SOUTHERN AFRICA TB AND HEALTH SYSTEMS SUPPORT PROJECT

PROJECT NO: P155658

INTERNAL MID-TERM REVIEW REPORT

ECSA-HC

April 2019

List of Acronyms

Amref   African Medical and Research Foundation
ASLM   African Society for Laboratory Medicine
ASLM   African Society for laboratory Medicine
BRTI   Biomedical Research and Training Institute
CBRS   Cross-Border Referral System
CDC   Centers for Disease Control and Prevention
CoE   Centers-of-Excellence
CoP   Community of Practice
DHIS2   Demographic Health Information System Two
DOT   Directly Observed Therapy
DRC   Democratic Republic of Congo
DST   Drug Susceptibility Testing
EAPHLNP   East Africa Public Health Laboratory Networking Project
EBS   Event Based Surveillance
ECSA-HC   East, Central and Southern Africa Health Community
FM   Financial Management
HCW   Healthcare Worker
HIV/AIDS   Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
ICT   Information and Communication Technology
IDSR   Integrated Disease Surveillance and Response
IFRs   Interim Financial Reports
ISO   International Organization for Standardization
LoE   Level of Effort
LTBI   Latent Tuberculosis Infection
M&E   Monitoring and Evaluation
MDR-TB   Multi-drug Resistant Tuberculosis
MoH   Ministry of Health
MoU   Memorandum of Understanding
MTR   Mid-Term Review
NEPAD   New Partnership for African Development
NGO   Non-Governmental Organization
NTP   National Tuberculosis Program
IOM   International Organization for Migration
OOP   Out-of-Pocket
PAD   Project Appraisal Document
PAL   Practical Approach to Lung Health
PBF   Performance Based Financing
PCU   Project Coordination Unit
PDO   Project Development Objectives
PHIM   Public Health Institute of Malawi
PMDT   Programmatic Management of Drug-Resistant Tuberculosis

PoC	Point o Care
QMS	Quality Management Systems
RAC	Regional Advisory Committee
RBC	Research and Biomedical Centre
RCM	Regional Coordinating Mechanism
RF	Results framework
RFP	Request for Proposal
SADC	Southern Africa Development Community
SATBHSSP	Southern Africa Tuberculosis and Health System Support Project
SDGs	Sustainable Development Goals
SLIPTA	Strengthening Laboratory Quality Improvement Process Towards Accreditation
SOP	Standard Operating Procedures
SRL	Supra Reference Laboratory
STEP	World Bank Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
TB	Tuberculosis
TB IC	Tuberculosis Infection Control
TB/HIV	Co-infection Tuberculosis/Human Immunodeficiency Virus
TEBA	The Bureaus of Employment of Africa
THIRA	Threats and Hazards Identification & Risk Assessment
TIMS	Tuberculosis in the Mines of Southern Africa
TOR	Terms of Reference
TTL	Task Team Leader
UNZA	University of Zambia
VRAM	Vulnerability and Risk Assessment Mapping
WB	The World Bank
WHO	The World Health Organization
WHO AFRO	The World Health Organization for African Region
WRD	WHO Recommend Diagnostics

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Executive Summary

TB remains a major global health concern, and it is the leading cause of death from a single infectious disease worldwide, ranking above HIV/AIDS. All SATBHSS countries are included in the WHO list of 30 high burden countries for TB, TB/HIV or Multi-drug resistant TB (MDR-TB). The SATBHSS project is implemented since January 2017 in Lesotho, Malawi, Mozambique and Zambia, to improve coverage and quality of key TB control and occupational lung disease services in targeted geographic areas; and to strengthen regional capacity to manage the burden of TB and occupational diseases.

To strengthen the project countries coverage and quality of TB interventions ECSA-HC provided support to project countries, through capacity development and mentorship, and has engaged a pool of regional stakeholders to tackle cross-border TB management. Though ECSA-HC support, 23 health staff from project countries benefited from capacity development to establish sputum sample transport, Practical Approach to Lung Health (PAL), community and facility based Performance Based Funding (PBF) in order to improve TB case detection; twelve Health staff have benefitted from capacity development and mentorship to strengthen MDR-TB patients treatment support; more than 160 staff trained and mentored on TB infection control and TB screening in health care workers; more than 30 staff mentored on TB screening for miners and ex-miners; twenty two correctional staff mentored on TB control in correctional facilities. The interventions have resulted in implementation of sputum transport systems in 3 out of the four countries; integration of performance-based funding for improved TB case detection in two countries; implementation of MDR-TB psychosocial support in 3 project countries; improved infection control practices and introduction of healthcare workers screening in the four project countries. Additionally, there was improvement of TB detection amongst miners and ex-miners (more than 100%) in one of the project countries; development of guidelines and standard operating procedures (SoPs) for correctional facilities in one project country; and development of a quality improvement guide for one country. SATBHSS project and SADC are now engaged in reviving discussions for harmonization and cross-border TB management, and developing tools for domestication.

ECSA-HC collaborating with other partners was able to support the following training activities; MDR TB management, TB data for decision making, Principles of TB control, TB diagnostics and TB infection control among the key prioritized areas in the training needs assessment. Additional requests were made by the countries on specialized areas they needed support in such as laboratory-based surveillance (Malawi), quality systems improvement, website content management and research methodology to build capacity to conduct prioritized research by all countries, and THIRA (Lesotho). To strengthen capacities of the country teams and enhance learning, the project through the ECSA-HC led activities trained 399 of the planned 315 (126%). The increased numbers were attributed to increased demand of some capacity building opportunities especially the health care workers screening and infection control training and laboratory quality auditors.

To strengthen project countries diseases surveillance, preparedness and response to events of public health importance, the project facilitated implementation of several initiatives that included establishment of cross-border zones, 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 along the border areas, 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 important through simulations and training in Threats and Hazard Identification and Risk Assessments (THIRA).

The project responded to the need to strengthen 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) have assessed the level of implementation of Laboratory Quality Management Systems towards national, regional or international certification and accreditation of project supported laboratories. In 2017, 5 of the 12 (42%) assessed laboratories were below the project target of at least 2 SLIPTA stars, with 2 of the laboratories from Zambia achieving international ISO 15189 accreditation status in 2018. Zambia now have the capacity to conduct second and first line Drug Sensitivity Testing (DST) through the training coordinated by ECSA for its 3 TB Reference laboratories.

Centers of excellence for TB care have been implemented at different paces in project countries. The project has provided support to countries to implement the CoE, and all CoEs have been approved by the World Bank. In Malawi the CoE has been rolled out; in Lesotho an implementing entity has been hired to conduct interventions; and in Mozambique civil works to accommodate the CoE, and the guiding documents are under development.

The project prioritized commissioning of regional studies which were approved during the 1st meeting of the Regional Advisory Committee (RAC) held in December 2016 and are being implemented through various models. Training needs assessment study was completed, clients' satisfaction survey has had initial data collection and reporting been completed through the baseline study and countries commenced implementation of satisfaction survey as a routine application in the project sites and subsequently country wide; the study on Cost-benefit and Health impact of investing in TB control commenced implementation and preliminary findings are available while the out-of-pocket expenditure as a barrier to access to TB services in the region has started in some countries (Malawi and Lesotho). Countries continue to provide leadership in various Communities of Practice (CoP) with ECSA-HC and NEPAD Agency providing coordination. Project outputs and innovations have been disseminated in various fora including, regional and international conferences, project website, technical meetings and

ECSA-HC has continued to coordinate the Monitoring and evaluation (M&E) function in collaboration with the project M&E focal persons in the countries and the Bank. This involved orientation on the project indicators, data quality assessment, reporting and addressing identified the gaps in reporting and supporting implementation of data quality improvements plans. The project has recorded commendable progress with **4 out of 5** PDO indicators achieved or on track.

The project coordination has been strong with seamless inter-countries and inter-agencies linkages in the project implementation to enhance technical assistance from the regional organizations to the countries as well as inter-countries knowledge sharing and support. Additionally, ECSA-HC has continued to establish strategic alliances with other organizations/bodies in order to leverage on the resources available in these institutions to assist the project to deliver on its mandate.

Besides technical performance, ECSA-HC has had good financial performance with current performance of **84%** to the overall budget by March 2019. ECSA HC largely employed competitive procurement processes for good and services in order to get value for money and be cost efficient.

