnership with the Africa Society for Laboratory Medicine, all countries went through laboratory audits to establish performance baselines and guide lab mentorship towards accreditation plans.

15. The project supported critical disease outbreak preparedness and response interventions, which were instrumental in the successful response to the 2018 cholera outbreak that impacted six SADC countries. Other outbreaks to which ECSA HC supported preparedness and response include listeriosis (South Africa), and Ebola simulations (in cross border areas of the Democratic Republic of Congo and Zambia).

16. **Communities of Practice:** The project established five Communities of Practice (COPs) to promote joint learning, training, and knowledge dissemination on TB prevention and care, diagnostics and laboratory strengthening. These COPs are open to government officials, specialized agencies such as the WHO and TB Union, and regional economic communities such as SADC. Each of the four countries assumed leadership of one COP based on comparative advantage and technical strength and is exercising leadership.

[1] Recent surveys in Mozambique, Lesotho, Zambia, and Zimbabwe found that the incidence of TB among health care workers was double that of the general population. At Maputo Central Hospital, 61% of health care workers screened had latent TB.

17. **Coordination with South Africa:** In light of the complex regional TB and TB/HIV epidemiologic context linked to the historical movement of labor from Lesotho, Malawi, Mozambique, and Zambia to and from South Africa, the project engages the Government of South Africa in coordinating technical TB control interventions with participating countries. The MTR found that engagement through bi-lateral commissions, Communities of Practice, the Regional Coordination Mechanism of the Global Fund TB in the Mines (TIMS) grant, and SADC Health Ministers has enabled participating countries and South Africa to advance implementation of interventions in areas of mutual interest. Agencies such as NIOH have provided specialized technical training and hosted technical staff from Ministries of Health, Labor and Mines from Lesotho, Malawi, Mozambique, and Zambia through AUDA-NEPAD's support. The Medical Bureau of Disease and Compensation (MBOD) and South Africa's National Department of Health have continued to engage with participating countries through the COPs and through Joint Bi-Lateral Missions. Through the regional engagement, the MBOD and participating countries have scaled up cross-border screening and compensation of ex-miners for TB and other occupational lung diseases. There is strong interest from agencies of the Government of South Africa to continue to coordinate interventions with participating countries and to scale up joint implementation in areas such as compensation of miners and ex-miners, development of world class occupational health systems and services, drug-resistant TB management, and operations research.

II. PROJECT DATA

Table 1: Key Project Data (USD millions)

Project Amount	124,210,188.00
Amount Undisbursed	54,725,763.31USD
Disbursement Ratio	52.94%

III. IMPLEMENTATION PROGRESS AND KEY FINDINGS

18. **PDO Statement:** The overall objectives of the project are to: (i) improve coverage and quality of TB control and occupational lung disease services in targeted geographic areas of the participating countries; and (ii) strengthen regional capacity to manage the burden of TB and occupational diseases.

19. **Progress towards the PDO and Results Framework:** PDO indicators are generally on track to be achieved (see Table 2, Page 5). The MTR reviewed PDO and intermediate results indicators considering recently completed project financed surveys and WHO data. Based on this, the Regional Advisory Committee endorsed changes to the results framework Annex 2. These changes will be completed through a formal project restructuring.

20. Through ECSA HC's technical support and the work of the regional COP on M&E, data quality across the region has improved since project inception—with better and accurate data being reported after validation through country and regional data quality assurance systems.

21. At country level, Ministries of Health conducted baseline assessments critical for: (i) generating values for indicators on mining and occupational health, which did not have reliable baseline values at the time of appraisal; (ii) updating/validating indicators on TB coverage and quality; and (iii) generating evidence on programmatic monitoring gaps for TB, particularly in cross-border areas and among key populations targeted by the project.

22. Overall, the regional M&E mechanism has been well-functioning, with ECSA HC's M&E Officer providing regional guidance in coordination with the project coordinator and regional project teams based at ECSA HC and AUDA-NEPAD. M&E activity highlights include: i) harmonization of reporting across countries; ii) continuous learning from reporting on the indicators; iii) development of data collection and

reporting tools e.g. the client satisfaction tool adopted in country data systems; and iv) data quality assurance and assessments led by ECSA HC. Besides specific support on M&E for the Results Framework, both AUDA-NEPAD and ECSA HC have supported countries in implementing interventions that have helped advance progress vis-à-vis the project targets.

Table 2: Regional PDO Indicators Aggregate Summary Performance

PDO Indicators	Baseline	Year 1 & Year 2 (mid-term)		End target Cumulative targets for Year 3,4 &5
		Achievements	Cumulative targets	
POI# 1. TB case notification in target geographic areas	83,045	192,436	185,746	296,072
POI# 2. TB Treatment success rate in target geographic areas: All (i) New and (ii) Relapse TB cases (Percentage)	81.3%	85.8%	88%	90%
POI# 3. TB cases identified through active TB case finding (screening) among TB vulnerable population in target geographic areas (Number)	11,932	23,173	36,715	67,215
POI# 4. Project supported laboratories compliant with regionally harmonized SOPs for surveillance of MDR-TB	58	NA	74	100
POI# 5. Direct beneficiaries (Number), and the share of females among them (percentage) - (all diseases within health facilities including TB).	718,967	27,188,447	1,699,621	3,112,114