Introduction

Introduction

Tuberculosis (TB) continues to be a global health concern and remains as one of the top ten cause of death worldwide, and the major cause of death from a single infectious disease, ranking above HIV/AIDS. Although there is remarkable decline in new TB cases globally, Africa seems not to be on track for TB elimination by 2035, as prescribed by the end TB strategy and the Sustainable Development Goals (SDGs). The African region remains with the highest TB incidence, estimated at 275/100 000. (Global TB report 2018)[1]

The SADC region also recognized TB as cross-border public health issue and several efforts have been undertaken to tackle TB in the region. These efforts were clearly marked by the development, advocacy and support to implement regional frameworks for harmonized management of TB, MDR-TB, TB in children and adolescents and TB/HIV in SADC region. TB in mining has been recognized as a major driver for TB in African region. African mines report the highest estimated TB incidence in the world, at 3,000-7,000 per 100,000 and yet 70% of occupational TB cases remain undiagnosed.[2] [3] In addition to their work and living conditions, mineworkers in Southern Africa are made more vulnerable to TB and MDR-TB by difficulties they face in accessing health services as a result of frequent migratory movements across borders, informal employment, and poor cross border health referral systems and harmonization of TB management guidelines.[4]

Southern Africa TB and Health Systems Support (SATBHSS) countries are listed amongst the 30 high burden countries for TB, TB/HIV and MDR-TB. In 2017, TB incidence ranged from 131 in Malawi to 665 per 100,000 in Lesotho, with high TB/HIV co-infection rates, estimates range from 40% in Mozambique to 71% in Lesotho. TB treatment coverage ranged from 48% in Lesotho to 68% in Malawi. Treatment success rates for new and relapse patients ranged from 77% in Lesotho to 90% in Mozambique. The estimated number of MDR-TB cases ranged from to 440 cases in Malawi to 8,800 cases in Mozambique. The universal DST coverage is far from being achieved in the four counties, less than 21% of new cases and less 60% of previously treated cases have access to a first line DST in the four countries. The gaps in MDR-TB management are also reflected in the treatment outcomes that ranged from 48% in Mozambique to 66% in Lesotho. [5]

The Southern Africa TB and Health Systems Support (SATBHSS) Project is a regional project covering four countries namely, Lesotho, Malawi, Mozambique and Zambia whose overall goal is to improve coverage and quality of key TB control and occupational lung disease services in targeted geographic areas of the participating countries; and strengthen regional capacity to manage the burden of TB and occupational diseases. The project is also contributing to the enabling the countries meet global target of 90 percent reduction in TB incidence and 95 percent reduction in TB mortality by 2035[6]. The primary beneficiaries of the project will be TB-affected individuals and households. The project will target mining communities, high TB burden regions, high HIV/AIDS burden regions, transport corridors and cross-border areas of the four target countries. Mineworkers, ex-mineworkers, their families, labour-sending areas and health workers,

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[1] World Health Organization. 2018. Global tuberculosis report 2018;

[2] World Health Organization. 2016. Global tuberculosis report 2016;

[3] Dharmadhikari A, SmithJ, et al. (2013); Aspiring to zero Tuberculosis deaths among southern Africa's miners: is there a way forward? International Journal of Health Services; 43 (4); 651–664,

[4] The World Bank. 2014. Benefits and costs of reducing Tuberculosis among Southern Africa's Mineworkers

[5] World Health Organization. 2018. Global tuberculosis report 2018;

[6] Stop TB Partnership and Médecins Sans Frontiers'. 2015. Out of Step. TB Policies in 24 Countries

including women, particularly in the small-scale mining sector will also directly benefit from the project. This project builds and leverages on other ongoing initiatives within the project countries (Global fund grants, CDC project etc) and in the sub-region such as the World bank and Global Fund projects being coordinated by ECSA-HC and the Wits Health Consortium. This project also advances the implementation of the SADC Declaration on TB and the 2008 Maputo Declaration on Health Laboratory Systems, which emphasizes strengthening diagnostic capacity and systems for better disease control outcomes and will contribute to achievement of Sustainable Development Goal target to end TB by 2030.

The interventions are implemented though three overarching components (i) Innovative Prevention, Detection, and Treatment of TB; (ii) Regional Capacity for Disease Surveillance, Diagnostics, and Management of TB and Occupational Lung Diseases; and (iii) Regional Learning and Innovation, and Project Management. Interventions are implemented through a multi-sectorial approach, through the collaboration of three Ministries, namely, the Ministry of Health (through the National TB Control Program), Ministry of Labor and Ministry of Energy (through the department of mines).

The SATBHSS project has a substantial coverage in-country, and is expected to contribute to the attainment of country strategic goals. The project is country-wide in Lesotho, covers 9 Districts across the 3 regions of Malawi, 5 provinces (out of 11 provinces) in Mozambique and 16 districts in 5 provinces (out of 10 provinces in Zambia. The SATBHSS regional project was officially launched in Maputo in December 2016.

The overall objectives of the project are to: (i) improve coverage and quality of key 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. The East, Central and Southern Africa Health Community (ECSA-HC), New Partnership for African Development (NEPAD) and The Southern African Development Community (SADC) are partners in this project. The regional organizations have been supporting the project through providing critical technical assistance, advocacy and galvanizing political support for countries to invest in strategies and plans for tackling TB as a regional public health issue, which is threatening to undermine the regional economic gains.

The Roles of ECSA-HC under the SATBHSSP
ECSA-HC is one of the Regional Coordinating bodies for the SATBHSS-Project and has been mandated to support the countries in the following areas: -

    a. Convening technical experts and policy makers
    b. Support research on TB control and health systems strengthening
    c. Support knowledge sharing
    d. Provide implementation support
    e. Facilitate capacity building and training
    f. Suport harmonization on TB management
    g. Support TB management
    h. Support scale-up of TB diagnosis capacity
    i. Support cross-border surveillance efforts.

Work plan development and approval processes
The regional work plan implemented by the ECSA-HC is informed by (i) countries priorities identified through the country missions, or directly expressed through the Technical assistance needs dialogue directly with the countries' project coordination units; (ii) technical discussions during the discussions of the

communities of Practice; (iii) priorities identified during the meetings of the Regional Advisory Committee (RAC); and (iv) emerging needs in the countries during in the course of implementation such as emergencies that necessitates review of the plans to accommodate new priorities. The work plan is developed and discussed with the country teams and the World Bank before being presented to the RAC for approval. The RAC approved work plan is submitted to the World Bank for clearance before implementation. Any adjustments in the course of the implementation year, has to receive the Bank's clearance and no objection.

The Project Mid Term Review (MTR)
The MTR is undertaken at mid-point of project implementation to flag ways to improve project delivery for the remaining project duration and propose mid-course correction (if any) required in project design, implementation and institutional arrangements in order to improve TB diagnosis in the region. The MTR will be covering all project countries (Lesotho, Malawi, Mozambique and Zambia), the ECSA-HC Secretariat and the NEPAD Agency. It is in this regard that ECSA-HC conducted a self-assessment prior to the External Mid Term Review which will be carried out by the External stakeholders.

Objectives of the Internal Mid-term Review
Broad Objectives
To assess performance ECSA-HC in fulfilling its regional mandate under the SATBHSS-Project for supporting countries to implement TB and integrated disease control interventions

Specific Objectives
a) To assess the role played by ECSA-HC in supporting project countries to achieve the PDO
b) To assess the technical and financial performance of ECSA-HC under the SATBHSSP
c) To determine the contribution of ECSA-HC towards the achievements the PDO

Key evaluation questions
Below are some of the key evaluation questions for ECSA-HC performance during the MTR. Detailed questions by component are hereto attached as Annex I.

a) Was there an added value of having ECSA-HC coordinating the SATBHSS-Project?
b) How effective are the project's approaches in the achieving project outcomes?
c) How did the SATBHSSP countries benefit from the technical support from the ECSA-HC?
d) What is the overall technical and financial performance of ECSA-HC under the SATBHSSP?
e) What are the Innovations, achievements and lessons of ECSA-HC in implementing the SATBHSSP?
f) What are the recommendations for any changes in order to improve the design and delivery of project interventions?

Methodology
ECSA-HC conducted internal self-assessment by reviewing the implementation status of each project component with focus on **Relevance** (need based strategies and linkage with countries' strategies) **and Performance** (looking at **Effectiveness and Efficiency of ECSA-HC's** strategies in implementing and supporting the project countries to implement the planned interventions).
A self-assessment guide drawn from the commitments in the PAD was developed covering key expectations from ECSA-HC (Areas where ECSA-HC was expected to deliver from each of the project components). Group discussions among the key project implementers and desk reviews were done to gather the information on Innovations, achievements and lessons learned for each of the project components.

Findings

This report gives comprehensive highlights on how ECSA-HC responded to the expectations from each of the components as per the PAD and needs of the countries. The findings are organized based on the components as follows:

- Component 1: Innovative Prevention, Detection, and Treatment of TB
- Component 2: Regional Capacity for Disease Surveillance, Diagnostics, and Management of TB and Occupational Lung Diseases
- Component 3: Regional Learning and Innovation, and Project Management

Component 1

Innovative Prevention, Detection and Treatment of TB

Sub Component 1.1: Innovative Prevention, Detection, and Treatment of TB

Under Component 1, the SATBHSS project aims at improving the demand for and availability of high-quality TB, TB/HIV, and occupational lung disease services in targeted geographic areas of the four participating countries. The WHO End TB Strategy and the Harmonized Framework for the Management of TB in the Mining Sector provide the framework and guidance for country and regional implementation.

Subcomponent 1.1: Enhancing case detection and treatment success

Countries and regional organizations have implemented demand and supply-side interventions to enhance early case detection and improve treatment success rates for TB and MDR-TB. On the demand side, the project implemented interventions aimed at strengthening community knowledge and awareness, demystification of TB associated stigma, and community health systems with emphasis on targeting miners, ex-miners and their families. On the supply side, the project supported interventions to improve the clinical quality of services, patient support, and ensuring International Standards for Tuberculosis Care are met across countries. The following section provides detailed outline on progress towards implementation of the planned activities.

A. Intensified TB case finding

ECSA-HC facilitated discussions review strategies to improve coverage and quality of TB services and increase TB case detection and treatment outcomes. In these meetings, the approach was to engage countries' staff, local, regional and international health organizations, and representatives of the civil society organizations representing the beneficiaries of the projects. Dialogues encompassed strategies to expedite achievement of global TB targets, sharing of countries' strategies for enhancing TB case detection and treatment outcomes, challenges and gaps to be addressed towards closing the gap in the provision of TB care. Through these forums, ECSA-HC identified cross-cutting needs from the project countries in order to provide guidance and capacity building; developed and agreed on the capacity development plan and timelines; established the specific country's needs.

(i) Technical support to increase coverage of TB services:

In line with the ECSA-HC mandate to facilitate capacity building and technical assistance to countries on key areas of the project implementation, the project facilitated exchange learning on the following areas: -

a) Strategies to improve TB detection:

In partnership with the School of Public health in Rwanda, ECSA-HC facilitated a knowledge exchange visit with the school of public health on implementation of practical approach for Lung health (PAL). Rwanda has a well-established center of excellence on MDR TB management and PAL core aspect of the CoE. The exchange learning involved 12 health staff from three SATBHSS project countries i.e. Malawi (2), Zambia – (3) and Mozambique (3). Skills and capacities built through the activity encompassed (i) approach to implement PAL at primary health care aiming at improving TB diagnosis and care by improving the quality and efficiency of respiratory care; (ii) guidelines development; (iii) recording and reporting tools; (iv) monitoring and evaluation; (vi) coordination of services between NTP and other

stakeholders. After this exchange, plans were for implementation were developed for the 3 countries with support from ECSA-HC and the National TB Program (NTP) of Rwanda.

During the same period, 12 officers also participated on a knowledge exchange on TB case finding and treatment using community-based structures funded through performance-based financing (PBF) approach.

And lastly, countries also learned from the innovative integrated sample transportation using, where issues of packaging, sample transportation networks, turnaround times, delivery of results and quality assurance were addressed. Learning also encompassed tools used for sample transportation and the integrated laboratory electronic systems.

> **Following the training, Malawi and Zambia strengthened their sputum sample transport system. Mozambique procured motorbikes and deployed in some districts to strengthen sputum sample transport. *None of the countries have been able to implement PAL.***

b) *PBF to improve TB case finding and accelerate implementation TB control strategies*

In response to countries needs to improve TB detection by community structures and at facility level, and to improve performance of key TB indicators, ECSA-HC facilitated a knowledge exchange visit with the Research and Biomedical Centre (RBC) in Rwanda for 11 staff from SATBHSSP countries (Lesotho – 6, Zambia – 6) on performance-based funding for TB at community and facility level. The skills acquires included the models of PBP, indicators, financial management, monitoring and coordination across the various levels.

> **Following the training, Zambia improved their PBF strategy for TB at facility level, and initiated the process of introducing PBF at community level. ECSA-HC provided additional support to Lesotho to develop the PBF performance framework and the guideline for community based TB activities, under the centres-of-excellence for community TB care.**

(ii) *Technical support to increase the quality of TB care*

a) <u>*Technical assistance to improve the quality of care at TEBA points of care:*</u>

Lesotho has been providing TB care for miners, ex-miners and their families at the TEBA points of care for more than 5 years. These are clinics in the TEBA offices, where miners and ex-miners are recruited, paid their salaries and pensions.

The project in Lesotho noted that over the years, the number of TB cases detected has been declining and so has the notification rates, to figures way below reported average estimates in the mining sector. In this regard, ECSA-HC provided support to the Kingdom of Lesotho to assess the pathway for TB detection and quality of TB care provided to in miners, ex-miners and families in TEBA points of care. Three points of care and 33 staff were assessed. Main findings revealed gaps in the client pathway, low screening skills, low uptake of services by clients, especially amongst miners. Recommendations for improvement were provided on key interventions to improve outcomes.

Following this assessment, the TEBA PoCs restructured the screening pathway and improved capacity of screening officers. As result, the number of TB cases in the 3 TEBA PoCs rose from 12 at the assessment date in April 2018 (cumulative numbers from January to April 2018) to 132 by December of 2018. This

was a substantial improvement in comparison with the previous years, i.e. 52 in 2017 and 42 cases in 2016.
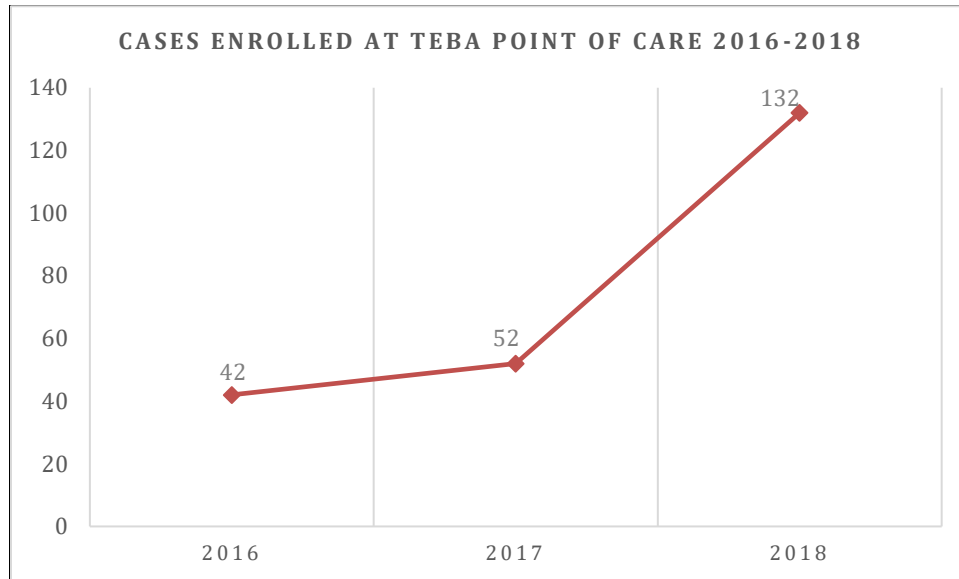
Figure 1: Cases enrolled at TEBA point of care from 2016-2018

b) *Capacity development for TB infection control in correctional facilities*

ECSA-HC at the request of the Lesotho provided support to improve capacity for infection control in order to contribute to reduction of TB infection in correctional facilities as well as improve TB care. The following technical assistance was provided: -

▪ In collaboration with BRTI, ECSA-HC *facilitated a training of 22 trainers f*rom the correctional facilities in Lesotho, aimed at improving TB infection control and TB care in correctional settings. Skills acquired include (i) establishment of managerial and administrative structures for infection control in correctional facilities; (ii) clinical and programmatic management of TB in correctional facilities.

▪ *Support to develop guidelines for TB control in correctional facilities*: In consultation with the country, guidelines was developed for TB control in correctional facilities and delivered to the country. The guidelines are now under review and discussion by country stakeholders prior to implementation.

c) *Guidelines for TB quality improvement*

Quality of care is a critical component of health services delivery particularly in TB care. ECSA-HC has supported the countries to strengthen processes for improving quality of care for TB services. The following activities were undertaken in support of the country programs.

▪ *TB care quality improvement package:* In coordination with NTP staff, ECSA-HC provided support to Mozambique to develop a concept note for TB quality improvement package. The country is in the process of hiring a consultant to develop guidelines and tools. ECSA-HC will support to finalise and implement the strategy as needed.

▪ *Guidelines for TB quality improvement*: ECSA-HC has provided support to Lesotho to develop

guidelines for TB quality improvement. The draft guidelines are now undergoing country review and approval process. The country is however, implementing some of the principles as the formal approval process for the guidelines is being progress before full implementation.

▪ ***TB data analysis and use for decision-making:*** ECSA-HC in collaboration with experts from Kenya and an international technical expert supported capacity building of district TB supervisors in TB data analysis and use for decision-making at the request of the country. The number of TB cases has been declining in Zambia, and the country indicated the need to boost the capacity at district and facility level to use the data generated in order to determine the gaps, and improve TB case detection. ECSA-HC working with Kenya that has implemented such a program in the country developed a customized package of the Union version of the program and trained 30 district coordinators in Zambia. The training provided skills in the use of data generated at facility level to make decisions towards understanding gaps in coverage and quality of health services, and informing on recommendations and decisions towards improvement in TB care and case detection.

Following training in Zambia, the country conducted cascade training to TB coordinators in the project districts. In Lesotho, the country conducted training on infection control for staff at correctional facilities, conducted baseline risk assessments and developed infection control plans for all correctional facilities.

According to the WHO, in 2017, case detection ranged from 48% in Lesotho to 68% in Malawi. In 3 of the four SATBHSS countries 45% and more TB cases are still missed to detection or notification. In addition, the trends in TB notification are declining in 3 out of the 4 SATBHSS countries, except in Mozambique.
TB case detection still requires additional efforts at regional and country level. At country level, interventions are being strengthened to improve the coverage and quality of TB interventions by through capacity development, expansion of laboratory diagnosis, active case finding through community-based structures and implementation of outreach interventions.

At regional level efforts have begun to implement quality improvement strategies. The main goal of this intervention is to conduct a root cause analysis of TB cascade data to understand gaps and areas needing strengthening, developing tailor made capacity building materials for each country. Target group are frontline workers and TB coordinators, in order to empower them to understand patients' pathways, TB cascade and address the challenges using local resources.

B. TB control in key populations
Key populations expected to be reached included among others included miners, ex-miners, their families, health care workers, prisoners, and transports corridor. Interventions towards reaching and improving TB care in key populations have been implemented through establishment of patient centered care for these populations. Interventions targeted miners, ex-miners and their family members, correctional inmates, and a special focus was given to healthcare workers.

(i)   TB infection control and screening for healthcare workers
At the regional level, ECSA-HC spearheaded support for TB infection control and screening for healthcare workers that was identified as a major priority and a cross-cutting issue in the project countries. The

countries are at different stages of implementation of infection control in healthcare settings and of screening of healthcare workers for TB and other occupational hazards. Main challenges affecting the implementation of infection control and TB screening in Health care workers included:- (i) lack of policies, tools and guidelines; (ii) poor reinforcement of guidelines; (iii) none to minimal screening and treatment of healthcare workers for TB; (iv) limited capacity of frontline workers to implement TB infection control; (v) high burden of TB amongst healthcare workers.