Assessment of Progress by Component

Component 1: Innovative Prevention, Detection, and Treatment of TB

23. Summary Progress of Regional Activities Led by ECSA HC: To scale up cross-border TB management and strengthen country level coverage and quality of TB interventions, ECSA HC supported training and on-the-job mentorship and engaged a pool of regional stakeholders, including SADC and the Global Fund TIMS project. With ECSA HC support: (i) 23 health staff from project countries went through technical training and mentorship to redesign and enhance TB sputum sample transport and community and facility based Results Based Financing (RBF) in order to improve TB case detection; (ii) twelve health staff benefitted from capacity development and mentorship to strengthen MDR-TB patients treatment support; (iii) 160 staff were trained and mentored on TB infection control and TB screening in health care workers; (iv) 30 staff were mentored in TB screening for miners and ex-miners; and 22 correctional staff were mentored in TB control in correctional facilities. The interventions have resulted in the design/revamp and roll-out of sputum transport systems in three countries; integration of performance-based funding for improved TB case detection in Lesotho and Zambia; implementation of MDR-TB psychosocial support in three project countries; and improved infection control practices and introduction of health care workers screening in the four project countries. In addition to the training and mentorship, ECSA HC: (i) led the development of guidelines and standard operating procedures for TB management correctional facilities; and (ii) development of a quality improvement guide for all countries.

24. In addition, ECSA HC—in partnership with US CDC and the Biomedical Research and Training Institute (BRTI)—piloted TB infection control (TBIC) innovations and health care worker screening in all four countries. All four countries sent teams to visit Zimbabwe and learn how their program works, and BRTI and ECSA HC followed up with trainings in each country of infection control specialists in TBIC and HCW

screening. ECSA HC will closely monitor the implementation and scale-up of TBIC and health care worker screening.

25. **Moving forward, ECSA HC will**: (i) intensify support for country-to-country learning on innovations in TB case finding and management; (ii) scale up implementation research activities to help countries systematically document their innovations and distill key lessons; (iii) work with Mozambique to design and roll out a sputum transportation system; (iv) support Lesotho to scale up its performance-based contracting approach from two to four highly populated and high TB burden districts; and (v) support Zambia and other countries to scale up the ECHO information management system, which has proven effective for many diseases in many countries and was endorsed by PEPFAR for HIV and TB case-based teaching and monitoring. ECHO can and should be used to teach, follow-up, and review monthly progress on TBIC and health care worker screening from each health care institution, again, beginning with Zambia.

26. **Summary Progress of Regional Activities Led by AUDA-NEPAD:** AUDA-NEPAD primarily supported training, learning exchanges, and development of regional standards and protocols for the management of occupational diseases—with emphasis on secondary prevention (periodic screening of miners and ex-miners). Notable activities and outputs include: (i) TA to the Governments of Mozambique and Zambia in designing and conducting mapping of miners and ex-miners; (ii) support to Zambia to roll out contact tracing for TB among mining communities; (iii) conducted training on International Labour Office (ILO) chest x-ray classification of pneumoconiosis (B-reader) at the COE on occupational health and safety (OHS) in collaboration with NIOSH; and (iv) partnered with the International Labour Organization to roll out HealthWISE (Work Improvement in Health Services) in Lesotho to complement infection control interventions in ten hospitals. The trained occupational health practitioners are working in hospitals to correctly diagnose and treat patients with TB and other occupational lung diseases across the four countries. AUDA-NEPAD, in collaboration with the International Occupational Hygiene Association (IOHA) supported the development of OHS inspection equipment guidelines, which are at early stages of being adapted and rolled out in the four countries. The government of Lesotho has rolled out HealthWISE in district hospitals and other countries have shown strong interest to learn from Lesotho's experience.

27. **Going forward:** There is a clear gap between the scale of activities within each country (as far as occupational health screening and mine safety services) and the level of technical support by AUDA-NEPAD. AUDA-NEPAD will revamp its TA model to countries and take a more "boots on the ground" approach to practically support countries to develop their occupational health services with emphasis on primary prevention (e.g. improving and increasing capacity to implement mine health and safety inspections and oversight). AUDA-NEPAD will scale up technical assistance to the Center-of-Excellence in Zambia to ensure that it achieves basic minimum levels of services to Zambian miners and to position Zambia to provide regional training in lung disease prevention and management and in primary prevention of respiratory diseases in mining settings. Within this context AUDA-NEPAD will provide countries with clear guidance on human resource, infrastructure, and equipment needs to fully realize successful primary and secondary prevention. If the gap cannot be closed with the given resources, AUDA-NEPAD should work with technical partners to find creative ways to close these gaps as much as possible. AUDA-NEPAD will ensure that regional documentation created is published in English and Portuguese for broader accessibility.

28. In addition to the above, AUDA-NEPAD will set up a mechanism for ongoing mentoring for countries in reading digital chest radiography (determining quality, ILO classifications etc.). Related to this, AUDA-NEPAD will immediately implement intensive oversight, support, and mentoring for OHS practitioners in the four countries. AUDA-NEPAD will work closely with NIOSH to support the first cohort of physicians who took the B reader training in November 2018. Miners in Southern Africa are entitled to receive the best diagnosis and care for occupational diseases that exists. Accurate diagnosis using digital chest x-rays has been the standard of care in other countries for decades.