As a response, ECSA-HC in collaboration with BRTI and CDC, supported a series of interventions aimed at improving quality of coverage of TB care in HCW, as well as work environment safety through infection control. The following are the activities implemented under this intervention: -

a) ***Development of a strategy/roadmap for strengthening TB infection control and TB HCW screening:*** in collaboration with NEPAD Agency a workshop was conducted in April where 25 officers from SATBHSS countries and stakeholders such as CDC, and the Biomedical Research and Training Institute (BRTI) discussed the current stage of implementation of TB infection control and HCW screening, developed a roadmap for strengthening interventions and, agreed on minimum standards for HCW screening in SATBHSS project countries. The roadmap included interventions at regional and country level: (i) at regional level the plan consisted of regional training of trainers, in-country training and mentorship and support to draft implementation plans to be followed-up in 2018. (ii) at country level plans consisted of in-country plans to strengthen infection control, health care workers screening through wellness clinics as well as other means, in-country training plan, and resources mobilization.

b) ***Regional training on TB screening in HCW and infection control:*** 17 officers from SATBHSSP were trained as trainers in HCW screening and TB Infection Control (Lesotho 4, Malawi – 4, Mozambique – 4, Zambia – 4, ECSA-HC -1), in Zimbabwe by the biomedical Research and Training Institute in collaboration with the nursing department and the NTP. Skills acquired in the regional training encompass: (i) establishment of management Structures for IPC & TBIC; (ii) development of HCW TB screening Policy; (iii) implementation of HCW TB screening program through the wellness clinics; (iv) advocacy and stigma reduction in relation to TB for HW; (vii) development of TBIC and HCW TB screening monitoring tools; (viii) development of country-specific TBIC training and HCW TB screening plans; (ix) Monitoring and Evaluation.

c) ***In-country training and mentorship support to roll out IC and HCW screening programs***: following regional trainings, there were country cascade training for a pool of country trainers and frontline workers. A total of 150 healthcare workers (out of a target of 76) were trained in the four countries, Lesotho (40), Malawi (30), Mozambique (35) and Zambia (45). The skills acquired include: (i) Strengthening Management Structures at district and facility level for implementing IPC/TBIC Program and HCW screening; (ii) Fundamentals of TBIC; (iii) Creating Safe Environments to reduce Occupationally Acquired TB; (iii) Screening of HCW for TB as a stand-alone program or through the Wellness Approach; (iv) TBIC risk assessment; (v) monitoring and evaluation.

After the training cascade, countries developed training and implementation plans with support by BRTI and ECSA-HC technical teams.

More needs to be done to address the burden of TB in HCW. Countries anticipate challenges with acceptance of HCW screening and stigma; infrastructure and human resources are challenging to the implementation of wellness models. For 2019 ECSA-HC has planned to follow-up on interventions in-country, and provide support to consolidate and scale-up achievement made so far.

> Following the regional interventions (trainings and mentorship) the following has been observed in SATBHSS project countries: (i) inclusion of HCW screening in the four countries annual plans for 2019; (ii) implementation of wellness centers and screening of HCW in 4 districts in Lesotho, (ii) revision of screening algorithm and guidelines in Mozambique; (iii) screening of more than 12 thousand HCW in Zambia and introduction of screening in Malawi.

C. Treatment success rates

According to the WHO Global TB report 2018, TB treatment in SATBHSSP countries has been on track for three out of the four countries, except for Lesotho. Treatment outcomes ranged from 77% in Lesotho to 90 % in Mozambique in 2017, with Lesotho being the only country below 87% established as global target in the STOP TB strategy. In Lesotho, the causes of mortality amongst TB patients are not clear. ECSA-HC is providing support to the country to determine the timing for death and socio-demographic and health factors related to TB mortality. ECSA-HC will use the approach of quality improvement to help countries improve quality of care in order to increase treatment success and reduce mortality, after the causes have been determined.

MDR-TB management and patient support

In the SATBHSSP sub-region, there are major challenges in addressing MDR-TB. Case detection amongst TB cases notified is lower than 50% in all four countries. MDR-TB treatment success rates are as well low, ranging from 48% in Mozambique to 66% in Lesotho. (WHO 2018). Other challenges identified by countries, included lack of support systems for patients during treatment, challenges in managing the lengthy MDR-TB treatments and the need expedite introduction of the new WHO recommended short regimens.

(i) Training on advanced MDR-TB management

In support to addressing MDR-TB, ECSA-HC has provided support for capacity strengthening for 6 medical doctors (Malawi – 2, Mozambique – 2 and Zambia – 2), working as focal persons for MDR-TB management in SATBHSSP countries, through the global WHO collaborating center-of-excellence on MDR-TB in Latvia. Skills obtained included the following aspects of programmatic and clinical management of MDR-TB: (i) establishment of patient centered approach for PMDT; (ii) establishment of structures of PMDT at all levels of care, including at community level; (iii) and establishment of social protection services; (iv) improve laboratory diagnostic tests, (v) improve outcomes and reduce toxicity.

(ii) Training and Knowledge exchange on MDR-TB – implementation of short treatment regimens and patient support

ECSA-HC provided support for capacity strengthening and knowledge exchange in the implementation of short MDR-TB regimens, and implementation of patient support system in African settings. This was conducted through a training and knowledge exchange (on-the-site practical lessons) with NTP Rwanda for 12 SATBHSSP country TB officers from Malawi (6) and Zambia (6). The training focused on the

implementation of short MDR-TB treatment regimen and covered the following scope: (i) development of training curriculum for introduction of short MDR-TB treatment regimen; (ii) programmatic and clinical aspects of introduction of short regimen. Additionally, the program covered topics on implementation of patient psychosocial support including: (i) the process and approaches of introducing and managing psychosocial support (nutritional, transport refund and psychological support) for MDR-TB; (ii) recording and reporting tools; (iii) monitoring and evaluation, supervision and auditing.

D. Harmonization cross-border TB management and continuum of care

Following the learning experience, the following were reactions in SATBHSS countries: development and implementation of guidelines and tools for psycho-social support in Mozambique, Malawi and Zambia are now providing nutritional support and transport refunds to MDR-TB patients. All countries except Lesotho are now using the short MDR-TB treatment regimens in the national treatment guidelines

(i) Harmonization of TB Management

Two guiding documents are available at SADC region to ensure harmonization and cross-border TB management of TB (i) The SADC Declaration on TB in the Mining Sector, 2012, and (ii) Framework for the Harmonized Management of TB in the Mining Sector, 2014. The SADC member states adopted these to guide TB control interventions, with emphasis to mining and migrant populations. ECSA-HC in collaboration with other regional organizations namely NEPAD, SADC, CDC and TIMS is supporting the domestication of harmonized frameworks and cross-border collaborations in TB management.

Consultations with SADC revealed that several projects have been working towards reinforcing the implementation of harmonized TB management and cross-border referrals. However, there is no consistent information on the stage of domestication of regional harmonized policies by the SADC member states. The level of coordination by regional organization lacks strength, and there is no effective communication on patient care information across countries.

ECSA-HC support to harmonization was been hampered by the scarce information on the extent to which domestication has been implemented in-countries. In order to provide information on the level of implementation of the harmonized guidelines for TB management to effectively assist the countries, the following activities were undertaken: -

a) Rapid assessment of countries preparedness for cross border TB management

The rapid assessment showed that countries are at different stages of implementation of the harmonized TB guidelines. Mozambique and Lesotho have comparative advantage, due to several initiatives to control TB in the mining sector, arising from the work in South Africa mines. Additionally, the TB diagnosis and treatment guidance in the regional harmonized frameworks, is no longer in line with WHO recommendations. There was no detailed information of challenges at service delivery points.

b) Assessment of harmonized TB management in SADC region

In response to scarcity of information, a consultant has been hired to conduct an in-depth analysis of the domestication of harmonized guidelines. Data collection has been done in Lesotho and partially in Malawi. Results from this assessment are expected to inform further intervention.

Preliminary results show that Despite structural and political drive at regional level to end TB in Southern

Africa, implementation of these policy documents is not very clear partly due to absence of an active driver of regional harmonization activities. Each country has their own TB prevention and control program, but the ownership of the regional program is not obvious. Despite international donors pooling in huge funding for TB activities, the accountability of the national governments it is not clear. It is not very clear the entities that demand accountability and regulatory oversight over individual Member States of SADC on the implementation of the regional frameworks. There have not been developments around the possibility of having one regional health management information systems (HMIS) as part of strengthening monitoring and evaluation for cross-border TB management.

(ii) Implementing tools to facilitate cross-border referral of patients
Another mandate of ECSA-HC in the project was to provide support to develop and implement paper based, electronic tools and SOP to operationalized harmonized guidelines and cross-border referrals.
The development of such tools needs to be informed by the assessment under implementation. An electronic system was developed under the TIMS project to be implemented in the SADC region, and the SATBHSS project is expected to provide support to scale-up the system. There have been dialogues between ECSA-HC, NEPAD, representatives of project countries and TIMS to coordinate the implementation of the system in SATBHSS countries, however, the system has not been delivered for roll out. ECSA will provide support for implementation once system is available to countries.