Component 2: Regional Capacity for Disease Surveillance, Diagnostics, and Management of TB and Occupational Lung Diseases

29. **Improving quality and availability of human resources in the targeted areas:** Maintaining and sustaining adequate levels of skilled human resources for health and mine health regulation will improve quality and access to health services for all. The SADC region faces a critical shortage of skilled human resources. Inadequate numbers and poor skills mix obstruct routine TB program management and limit the region's response to MDR-TB, primary prevention in mining settings, and cross-border disease surveillance and response. ECSA HC and AUDA-NEPAD commissioned a needs assessment at the beginning of the project; this needs assessment provided a basis for regional level trainings, mentorship initiatives, and for on-the-job mentorship in critical areas including laboratory management, TB diagnostics, disease surveillance, chest X -ray classification, B reading, occupational health, and operations research.

30. ***Strengthening diagnostic capacity and disease surveillance:*** To strengthen participating countries' diseases surveillance, preparedness, and response to events of public health importance, the project implemented several regional level initiatives that included establishment of cross-border zones (Table 3), conducting of table top simulations, training and capacity building, and implementation of Event Based Surveillance (EBS). Between October 2017 and April 2019, nine of the 25 (36%) identified zones have been established. These zones, led by cross-border committees, have spearheaded joint response to epidemics like cholera and foot-and-mouth disease along the border areas. They have established platforms for formal and informal communication between adjacent districts that never existed before and built capacity of zonal areas to prepare and respond to epidemics and events of public health importance through simulations and training in Threats and Hazard Identification and Risk Assessments (THIRA).

Table 3: Cross-border disease surveillance zones established and operationalized

Countries	Zone	Year of Establishment
Lesotho – South Africa	1. Maseru (Lesotho) Ladybrand (South Africa)	2018
	2. Mafeteng, Mohale's Hoek (Lesotho) Wepener and Zaztron (South Africa	2018
	3. Leribe, Botha Bothe (Lesotho), Thabo Mofutsanyana (S Africa	2017
Zambia – Democratic Republic of Congo	4. Chililabombwe (Zambia) – Sakania (DRC)	2018
Zambia – Zimbabwe	5. Saivonga, Chirundu (Zambia), Kariba, Hurungwe (Zimbabwe)	2019
Malawi-Zambia	6. Mchinji (Malawi) and Chipata (Zambia).	2017
Malawi-Mozambique	7. Moatize, Tsangano, Chifunde, Macanga, Angonia, Mutarara Doa (Mozambiqu), Lilongwe, Dedza, Ntcheu, Mwanza, Chikwawa (Malawi)	2018
	8. Mulanje, Nsanje, Phalombe, Thyolo (Malawi) and Milange, Murrumbala, and Molumbo. (Mozambique)	2018
	9. Salima, Zomba, Machinga, Mangochi and Likoma (Malawi), Mecanhelas, Mandimba, Ngauma, Chimbonila and Lichinga (Mozambique)	2019

31. The cross-border zones have provided a multi-stakeholder and One Health (health, security, customs, immigration, animal health, community leaders, environmental health) formal platform for collaboration between neighboring districts along border areas, which did not exist before.

32. SATBHSS strengthened diagnostic capacity of laboratories in project countries to ensure quality results, including diagnosis and surveillance of MDR-TB. ECSA HC, in collaboration with the African Society for Laboratory Medicine (ASLM) and Supra Reference Laboratory Uganda (SRL-Uganda), assessed the level of implementation of Laboratory Quality Management Systems towards national, regional, or international certification and accreditation of project supported laboratories. In 2017, five of the 12 (42%) assessed

laboratories were below the project target of at least two SLIPTA stars, with two of the laboratories from Zambia achieving international ISO 15189 accreditation status in 2018. Zambia now has the capacity to conduct second- and first-line Drug Sensitivity Testing (DST) through the training coordinated by ECSA HC for its three TB reference laboratories. In Lesotho, the National TB Reference Laboratory and two sub-national laboratories have advanced in ratings from project baseline from one star to three stars. Similarly, in Malawi, three laboratories have achieved the project target of two stars. Additionally, ECSA-HC supported Malawi to finalize guidelines for facilitated structured mentorship. Malawi initiated the mentorship program in March 2019 covering the 9 district laboratories under the project. Across countries, further support is needed to enhance mentorship and quality systems.

33. ***Strengthening mine health regulation:*** AUDA-NEPAD has supported countries to develop guidelines to supervise mines and undertake disease surveillance in mine settings. Reforms to legislation on occupational health and mine regulation has been slowly advancing given the complexity of the envisaged reforms. AUDA-NEPAD's efforts to accelerate the revision and develop of legislation will be critical for primary prevention in mine settings and for the long-term disease prevention and management in mining settings across the region.

34. **Going forward: ECSA HC will** scale up support to: (i) advance countries' progress towards laboratory accreditation; (ii) scale up cross-border infectious disease outbreak preparedness and response; (iii) scale up mentorship-oriented trainings and reduce workshop-based trainings. **AUDA-NEPAD will:** (i) advance the development/reform of outdated mining and occupational health legislation; (ii) scale up mentorship and on-the-job support to countries and shift away from high-level workshop-based approaches; (iii) scale up partnerships with NIOSH to advance B-reading capacity in the region, with priority to the first cohort that was trained in November 2018; and (iv) wrap up a long-delayed study on mine dust control and disseminate the findings by September 2019.

Component 3: Regional Learning and Innovation, and Project Management

35. ***Operational research and knowledge sharing:*** ECSA HC partnered with the International Union Against TB and Lung Diseases and conducted a regional level operations research training for key technical staff from all countries in April 2017. As part of this training, eight topics and protocols for country led operations research studies were finalized. AUDA-NEPAD and ECSA HC also finalized the technical scope of regional studies, which had been originally agreed to during project appraisal. Implementation of these studies is at varying stages, with Mozambique having made the least progress and Lesotho, Malawi, and Zambia having advanced in at least one study each. This is an area with potential to generate ground breaking evidence for the benefit of the region's TB response. However, the slow pace of implementation of the studies is a major concern. The two regional studies AUDA-NEPAD undertook to implement are delayed; AUDA-NEPAD committed to wrap up the studies by August 2019. Going forward, the MTR recommended that the RAC: (i) allow countries, ECSA HC and AUDA-NEPAD to wrap-up previously approved studies and disseminate findings; and (ii) shift focus from stand-alone operations research studies and large-scale regional studies to nimble just-in-time implementation research, which will help inform countries on mid-course changes to technical interventions.

36. ***Centers of Excellence in TB and occupational lung disease control:*** There has been substantial progress in the design and development of countries' Centers of Excellence in the following strategic areas: Lesotho—*community-based management of TB*; Malawi—*community TB care and integrated disease surveillance*; Mozambique—*MDR-TB and childhood TB management*; and Zambia—*OHS*. Other than Mozambique, all countries have rolled out activities of the Centers-of-Excellence with results visible during the MTR. Malawi's Center-of-Excellence is the most advanced and has brought a paradigm shift in TB care at community and facility levels through use of an e-health records platform. This e-health mechanism is proving essential to TB patients and to the Government's efficiency in the management of TB across the continuum of care. Lesotho's model offers a groundbreaking regional learning opportunity on efficient approaches to finding and managing TB cases at community levels through integrated use of demand-side interventions and computer enabled X-ray technology. Zambia's Center-for-Excellence recently hosted the

first-ever regional training in the ILO classification system for the pneumoconiosis for all four participating countries. Performance on the competency exam was poor—attributable primarily to the limited time available for adequate preparation—given competing demands on physicians' time. Recognizing this constraint, the Project intends to provide intensive mentoring to improve physicians' skills in reading digital chest radiographs as well as increased oversight and support to ensure the CoE transitions to switches to modern radiography in line with the vision and objectives of the CoE.

37. ***Going forward:*** Following a protracted procurement process, Mozambique will now accelerate development of its Center-of-Excellence. Malawi will immediately commission a process evaluation of its Center-of-Excellence to document its achievements, lessons, and identify ways to further strengthen its effectiveness. Zambia will work closely with NIOSH to advance the development of Zambia's Center-of-Excellence and to address key gaps identified during the MTR as well as to follow up on the first cohort of physicians who took the B-reading course. Lesotho will aggressively roll out its mobile digital X-rays to communities following the completion of the TB prevalence survey in August 2019.

38. ***Regional coordination, policy advocacy, and harmonization:*** AUDA-NEPAD has played this role with mixed success. The first 18 months of the project saw massive momentum on advocacy and engagement of policy makers and project related communications. Notable being the formal designation of this project as a continental flagship by Heads of State during the African Union Summit in Kigali in 2017. However, there seems to be a decline in momentum on advocacy, in particular, country-level advocacy in the four countries. Project documentation and communication also declined following the departure of the Communications Specialist at AUDA-NEPAD.

39. ***Going forward:*** AUDA-NEPAD will refocus on regional and country level advocacy and recruit a replacement for the Communications Specialist. AUDA-NEPAD will work closely with countries between June and September 2019 to document case studies of project results and lessons learned and create platforms to disseminate such results amongst countries and globally. ECSA HC will strengthen the M&E function to play a catalytic role in further improving the documentation of project outputs and outcomes by all implementers. ECSA HC will submit abstracts for the project to conduct a satellite session in the upcoming International TB Union Conference in October 2019.

40. ***Regional studies:*** Good progress is being made by both agencies to support regional studies. However, there are extensive delays which limit the potential for studies to inform project implementation. A key constraint has been delays in securing ethical clearances from the relevant institutional review boards at the country level. These delays also impact contract execution for the research studies necessitating contract extensions for the consultants conducting the studies to accommodate the delays. Countries are urged to expedite processes for ethical approvals for the research studies involving their countries to avoid unnecessary extensions to the contracts.

41. **Project Management and Accountability:** ECSA HC is effectively coordinating regional level interventions of the project related to TB prevention and clinical management and broader work on health systems strengthening. In doing so, ECSA HC has forged effective partnerships with WHO, International TB Union, SADC, and other organizations. The technical staff contracted by ECSA are evaluated annually and ECSA HC management provides structured feedback to its staff to improve service to client countries. There are evident benefits of ECSA HC working on two Bank financed projects, the East Africa Labs Project and SATBHSS. There is evident cross-regional sharing of experiences and lessons and linkages between the Uganda Supra Regional Laboratory with labs in Southern Africa. ECSA HC needs to scale up management and quality assurance of studies and to wrap up all studies approved by the RAC during the first year of the project by October 2019. ECSA HC needs to scale up: (i) support to countries to intensify TB case finding; and (ii) implementation of cross-border referral mechanisms for TB and other lung diseases with priority on Mozambique (Ressano Garcia) and Lesotho's Point of Care Initiative. ECSA HC needs to systematically engage with the National Department of Health for South Africa to promote south-south learning and joint implementation of MDR-TB interventions following South Africa's successful switch from injectables to oral regimens. ECSA HC undertook to scale up support to the Centers-for-Excellence in Lesotho, Malawi, and Mozambique.