E. TB prevention

Interventions supported by ECSA-HC are focused on implementation of TB infection control in healthcare settings. Activities encompassed the capacity development and mentoring on TB infection control for the 166-health staff on infection control, held in Zimbabwe and in SATBHSSP countries and the capacity development for infection control in correctional facilities in Lesotho. ECSA-HC will ensure that there is follow-up and consolidation in the interventions initiated in 2019, and that there is a clear roadmap for risk reduction in health facilities. ECSA-HC has also to ensure additional support for TB prevention, and ensure countries are on track in the introduction of new regimens for latent TB infection treatment (LTBI), especially or MDR-TB.

F. Community engagement on TB care

The need for a regional approach for community-based TB intervention led by regional organizations, emphasizing on reaching undocumented miners and migrants with TB, was highlighted during the first community of practice on continuum of care. The preliminary results from the current assessment on harmonized guidelines have shown that there are no formal mechanisms to provide formal user-friendly services for these populations. ECSA-HC proposed to develop a regional strategy on community engagement with interventions for finding TB amongst mining community, with emphasis to undocumented miners and migrants, and ensure continuum of care. Unfortunately, there is currently no funding for this strategy. Discussions regarding ways to address these communities are included in the CoP on continuum of care.

Other support provided by ECSA-HC for community engagement in TB has been through technical support, such as, (i) support to Lesotho under the centers of excellence for community TB care; and (ii) support to Mozambique to develop concept note for community based MDR-TB treatment.

Component 2

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

Sub Component 2.1: Improving quality and availability of human resources in the target areas

> This subcomponent aimed to support the development of a skilled health workforce related to project activities based on a regionally defined curriculum and mentoring and knowledge sharing in three critical areas: (i) case detection and management of TB; (ii) mine health regulation and occupational services; and (iii) disease surveillance and diagnostics

Human resources for health are a key input for health service delivery. Therefore, maintaining and sustaining adequate levels of skilled and competent human resources is cardinal to ensure better health for all. Some of the reasons leading to the global human resource crisis include: death, migration, low motivation and lack of capacity development programs (WHO 2015). It is essential to understand the nature and context of how the human resource crisis threatens efforts to accelerate access to universal health care.

A. Training needs assessment

In order to ascertain the specific skills that are required to address some of the major emerging issues that are possibly retarding the progress towards the control of the TB burden in the project countries, the project conducted a training assessment to identify priority areas to inform countries' training plans with a potential to contribute to efficient resource allocation for capacity building in the TB programs. The assessment provided each country picture of training needs and identified key content (topics) and audience (health worker cadre) for various training. The assessment provided the following cross-cutting areas of priorities: -

- MDR TB diagnosis and management
- TB monitoring and evaluation: TB recording, reporting, data quality assessments and analysis for decision making
- Developing community outreach/partnerships
- Principles of TB control
- TB continuum of care for miners/ ex-miners (treatment guidelines and cross-border referrals)
- Screening and continuum of care for occupational lung health diseases
- TB diagnostics
- TB/HIV case management, including infection control

B. Regional training

At Regional level ECSA-HC in collaboration with the countries and other partners organized capacity development training activities for health personnel from the four project countries in various forms: -
- **Organized workshops:** participants participated in sessions combining lectures, group discussions, role playing and field practical sessions
- **Coaching and mentoring**: this involved provision of direct coaching of personnel

- **Field visits/exchange learning** where the participants visited countries/institutions that have run successful programs to learn from the experiences. The sessions during the visits also combined group discussions, field sessions and presentations.
- **Simulations**: participants were presented with case scenarios imitating a usual situation and expected to provide solutions to solve the complex problems. This approach was applied mainly to assess the countries pandemic preparedness plans

ECSA-HC collaborating with other partners was able to support the following training; MDR TB management, TB data for decision making, Principles of TB control, TB diagnostics and TB infection control among the key prioritized areas in the training needs assessment. Additional requests were made by the countries on specialized areas they needed support in such as laboratory-based surveillance (Malawi), quality systems improvement, website content management and research methodology to build capacity to conduct prioritized research by all countries, and THIRA (Lesotho). Table 1 summarizes the training activities undertaken through the coordination of ECSA-HC.

> To strengthen capacities of the country teams and enhance learning, the project through the ECSA-HC led activities trained 399 of the planned 315 (126%). The increased numbers were attributed to increased demand of some capacity building opportunities especially the health care workers screening and infection control training and laboratory quality auditors.

Table 1: Health professionals trained under various programs

Training program	Mode of training	Cadre trained	Numbers trained/ target	Collaborating Partner	Countries covered
TB management, prevention and control					
Advanced course on clinical management of DR-TB	Organized workshop with practical exposure	Clinicians and TB officers	6/6	WHO, Latvia	All countries
MDR-TB management - short regimen	Organized workshop with practical exposure	Clinicians and TB officers	12/12	Rwanda Ministry of Health and School of Public Health	Malawi, Mozambique and Zambia
TB infection control and healthcare workers screening	Organized workshop with practical exposure	TB officers from countries and ECSA-HC	167/76	Biomedical Research and Training Institute	All countries
Performance based financing to accelerate TB control interventions	Exchange learning	Project implementing team	10/10	Rwanda Ministry of Health and School of Public Health	Lesotho and Zambia
PAL training, quality of TB care and specimen transport system	Exchange learning	Clinicians and TB officers	12/10	Rwanda Ministry of Health and School of Public Health	Malawi, Mozambique and Zambia
TB recording, reporting, data quality assessments and analysis for decision making	Organized workshop with practical exposure	TB coordinators		Ministry of Health, Kenya	Zambia
Diagnostics/laboratory systems					

Laboratory quality systems auditors	Organized workshop with practical exposure	Laboratory specialists	26/20	African Society for laboratory Medicine (ASLM), WHO AFRO	All project countries
Laboratory mentorship	Organized workshop with practical exposure	Laboratory specialists	21/20	African Society for laboratory Medicine (ASLM), WHO AFRO	All project countries
Certification of SLIPTA Auditors	Practical field training	Laboratory specialists	14/14	African Society for laboratory Medicine (ASLM), WHO AFRO	All project countries
Technical training in 1st and 2nd line DST	Practical laboratory training	Laboratory specialists	21/21	Uganda SRL/Global fund regional Lab TB project	Zambia
Laboratory based surveillance	Practical laboratory training	laboratory and Surveillance teams and Environmental officers	42/42	EAPHLNP	Malawi
Pandemic Preparedness and response					
THIRA	Organized workshop with practical exposure	Multidisciplinary and multisectoral disease surveillance teams	40/40	Africa CDC	Lesotho
Operational Research and knowledge sharing					
Research methodology and scientific writing	Organized workshop with practical exposure	Health personnel/research teams	16/16	Union/UNZA	All project countries
Development and implementation of operational research studies	Coaching and mentorship	Health personnel/research teams	16/16	Union/UNZA	All project countries
Website content management (Drupal)	Organized workshop with practical exposure	ICT and communication officers	12/12	Consultant web developer	All countries
Total			**399/315**		

*UNZA – University of Zambia, School of Public Health; East Africa Public Health Laboratory Networking Project; SRL -Supranational Reference Laboratory; THIRA – Threats and Hazards Identification & Risk Assessment for diseases outbreaks and other hazards.

Sub-component 2.2 Strengthening diagnostic capacity and disease surveillance

> The sub-component was expected to support (i) strengthening of regional diagnostic capacity and networking, (ii) enhancing access to diagnostics for TB and occupational health in the targeted intervention areas; and (iii) enabling participating countries to strategically revamp surveillance systems to support pandemic preparedness and response.

A. Training and Capacity building activities

Several training and capacity building activities summarized above to enhance diagnostic and surveillance capacities. Additional details on the training and technical assistance activities under this sub-component are provided below.

(i) Training and certification of Laboratory auditors

Acknowledging the shortage of critical mass of regionally qualified Quality Management Systems Auditors, WHO/AFRO and its partner have sought partnerships in developing this competency at country and regional level. In response, the SATBHSS project in collaboration with the Africa Society for Laboratory Medicine (ASLM), trained 26 laboratory technologists from the four project countries (Mozambique - 10, Malawi - 6, Zambia – 6 and Lesotho - 4). These are now used by the countries in their monitoring and evaluation as well as by the projects in its peer laboratory assessments for 2017 and 2018.

> Following the didactic training, 14 (54%) of the auditors have now undergone field practicums where they were assessed for competency and were all recommended for certification as ASLM SLIPTA Auditors. These certified auditors are now a resource for the in-country audits and also available for WHO/AFRO SLIPTA Regional audits contributing to the critical mass required in Africa. An additional 12 will be certified in 2019

(ii) Training of laboratory Quality Management Systems Mentors

Facility based mentorship has been identified as one of the key elements for successful implementation of sustainable quality management systems (Maruta. 2013). In response, the project trained 21 Laboratory Quality Management System Mentors from the 4 project countries (Lesotho -6, Malawi - 5, Mozambique – 5 and Zambia - 5). To facility immediate implementation following training, each country team developed mentorship plans for submission to principals in their respective countries for adoption into the SATBHSS country work plans and MoH yearly plans.

Following the training, only **Lesotho** effectively implemented the trained mentorship model. Zambia, Malawi and Mozambique did not include mentorship in their subsequent SATBHSS work plans. However, all the 4 countries utilized the trained staff as in-house mentors, another model developed during the training where they operated within their facilities but not used for other supported laboratories as planned. Malawi, with the technical assistance from ECSA-HC, developed Guidelines for Implementation of structured Mentorship. This follows the analysis of their 2017 Peer Assessment results where 3 of the 4

laboratories assessed in Malawi scored 0 stars. In the review, mentorship was identified as the missing ingredient prompting the development of the guidelines that would guide implementation of structured facility-based mentorship.