42. AUDA-NEPAD is playing its role as a specialized organization supporting occupational health, legislative reforms and advocacy, and project communications. In doing so, AUDA-NEPAD has forged effective partnerships with ILO, SADC, and select agencies of the Government of South Africa. The technical staff contracted by AUDA-NEPAD are evaluated annually. There is concern with the TA model for AUDA-NEPAD, which is constrained by the limit of 7 days countries per month for staff to travel on mission with client. There is urgent need for AUDA-NEPAD senior management to review this issue so that AUDA-NEPAD technical staff can be fully and effectively deployed to the countries to provide much needed "boots on the ground" support. AUDA-NEPAD needs to scale up support on primary prevention to countries and can partner with specialized agencies including US and South Africa NIOSH. AUDA-NEPAD should also ramp up implementation of HealthWISE to strengthen TB management in health care workers in partnership with ECSA HC and US CDC. AUDA-NEPAD needs to deepen engagement with the Medical Bureau of Diseases and Compensation and the National Department of Health through Communities of Practice and bilaterally for the benefit of the project. AUDA-NEPAD will scale up its communications role and document project related successes and disseminate them within and between countries.

Fiduciary Compliance:

43. **Financial Management:** As part of the MTR, a financial management review was conducted at ECSA HC. Overall, the mission noted that the financial management arrangements are satisfactory and adequate for the management of resources advanced to ECSA HC. The disbursements are on track with 59.59% (USD 5,128,234) of the allocated funds (USD 8,605,360) disbursed to date. The project has not suffered any foreign exchange loss so far, which is positive. Records are properly maintained; internal controls are working; and internal audits carried out semi-annually as planned. External audits have been carried out and reports submitted on time. No major issues have been identified with both internal and external audits. Overall the mission found the financial management arrangements adequate, satisfactory, and acceptable to the Bank.

44. The mission, however, noted a few issues that require to be addressed:

(i) ECSA HC has not been able to draw down the remaining funds from IDA Grant D1170 (Malawi) because the Government of Malawi disbursed 100% instead of the 92% that was intended. *The mission recommends (a) close monitoring of allocations by both ECSA HC and the respective country projects; (b) either ECSA HC is permitted to draw down funds from the Malawi Credit IDA 58640, which still has funds, or the Malawi project management transfers the balance due to ECSA HC to them; and (c) all allocations are locked in client connection in line with the approved amounts as per the financing agreements.*

(ii) There is need to acquire up-to-date accounting software that can generate data for individual projects and sources of funding. It should also be able to handle human resource and procurement areas which the current one is not able to. *It is recommended that ECSA HC look into the costs associated with this software system with a view toward having active projects contribute towards the acquisition of this system.*

(iii) Audit reports are received on time, but management letters that are supposed to come with them are submitted late due to late receipt from the auditors. The auditors also issue one joint management letter for the whole of ECSA HC making it difficult to identify issues that relate to individual projects. *The mission recommends that either individual project management letters are issued or separate sections for each project are identified in the ECSA HC management letter.*

45. **ECSA HC *Procurement Progress:*** The mission reviewed the progress in the implementation of procurement activities under the project and noted that good progress has been made in processing of contracts with most of the package in the Procurement Plan having been procured and under

implementation. The mission has however noted with concerns the delays in entering procurement data in STEP. Delays in entering data in STEP results into a wrong image being portrayed on the status of procurement activities. The delays are also affecting other Bank systems, especially those related to registering signed contracts and payments. The mission urged ECSA to ensure that procurement data for the stages accomplished for all activities are entered in STEP. This will enable the procurement Plan in STEP to reflect actual status of the procurement activities. Going forward, ECSA will have to make sure that data are entered in STEP at the time of taking the action in the procurement process for each activity.

46. ***Procurement Capacity:*** Procurement activities under the project are handled by the Procurement Unit with two procurement officers handling procurement activities for the project and other operations. ECSA HC experienced delays in the procurement of consultancy services for the project to kick-start regional studies due to limited capacity caused by shortage of staff in the procurement unit. An additional procurement officer was recruited specifically to support World Bank projects. Furthermore, a training was organized for capacity building of the technical, procurement and FM staff working on the project. Following these measures, procurement processes have improved with reduced turn around for procurement requests. The project is still facing challenges with STEP in processing contracts because of delays in entering data in STEP. The Bank will provide additional support to ECSA HC on STEP and follow up to ensure that the activities status in STEP is duly updated.

47. Post Procurement Review: A Post Procurement Review (PPR) is planned to be carried out in June 2019. The review exercise is aimed at determining whether the procurement and contracting arrangements were carried out in accordance with the Legal Agreement for the post review contracts. The findings of the PPR will be shared with ECSA HC once finalized.

48. Procurement: The mission reviewed progress against planned procurements as per the Procurement Plan agreed at Appraisal. It was noted that the IT equipment had not yet been procured. On the *study on the state of mine health regulation in the SADC region*, AUDA-NEPAD stated that identifying a suitable firm for the assignment had proved problematic and cooperation with beneficiary countries had proved to be a challenge. There were similar challenges in engaging the *Occupational Health and Safety Officer*. The *study on private sector engagement in TB control* had not progressed as expected as the original firm hired to execute the assignment had underperformed.

49. Over the course of project implementation, the following issues have been noted:

- The procurement capacity of AUDA-NEPAD had been overstated during project appraisal. As a result, the AUDA-NEPAD Procurement Unit could not meet the project expectations. To mitigate this, AUDA-NEPAD hired a Procurement Specialist with prior Bank project experience in 2018.
- Use of STEP was and continues to be a challenge. Several Post Review contracts have been executed but the relevant documentation is still to be uploaded to STEP.
- Quality Control at time of the drafting specifications, conducting evaluations and managing contractual outputs has also proven to be a challenge.
- AUDA-NEPAD's Internal Tender Board system coupled with the World Banks approval systems had led to delays in execution. The current transition of AUDA-NEPAD to an African Union Development Agency will lead to increased internal authorization limits and faster implementation.

50. A post procurement review of one consultant assignment of value US$37,750 was conducted. Both the procurement processing and contract administration were found acceptable. In order to address the challenges noted above, the Bank has requested AUDA-NEPAD—as in the case of ECSA—to undergo training on STEP and to follow-up on a timely basis with the Bank's procurement teams for technical support as needed.

51. Proposed Additional Financing – There is substantial scope and client country demand to scale up the developmental impact of the project. Key priority areas include: laboratory referral and networking; cross-border disease preparedness and response; human resources for health strengthening; and management of

MDR-TB—in which ECSA HC has demonstrated implementation success. There is also scope to expand primary prevention of TB and occupational lung diseases in mine settings and cross-border areas.

IV. NEXT STEPS AND AGREED ACTIONS

52. In line with the conclusions of the Regional Advisory Committee held in Maputo on May 14, the project will be restructured to better align the project's performance measurement framework with the epidemiological and implementation contexts. Specifically, the restructuring will: (i) update the Results Framework to include updated data on the indicators based on recently completed project funded surveys, as well as trends of indicators from the last two years of implementation; (ii) modify select indicators to better align with monitoring and evaluation frameworks at regional and national levels; (iii) introduce indicators to monitor disease outbreak preparedness and response to enable the project to measure the impact of investments supporting cross-border preparedness and outbreak response. This is in line with the countries' increased focus on pandemic preparedness and response and is aligned with the Bank's IDA18 priorities. As agreed during the regional wrap-up, the restructuring will be processed August 2019 and participating countries are expected to submit requests for restructuring by June 30, 2019. Specific details on the proposed restructuring is provided in Annex 3. The process of restructuring will begin in August 2019.

Annex 1: Summary of Agreed Actions

	Actions	Responsible	Due Date
1.	Scale up *primary* TB and occupational lung disease prevention activities across the region	AUDA-NEPAD	Immediately
2.	Systematically Engage the NIOH, NDOH and MBOD in Community of Practice Activities	AUDA-NEPAD & ECSA	Immediately
3.	Intensify implementation and technical support to Zambia Center-for-Excellence (priority focus should be on getting digital X rays up and running by July 30, 2019.	AUDA-NEPAD	Immediately
4.	Submit to the Bank an updated results framework reflecting conclusions of the MTR	ECSA HC	June 30, 2019
5.	Finalize a mentorship plan for the first cohort of physicians who completed the B-reading exam in November 2018	AUDA-NEPAD with NIOSH inputs	June 30, 2019
6.	Upload Post Review contracts to STEP	AUDA-NEPAD	June 30, 2019
7.	Enhance quality control of procurement and contract management through training / support to other entities	AUDA-NEPAD	June 30, 2019
8.	Recruit a replacement for the Communications Specialist	AUDA-NEPAD	July 31, 2019
9.	Review the 7 day per month travel limit to AUDA-NEPAD Technical Staff TA to countries	AUDA-NEPAD	July 31, 2019
10.	Complete all regional studies rolled-over from year 2 and disseminate findings at regional and national levels	ECSA HC and AUDA-NEPAD	September 30, 2019
11.	Scale up Health Care Worker Screening for TB	ECSA HC	December 31, 2019
12.	Intensify TA on Quality Improvement to countries	ECSA	Ongoing
13.	Intensify Technical Support to Centers-for-Excellence in Lesotho, Malawi, Mozambique	ECSA HC	Ongoing
14.	Engage with South Africa National Department for Health on MDR-TB Technical and Learning exchanges with participating countries	ECSA HC	September 30, 2019
15.	Review the Regional Advisory Committee's functioning	ECSA HC	October 30, 2019
16.	Documentation and publication of field implementation success stories/case studies from Countries	AUDA-NEPAD & ECSA-HC	September 30, 2019
17.	ECSA HC and AUDA-NEPAD to develop and submit to the Bank a six months action plan to improve performance in areas identified by client countries.	AUDA-NEPAD and ECSA HC	July 15, 2019