The guidelines have provided for other partners to include and utilize SATBHSS trained mentors in their plans. The project will advocate for adoption and adaption of the guidelines in the other 3 project countries once these have been approved and signed by MoH.

(iii)Training Laboratory technologists on 1st and 2and Line Drug Sensitivity Testing (DST)

Although Zambia had invested in facilities, equipment and reagents, there was no adequate well-trained human resource capacity to perform the assay. ECSA-HC in collaboration with Supra Reference Laboratory Uganda facilitated two training workshops in 2017 and 2018 and trained 21 laboratory technologists from the 3 TB Reference Laboratories.

Zambia is now able to move towards its goal of universal DST and implementation of shorter Drug Resistant TB regimen for MDR confirmed clients.

Discussions are in progress with Lesotho to conduct similar training following the completion of the renovations of the NTRL. Staff from NTRL Malawi received similar training through other in-country partners. ECSA-HC will continue supporting the countries in rolling out the WHO Recommend Diagnostics (WRD) in the project countries.

(iii)Training Cross-Border Zones on THIRA

To date, the 4 project countries are working towards finalizing the Multi-Hazard Emergency Preparedness and Response plans as recommended by both WHO and Africa Centers for Diseases Control and Prevention (Africa CDC). The first step toward development of this multi hazard plans is to identify the hazards and risks that need to be prepared and responded to. In response, the SABHSS project organized the Threats Hazard Identification and Risk Assessment (THIRA) training. The training was conducted during cross-border zonal meetings between Lesotho and South Africa where 40 members were trained.

Following the training, one of the zones applied THIRA and systematically identified hazards and threats in their zone, conducted risk assessment for each prioritized threat and mapped out the resources required to respond in case exposure to the risk and the capabilities required. This information is used as basis for development of their multi-hazard emergency preparedness and response plan in 2019

Mozambique did not plan for THIRA while Zambia trained some of its personnel in Vulnerability and Risk Assessment Mapping (VRAM), a similar training to THIRA, with WHO. Discussions are in progress with conducting THIRA with Malawi.

(iv) Training on Laboratory Based Surveillance

The laboratory plays a central role in surveillance before an outbreak (early warning signs), during an outbreak (detection) and in-between outbreaks (trend monitoring and intervention evaluation). Recognizing this need and realization of limited capacity for laboratory-based surveillance, ECSA-HC in partnership with National Microbiology Reference Laboratory Kenya and Uganda MoH customized a standard training package for Laboratory Based Surveillance developed by the East Africa Public Health Laboratory Networking Project (EAPHLNP) in collaboration with Amref Health Africa. The project used the package to conduct two training sessions as the request of Malawi covering 42 officers from Malawi (23 Lab technologists, 19 surveillance and environmental officers) and utilized role playing, drills and field visits to local markets, water treatment works and hospital kitchen for sampling practice. Following the training, laboratories that required strengthening to provide microbiology services (culture and DST) as well processing of environmental samples were identified and submitted to the in-country SATBHSS project team. Strengthening in the areas of equipment, reagents, supplies and drugs for DST was identified and included in the country work plans

This is the only available training in the region that jointly trains laboratory technologists, surveillance officers and environmental officers and build their skills and competency in collection, transportation, analysis and use laboratory surveillance data for early detection and response to disease outbreaks and other events of public health importance following a One Health Approach advocated by WHO

B. Health Security/ Disease surveillance, Pandemic Preparedness and Response

To strengthen surveillance capacity in the subregion, the project under this sub-component aimed to establishment of a mechanism for regional disease intelligence sharing among the four target countries. This included enhancing surveillance capacity for drug resistance with a focus on MDR-TB and improvements to laboratory-based monitoring of antimicrobial resistance; establishment of joint cross-border committees; joint outbreak investigations, and conducting tabletop simulations among other interventions

ECSA-HC supported project countries strengthen their diseases surveillance, preparedness and response to events of public health importance through several initiatives that included establishment of cross-border zones, conducting of table top simulations, training and capacity development and implementation of event Based Surveillance (EBS).

(i) Establishment of Cross Border Zones

At the onset of the project, there was recognition and need to strengthen the weak surveillance systems in the region with special focus in cross-border areas that are at higher risk for threats and events of public health concern. To facilitate that, a Technical Cooperation Agreement on Cross-Border Integrated Disease Surveillance Preparedness and Response was signed among the four SATBHSS project countries to provide a platform for discussion of mutual public health issues, required cross-border efforts and promote implementation of a technical cooperation on the cross-border integrated disease surveillance,

preparedness and response along border regions.

ECSA-HC facilitated the Project Regional Community of Practice (CoP) on Laboratory and Surveillance constituted by varied One Health experts from the project countries and their neighbors of Democratic Republic of Congo (DRC), Tanzania, Swaziland, South Africa and Zimbabwe to initiate implementation of the cooperative agreement. In its inaugural meeting in 2017 the Regional CoP identified 25 Cross-Border Surveillance zones managed by zonal committees tasked with coordinating cross-border disease surveillance (including other health disasters) using One Health approach. As of April 2019, 9 (36%) of these have been operationalized across the 4 project countries. Table 2 below gives a summary of the cross-border zones established and operationalized with initial capacity building.

Table 2: 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

ECSA-HC supported the initial cross-border convenings to establish 5 of these 9, with the other 4 supported directly by the countries, with ECSA-HC playing a facilitation role. Five of these zones have conducted follow up meetings supported by their country budgets, an indication of country uptake and support of the initiative.

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 joint collaboration of neighboring districts along border areas, which did not exist before. Through the cross-border initiatives, the following have been achieved

- *__Nine joint work plans have been developed__* and are being implemented. Broad areas included in most plans include mapping of resources required for joint preparedness and response, capacity building and training of zonal members (training in IDSR, Port Health, THIRA), community outreaches, coordinated joint response and creation of platforms for information sharing). Five of these plans have been reviewed for progress during follow up meetings. ECSA-HC assisted with

development of M&E Frameworks for each plan to assist with monitoring and reporting.

- **_Nine Cross-Border Committees were established_** co-chaired by the 2 countries District Commissioners/Administrators tasked with the coordination of cross-border disease surveillance and health disasters, using One Health approach were established. These have assisted in coordinating implementation of the joint work plans as well as coordinated response. For example, during the cholera outbreak in Zambia and Malawi in 2018, response was coordinated through Mchinji-Chipata zone.

- **_Communication/Information sharing Channels have been established,_** formal and informal to facilitate information preparedness and response at the zonal level. _Nine group emails, 5 WhatsApp groups and a Facebook page have been established and have been useful for sharing information between the countries at zonal level such as cross-border referral of patients (Malawi-Mozambique), outbreaks of foot-and- mouth (Malawi – Zambia), rabies (Lesotho - South Africa), cholera (Malawi – Zambia; Zambia – Zimbabwe) and general dissemination of relevant information from respective ministries of health

(v) Table Top Simulations
Once the cross-border committees are established, there is need to capacitate the zones to prepare and respond to events of public health concern. ECSA-HC engaged experts from the region and facilitated Table Top simulation exercises. Simulations to test contingency plans using simulated scenarios. In these zones, several disease conditions prevalent or a concern during that period in that zone were simulated and these included cholera, Ebola, rabies and listerosis. Out of the simulations, countries identified their weakness and gaps in their current contingency plans. Zambia and Malawi have used the findings to inform development of their multi-hazard emergency preparedness and response plans that are currently in progress.

(vi) Event Based Surveillance (EBS)

Following the release of the Africa Centers for Disease Control and Prevention (Africa CDC) Framework for Event-Based Surveillance in 2018, ECSA-HC provided Technical Assistance to Zambia to develop its country specific Event Based Surveillance (EBS) system through (i) development of an EBS roll out plan (ii) participation in the National Situational Analysis for Event-Based Surveillance in Zambia. The situation analysis defined and evaluated available resources for EBS including human resources, capacities/resources, finances, tools and processes for implementation of EBS, identified gaps in the current surveillance system and development of national guidelines, standard operating procedures (SOPs) and tools for implementation and strengthening of EBS. The situation analysis paved way for finalizing the roll-out plan which is currently being implemented. Included in the plan is an EBS Training of Trainers planned for 2019 which ECSA-HC has already been requested to co-facilitate.

(vii)   Threat Hazards Identification and Risk Assessment (THIRA)
Following the training and capacity building in THIRA described above, one zone (Lesotho-South Africa) has gone on to the second step of applying THIRA to identify and prioritize their hazards and threats, assess the risk for each, identify resources required to respond and their capabilities. The zone identified and prioritized the following hazards and threats; (i) TB (ii) illegal crossing animals and animal products (iii) violent protests (iv) HIV (v) illegal movement of medications (vi) hailstorms. These will form basis

for developing their multi-hazard emergency preparedness and response plan for the zone planned for 2019. In addition, a template for the plan was discussed and agreed upon.

(viii)   Epidemic Response
The region has experience epidemics including listerosis, cholera, foot and mouth and other events of public health concern like Cyclone ISDAI. In each case, ECSA-HC through the SATBHSS project has reached to countries to mobilize support of experts to join country response teams. At the onset of cholera outbreak in the Republic of Malawi, ECSA-HC deployed a team of experts (Microbiologist, epidemiologist) in Karonga District of Malawi. The team assisted with Cholera sample collection and transportation, identification and confirmation of cholera and antimicrobial susceptibility testing. The epidemiologist supported in community engagements (Mchenjele, Mwishombe and Nyungwe areas)
With the current cyclone IDAI ECSA-HC engaged with Malawi and Mozambique and organized a Cross-Border Committee meeting in Niassa Province Mozambique that included the affected districts from either side.