Annex 2: List of Officials Met

No	Name	Organization	Designation	Contact
1	Dr. Spo Kgalamono	National Institute of Occupational Health (NIOH)	Acting Executive Director	011 712 6522 082 873 0119 spok@nioh.ac.za
2	Prof David Rees	NIOH	Head: Occupational Medicine and Epidemiology Division	011 712 6502 0828868084 DavidR@nioh.ac.za
3	Mrs. Jeaneth Manganyi	NIOH	Head: Occupational Hygiene Division	011 712 6406 076 843 6476 JeannethM@nioh.ac.za
4	Mr. David Jones	NIOH	Manager: Occupational Health, Safety and Environment (SHE) Service	011 712 6412 082 809 5992 DavidJ@nioh.ac.za
5	Mr. Lincoln Darwin	NIOH	IT Manager	011 885 5399 063 699 6802 lincolnd@nicd.ac.za
6	Mrs. Shanaz Hampson	NIOH	Manager: Graphics, Marketing & Communication Section	011 712 6467 082 510 1315 shanazh@nioh.ac.za
7	Dr Muzimkhulu Zungu	NIOH	Manager: HIV/TB Unit	011 712 6456 082 880 0961 MuzimkhuluZ@nioh.ac.za
8	Chimwemwe Chamdimba	African Union Development Agency-New Partnership for Africa's Development (AUDA-NEPAD)	Policy Specialist	011 265 3559 082 673 3564 chimwemwec@nepad.org
9	Norman Khoza	AUDA-NEPAD	OHS Specialist	011 256 3502 073 236 3424 NormanK@nepad.org
	Barry Kistnasamy	National Department of Health (NDOH)	Compensation Commissioner	0722200247
	Weitz Botes	NDOH	Acting COO	0732106097
	Tshepi Mtshemla	Wits Health Consortium	Admin	0824901945
	Rob Gray	ECF	PM	0825140387
	Grace Osewe	ECF	Director	+254727702854
10	Ronald Mutasa	World Bank	Task Team Leader	rmutasa@worldbank.org
11	Omer Ramses Zang Sidjou	World Bank	Senior Health Speicalist	rzang@worldbank.org

Annex 3: Results Framework Indicators and Proposed Revisions Post MTR May 2019

Current Indicators	**New Indicators Proposed after MTR (Changed indicators are highlighted in Green)**
POI# 1. TB case notification in target geographic areas	POI# 1.TB case notification in target geographic areas
POI# 2. [1] TB Treatment success rate in target geographic areas (i) New and (ii) Relapse TB cases) (Percentage)	POI# 2.TB Treatment success rate among new and relapse TB cases in target geographic areas (percentage)
POI# 3. TB cases identified through active TB case finding (screening) among TB vulnerable population in target geographic areas (Number)	POI# 3. TB cases identified among TB vulnerable population in target geographic areas (Number)
POI# 4. Project supported laboratories compliant [2] with regionally harmonized SOPs for surveillance of MDR-TB	POI# 4.Project supported laboratories compliant with regionally harmonized SOPs for surveillance of MDR-TB
POI# 5. Downgraded to IOI	POI# 5.Proportion of pulmonary TB cases that are Bacteriologically Confirmed
IOI# 1. Proportion of MDR-TB patients in target geographic areas benefitting from psychosocial OR nutritional support during the treatment period	IOI# 1. Proportion of MDR-TB patients benefitting from nutritional support during the treatment period
IOI# 2. Proportion of miners eligible for compensation due to occupational diseases actually receiving it	IOI# 2. Proportion of miners eligible for compensation due to occupational diseases actually receiving it
IOI# 3. Proportion of TB patients satisfied with TB services as per patient exit surveys or "drop box" feedback in target geographic areas	IOI# 3. Proportion of TB patients satisfied with TB services as per patient exit surveys or "drop box" feedback in target geographic areas
IOI# 4. Percentage of HIV patients routinely screened for TB in targeted geographic areas in the four participating countries	IOI# 4. Percentage of HIV patients screened for TB in targeted geographic areas in the four participating countries
IOI# 5. Proportion of health facilities with TB smear microscopy	IOI# 5. Proportion of new and relapse TB patients tested using WHO-recommended diagnostics at the time of diagnosis.
IOI# 6. Outbreaks for infectious diseases for which cross-border investigation undertaken (number)	IOI# 6. Outbreaks for infectious diseases for which joint cross-border investigation undertaken (number)
	IOI# 6b. Proportion of outbreaks of communicable diseases that are laboratory confirmed"
	IOI# 6c. Number of countries with multi-hazard preparedness plans developed
IOI# 7. Health facilities renovated and/or equipped (number)	IOI# 7a. Health facilities renovated (number)
	IOI# 7b. Health facilities equipped (number)
IOI# 8. Number of countries scaling up Electronic Health Systems for TB case management or laboratory management (number)	IOI# 8. Number of countries scaling up Electronic Health Systems for TB case management or laboratory management (number)
IOI# 9. Number of targeted labs rated 2 stars and above in SLIPTA assessment	IOI# 9. Number of targeted labs rated 3 stars and above in SLIPTA assessment
IOI# 10. Proportion of mines inspected at least twice a year for compliance with national mine health regulations	IOI# 10(a). Proportion of mines inspected at least twice a year
	IOI# 10(b). Proportion of mines inspected least twice a year complying with national mine health regulations
IOI# 11. Number of health personnel receiving training (number)	IOI# 11. Number of personnel receiving training
IOI# 12. Number of countries in which new legislation or amendment to existing mine health and safety legislation are	IOI# 12. Number of countries in which new legislation or amendment to existing mine health and safety

drafted	legislation are drafted and submitted to relevant legislative authority
IOI#13. Number of miners and ex-miners successfully referred and screened for TB and occupational health services between participating countries and within participating countries	IOI#13.a Number of miners and ex-miners successfully screened for occupational lung diseases
	IOI#13.b Number of miners and ex-miners successfully referred for continuity of treatment for TB and other occupational lung diseases between participating countries and within participating countries".
IOI# 14. Availability of harmonized clinical protocols for occupational health in compliance with International best practices (Dropped)	
IOI# 15. Regional operational research studies commissioned and findings, lessons learnt disseminated effectively through national and regional platforms	IOI# 14. Regional operational research studies completed and findings disseminated through national, regional and international platforms.
	1OI# 15. Direct beneficiaries (Number), and the share of females among them (percentage) (WB to help with definition of beneficiaries)*