Where teams may not have been physically deployed, the communication platforms (WhatsApp groups) through the cross-border zones have been used to communicate and share updates on response activities on the ground as well as offer technical support remotely. For example, the foot-and-mouth outbreak in the Mchinji-Chipata zone, warnings of rabies (Thabo Mofutsanyane (S Africa) - Leribe, Butha Buthe (Lesotho) zone, suspected cholera cases (Malawi-Mozambique) and the Cholera outbreak between Zambia and Malawi.

(ix) Development of the Public Health Institute of Malawi (PHIM) Strategic Plan
Through the SATBHSS project, ECSA-HC provided technical assistance in the review of the PHIM 2012-2017 Strategic Plan and development of the 2018-2022 Strategic Plan finalization, which has since been approved by the relevant authorities in Malawi and ready for implementation.

C. Diagnostics capacities support

> To strengthen diagnostic capacity, the project planned to support the project countries by expanding microscopy networks in targeted intervention areas, rolling out newer and more accurate diagnostic technology (WRD), scaling up the Stepwise Laboratory Improvement Process towards Accreditation and strengthening networking of national TB laboratories.

ECSA-HC assisted countries improve their capacity for laboratory diagnosis to support effectively with TB/MDR-TB diagnosis and surveillance through training, capacity building (see above) and supporting implementation of Laboratory Quality Management Systems towards regional certification and international accreditation programs.

(i)   Annual Peer Strengthening Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) Audits

Through the support of the project, countries have strengthened laboratory capacity to provide high quality

results, including results for diagnosis and monitoring of TB Treatment. At project initiation, the 4 project countries selected 13 Laboratories to be subjected to regional peer to peer evaluation of their progress in implementing quality management systems towards national, regional and international certification and accreditation using a model applied by the EAPHLNP. In collaboration with the Africa society for Laboratory Medicine, ECSA-HC has facilitated the assessment and SLIPTA Star certification of laboratories utilizing some of the seasoned laboratory auditors from East Africa region to enhance East-South knowledge exchange. As show in figure 2 below, there was a remarkable progress in performance of the laboratories with two laboratories moving to full accreditation using the gold standard ISO15189 *(beyond PDO).*
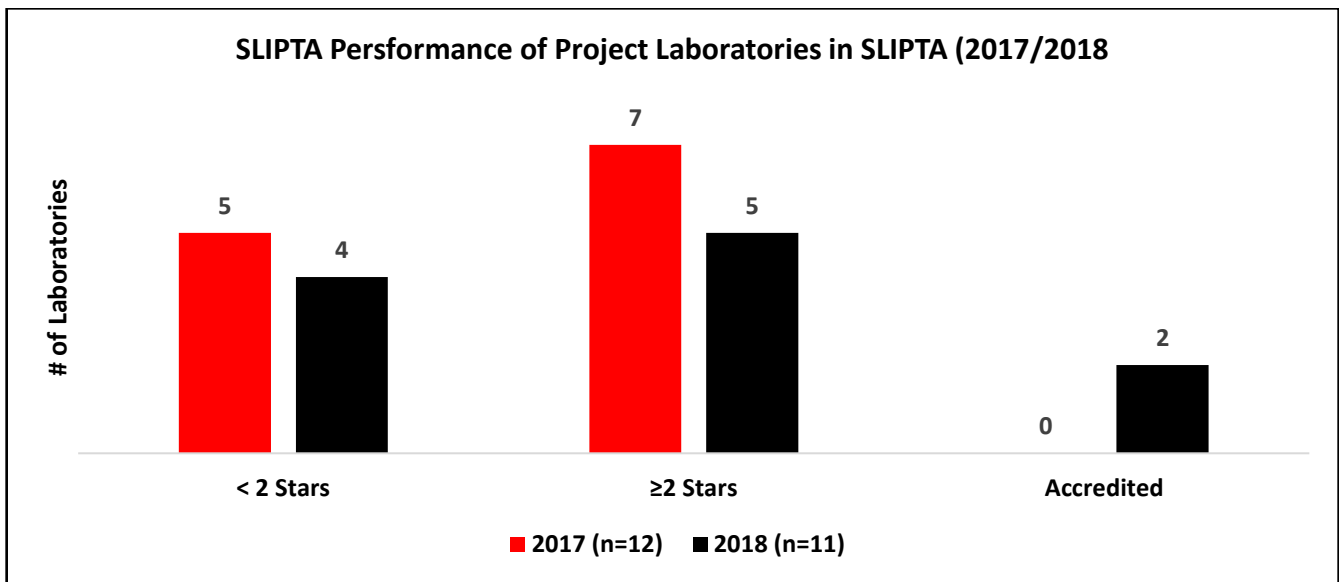

Figure 1: Summary of Peer SATBHSS SLIPTA assessments 2017-2018

In 2017, 5 of the 12 (42%) were below the project target of at least 2 SLIPTA stars, with 2 of the laboratories from Zambia achieving international ISO 15189 accreditation status in 2018. During the peer assessments, ECSA-HC organized high level de-brief meetings attended by Permanent secretaries, Directors, other in-country partners, managers of assessed laboratories, as platforms for advocating for increased support for laboratory strengthening. Commitments to support laboratories was pronounced in some of these meetings, e.g. in Zambia which led to supporting for accreditation of the 2 laboratories, following the recommendation by the audit team.

Using the audit reports, MoH and their partners jointly developed and implemented plans to address the gaps identified during the audits. The SATBHSS project in-country work plans were used to address some of the gaps identified including equipment service and maintenance, participation in External Quality Assurance, upgrading of facilities to match testing scope.

Following the audits, ECSA-HC leveraged on the existing Global Fund supported Supranational Reference Laboratory (SRL) Uganda Laboratory project that supports onsite visits to TB reference laboratories in the same SATBHSS project countries. Experts from SRL Uganda assisted in closing the gaps identified during the audits when they conduct their usual TA visits to these countries under the Global Fund project coordinated from ECSA-HC secretariat.

As part of technical assistance, ECSA-HC assisted Malawi to review its performance in 2017 where 3 of the assessed 4 laboratories were 0 Stars. It was noted that the slow progression of laboratories was lack of an organized and structured system for providing onsite mentorship. ECSA-HC, through the SATBHSS project assisted in development of Mentorship Guidelines to guide the country in implementing a structured mentorship program using the SATBHSS trained laboratory mentors and other in-country partner supported mentors. The guidelines are with MoH for review and approval.

With Lesotho, it was identified that there was lack of a defined process and steps to be followed by the country to ensure accreditation of its supported laboratories. Consequently, it was agreed that an accreditation road map with defined timelines, milestones and responsible persons be developed. ECSA-HC provided Technical Assistance in developing the road map which was shared with the MoH. Based on the roadmap, Lesotho has now targeted all 3 project supported laboratories to apply for accreditation in 2019.

(ii) Roll out of WRD and First and Second Line Drug Sensitivity Testing (DST)

ECSA-HC in collaboration with the with Supranational Reference Laboratory – SRL Uganda provided technical assistance to Zambia to train and implement second line Drug Sensitivity Testing as described in 2.1 above. In addition to the training, an algorithm was developed and submitted to the Nation TB program for consideration and one of the worksheets used in the laboratory for testing was reviewed to include 2nd LPA. The team reviewed and harmonized the reporting tools.

(iii) Renovations and upgrade of Laboratories

The SATBHSS project is supporting infrastructural development in the 4 project countries that include construction and upgrades. To ensure quality and functionality of the in structural investments under the project, ECSA-HC is supporting engagement of a civil works consultant to provide guidance to the MOH in the implementation of the construction work of selected facilities. The consultant to be engaged by ECSA-HC will review the designs, working drawings and bidding documents and conduct period review missions to country for the following infrastructural developments; rehabilitation of TB Reference Laboratory of Beira, Sofala, Nampula (Mozambique), supply and assembly of prefabricated TB Laboratories (Mozambique) and the expansion of regional TB lab in Leribe (Lesotho)

(iv) Strengthening Sample Referral Systems

Although all project countries have sample referral systems, none of them have an aggregated sample referral network. The current segregated and project/disease specific sample referral systems are not cost effective and a challenge to manage and coordinate at the MoH level. The two regional CoP on Laboratory and Surveillance meetings (2017, 2018) requested ECSA-HC to assist with development of models of aggregated sample transportation systems for adoption and adaptation by countries. Due to limited budget, this activity could not be implemented over the last 2 years.

Component 3

Component 3: Regional Learning and Innovation, and Project Management

Sub-component 3.1. Operational Research and Knowledge Sharing

This sub-component was aimed at supporting learning and knowledge sharing and focus on innovative evidence generation to inform national and regional health policies and practices. The aim of the learning aspect of the project identified priority operational research studies to be undertaken during the first phase of the project.

Under this sub-component, ECSA-HC was expected to coordinate the major studies related to activities under the project. The prioritized studies to be coordinated by ECSA-HC included: -

- *Regional out of pocket study as a barrier to access TB services in the region*
- *Conduct a cost benefit analysis and health impact study of investing in TB control*
- *Survey of clients' satisfaction with TB services*
- *Review of implementation of harmonization of TB management guidelines*
- *Training needs assessment for TB and other services under the project*

ECSA-HC also supported countries to strengthen capacities for conducting additional operational research studies.