* ***Proposed definition of direct beneficiaries:*** *Direct beneficiaries are those primarily receiving direct health services from the project including: clients who receive health services from various facilities supported by the project including, health centres and hospitals, port health facilities, PoC centres (e.g TEBA PoC), Health care workers screened at the established wellness clinics, patients receiving nutritional support, clients screened for TB within the correctional health facilities supported by the project, clients receiving health education*

Annex 4: Updated Results Framework

Project Outcome Indicators	Average/ aggregated	Cumulative/ average	Regional Cumulative/ Average	Comments
	Baseline value 2016	Targets 2018	Achievements 2018	
POI# 1. TB case notification in target geographic areas	85095	95109	92325	The indicator is on track towards meeting the end target with overall 8.5% Increase in TB case notification in target geographic areas compared to the baseline of 2016. NTP are enhancing efforts to capture more cases.
POI# 2. [1] TB Treatment success rate in target geographic areas (i) New and (ii) Relapse TB cases) (Percentage)	81%	87.50%	86.00%	The project has improved on this indicator by 5% points (from 81% at baseline to 86% in 2018). NTP will enhance strategies to improve the TSR
POI# 3. TB cases identified through active TB case finding (screening) among TB vulnerable population in target geographic areas (Number)	11932	17890	13780	The project has improved on this indicator by 15.5% points (from 11932 at baseline to 13780 in 2018
POI# 4. Project supported laboratories compliant [2] with regionally harmonized SOPs for surveillance of MDR-TB	61	NA	NA	Tools have been developed to allow reporting from 2019
POI# 5. Direct beneficiaries (Number), and the share of females among them (percentage) - (all diseases within health facilities including TB)	718,967	889,456	22,347,731	Over achieved
Intermediate outcome indicators				
IOI# 1. Proportion of MDR-TB patients in target geographic areas benefitting from psychosocial OR nutritional support during the treatment period	62%	58.75%	83.25%	The project has improved on this indicator by 21.25% points (from 62% at baseline to 83.25 in 2018
IOI# 2. Proportion of miners eligible for compensation due to occupational diseases actually receiving it	32%	20%	33%	Improved on this indicator by 1% points (from 32% at baseline to 33% in 2018
IOI# 3. Proportion of TB patients satisfied with TB services as per patient exit surveys or “drop box” feedback in target geographic areas	83%	59%	88%	The project has improved customer satisfaction by 5% points (from 83% at baseline to 88% in 2018
IOI# 4. Percentage of HIV patients routinely screened for TB in targeted geographic areas in the four participating countries	89%	95%	79%	Countries need to enhance TB/HIV Collaboration
IOI# 5. Proportion of health facilities with TB smear microscopy	25%	33%	42%	The project has improved coverage for TB smear microscopy by 17% points, however countries are investing more on new technologies such as GeneXpert

IOI# 6. Outbreaks for infectious diseases for which cross-border investigation undertaken (number)	3	9	5	The project has conducted 5 joint outbreak investigations in 2018. This indicator is influenced by outbreaks that occurs
IOI# 7. Health facilities renovated and/or equipped (number)	0	37	51	Achieved
IOI# 8. Number of countries scaling up Electronic Health Systems for TB case management or laboratory management (number)	0	1	4	Achieved
IOI# 9. Number of targeted labs rated 2 stars and above in SLIPTA assessment	0	9	7	The project has improved number labs rated 2 stars and above in SLIPTA from 0 in the baseline assessment to 7 by 2018. Two laboratories attained ISO15189 accreditation
IOI# 10. Proportion of mines inspected at least twice a year for compliance with national mine health regulations	0%	39%	42%	Achieved
IOI# 11. Number of health personnel receiving training (number)	0	2075	2604	Achieved
IOI# 12. Number of countries in which new legislation or amendment to existing mine health and safety legislation are drafted	0	1	3	Achieved
IOI#13. Number of miners and ex-miners successfully referred and screened for TB and occupational health services between participating countries and within participating countries	0	No targets	113,904	Targets have been set for the 2019-2021
IOI# 14. Availability of harmonized clinical protocols for occupational health in compliance with International	0	2	Not Reported	
IOI# 15. Regional operational research studies commissioned and findings, lessons learnt disseminated effectively through national and regional platforms	0	7	3	Three studies have been completed while have been commissioned and implementation is in progress though not completed

NB: So far countries had not been able to report on the following indicators but more updates in the next report that is undergoing review to be released by end of June (Annual report 2018)

- POI#4. Regionally harmonized SOPs for the surveillance of MDR-TB was a barrier for assessing compliance of laboratories to these standards. ECSA-HC through CoP for Laboratory and Surveillance developed the standard SOPs, Countries have adopted and began collecting data for this indicator. ***This indicator will be updated in the next reporting.***
- IOI#14 Availability of harmonized clinical protocols for occupational health in compliance with International best practices, AUDA-NEPAD Agency was supporting countries to start reporting on this. **This indicator has been dropped in the** agreed revised compendium of indicators post MTR **(Annex 3)**