A. Implementation of regional studies

(i) *Regional out of pocket study as a barrier to access TB services in the region*

At the request of countries, new implementation arrangements were developed and adopted. The mechanism involved the ECSA-HC (with the support of a regional firm) to provide standardization, oversight and quality assurance and produce a regional report based on the country reports and the countries (with support of the Nationally recruited firms) to implement the studies in-country and produce national level reports. A regional OOP protocol and tools were developed for use by all the four countries based on the recommended WHO protocol. Lesotho commenced data collection in February 2019 while Malawi commenced data collection in April 2019. Mozambique is in the process of preparing to commence the study while Zambia is finalizing plans to recruit a firm to collect data in-country. ECSA-HC continues to provide support to countries as they progress with data collection. Regional analysis and reporting are expected once country firms complete data collection, analysis and reporting. The main output for the regional level will be a technical report outlining main findings and policy recommendations on reducing catastrophic expenditure for TB among the four countries.

(ii) Cost benefit analysis and health impact study of investing in TB control

The study to assess the cost benefit and health impact of investing in TB control strategies commenced in 2018 following the regionally agreed scope developed in consultation with all countries in year one. Data collection is ongoing in three of the four countries (Lesotho, Malawi and Zambia) while ethical approval is awaited in Mozambique to commence data collection. Although data collection is incomplete, however, early findings from the data available to date provides the picture described in Box 1 below but the picture may change once the data collection is complete.

Box 1: Pre-deadline draft technical report on early findings

In Lesotho, we found evidence of improvement in all four key TB outcomes for which we had enough data to analyze. Key respondents listed a wide range of productivity loss for TB patients, and the three sampled mining facilities (all above ground) reported very small TB and other occupational lung disease impacts. The estimated total economic burden of TB to Lesotho in 2017 was US$34.7 million. **Malawi** data revealed greater-than-expected estimates of average productivity loss among TB patients throughout the episode of illness by key informants. Those same informants also indicated a reduction in the number of days between onset of TB symptoms and receiving a TB diagnosis. Moreover, there was initial evidence of improvement in three key TB outcomes, worsening in an additional three outcomes, and no change in one key TB outcome. The estimated total 2017 economic burden of TB to Malawi was US$28.6 million. **For Zambia,** data collection is still ongoing, however, data from key informants suggests that productivity losses peak during the intensive phase of DS-TB and MDR-TB treatment. These key informants also estimated an average reduction of 26 days from onset of symptoms to a TB diagnosis. The estimated total 2017 economic burden of TB to Zambia was US$73.8 million. **Mozambique** data have been severely delayed. Nevertheless, we were able to make some costing and economic burden estimates. The estimated economic burden of TB to Mozambique was US$193.3 million in 2017.

(iii)Training needs assessment for TB and other services under the project

As mentioned above, the project conducted a training needs assessment in three of the four countries (Lesotho, Malawi and Zambia) to provide country synopsis of training needs and identify key content (topics) and audience (health worker cadre) for various training. Although the training needs assessment was not conducted in Mozambique due to delay in obtaining ethical clearance, findings from the other countries would be useful in informing on some of key priority capacity building activities. The reports were discussed with each country assessed and also shared with all the countries. Below is a summary of key priorities by country.

Lesotho: TB continuum of care for miners/ ex-miners (treatment guidelines and cross-border referrals) was identified as high priority for Public health staff. Legal issues, developing community outreach/ partnerships and Screening and continuum of care for occupational lung health diseases were identified as a second priority area, while assessing QMS in TB Laboratories; TB monitoring and evaluation identified as 4th priority area. Other prioritized areas include TB recording, reporting, data quality assessments and analysis for decision making; MDR TB diagnosis and management and Child TB

management, including sputum induction; TB/HIV case management, including infection control and Principles of TB control.

Malawi: MDR TB diagnosis and management and TB contact investigation principles and methods were identified as high priority in Malawi, followed by Principles of TB Control, TB screening programs and New WHO guidelines for treatment of latent tuberculosis infection.

Zambia: MDR TB diagnosis and management was identified as a priority topic followed by child TB management, TB/HIV case management and TB diagnostics. The other areas cited by more than two-thirds of the respondents included TB monitoring and evaluation; developing community outreach partnerships; regimens for treatment of TB; working with private providers, principles of TB and adherence challenges.

These reports have been used by the countries to prioritize the training activities and at the regional level for cross-cutting training and specialized country technical assistance.

The table below gives a summary of the top 15 priority training areas from the project countries

Table 3: Top 15 prioritized training areas for public health staff

Ranking	Malawi	Lesotho	Zambia
1.	MDR TB diagnosis and management	TB continuum of care for miners/ ex-miners (treatment guidelines and cross-border referrals)	MDR TB diagnosis and management
2.	TB contact investigation principles and methods	Legal issues	Child TB management, including sputum induction
3.	Principles of TB control	Developing community outreach/partnerships	TB/HIV case management, including infection control
4.	TB screening programs	Screening and continuum of care for occupational lung health diseases	TB Diagnostic tests (new and improved)
5.	New WHO guidelines for treatment of latent tuberculosis infection	Assessing QMS in TB Labs	TB monitoring and evaluation: TB recording, reporting, data quality assessments and analysis for decision making
6.	TB continuum of care for miners/ ex-miners (treatment guidelines and cross-border referrals)	TB monitoring and evaluation: TB recording, reporting, data quality assessments and analysis for decision making	Developing community outreach/partnerships
7.	TB/HIV case management, including infection control	MDR TB diagnosis and management	Treatment of TB disease: TB treatment regimens
8.	TB monitoring and evaluation: TB recording, reporting, data quality assessments and analysis for decision making	Child TB management, including sputum induction	Working with private providers
9.	Principles of TB case management	TB/HIV case management, including infection control	Principles of TB control
10.	Adherence challenges/DOT	Principles of TB control	Adherence challenges/DOT
11.	Developing community outreach/partnerships	Patient education	TB screening programs
12.	Patient education	Adherence challenges/DOT	New WHO guidelines for treatment of latent tuberculosis infection
13.	Screening and continuum of care for occupational lung health diseases	TB contact investigation principles and methods	TB continuum of care for miners/ ex-miners (treatment guidelines and cross-border referrals)
14.	TB Diagnostic tests (new and improved)	TB counseling and Confidentiality	Screening and continuum of care for occupational lung health diseases
15.	Implementing Quality Management Systems in TB Diagnostics	TB screening programs	Implementing Quality Management Systems in TB Diagnostics

B. Technical support for implementation of prioritized country led operational research

(i) In-country operational research studies

ECSA-HC through the Community of Practice (CoP) for Research and Monitoring & Evaluation coordinated the countries to set priorities for operational research based on (i) the respective countries' NTPs Research Strategic Plan and National Research Agenda; (ii) WHO Stop TB partnership and end TB strategy; and (iii) SATBHSS project focus and scope. The criteria for prioritization was based on answerability, potential impact on disease burden, potential to inform policy, cost, feasibility, avoiding duplication, SATBHSSP priority areas/scope. The key priorities highlighted per country are shown in table 4 below:

Table 4: Research priorities identified by project countries

Malawi	Mozambique
i. Prevalence survey of tuberculosis among the mining community in Malawi ii. Assessment of health-related services provided in the mining sector iii. Assessment of occupational health safety standards iv. Assessment of functionality of community sputum collection points in improved TB case detection v. Use of GeneXpert in diagnosing TB among the mining community	i. Prevalence survey of TB ii. Catastrophic survey with vulnerable populations
Lesotho	**Zambia**
• SATBHSS Baseline Assessment • TB Prevalence Survey • Out of Pocket Expenditure for TB by household • Baseline study and Mapping exercise: landscape of mining **High-4** • Assess the impact of intensified case finding on TB notification rates • Determine the best models for community participation in TB management. **Medium** • Evaluate methods for maximising uptake and retention of TB patients into antiretroviral treatment programmes • Assess the co-occurrence of TB and other lung conditions such as pneumoconiosis in migrant populations (of miners).	i. Baseline survey on TB in the mines ii. Baseline assessment of silicosis iii. Baseline survey on occupational health

Following the priority setting by the countries, ECSA-HC in collaboration with the Union supported a regional training covering all the four countries with development of eight in-country study protocols (two per country) based on the set priorities. The protocols were developed and are at different stages of

implementation with at least **5 out of the 8** studies with data collection in progress or completed. Findings from these studies are expected to contribute to local information to inform programming. Country teams are being supported to implement the studies as needed. Below is a summary of the implementation status of country studies: -

Table 5: Progress in the implementation of country studies

Country	Research topic	Current status
Zambia	Incidence, pattern and treatment outcomes of patients with tuberculosis among miners and ex-miners, Zambia from 2010-2015-A retrospective cohort study	Proposal development completed. Ethics approval obtained by both Union and in country. 2nd Phase of data collection in progress; completion of data collection and data analysis expected to be completed in the 2nd quarter
	Treatment outcomes for drug susceptible PTB among miners and non-miners on the Copperbelt province of Zambia	Proposal development completed. Ethics approval obtained by both Union and in country. **Data collection and analysis completed. Draft manuscript**
Malawi	Assessment of Tuberculosis prevention and care measures in mining industries of Malawi, 2017-A cross sectional study	Proposal development completed. Approved by Union Ethics. Under ethics review in country.
	Prevalence of Pulmonary Tuberculosis and TB/HIV co-infection among miners in selected districts of Malawi in 2017	Proposal development completed. Approved by Union Ethics. Under ethics review in country.
	A number of activities have been undertaken including entry level meetings with officials in districts where the studies will take place; recruitment and orientation of data collection teams; and rolling out data collection	
Mozambique	Timing of antiretroviral therapy in relation to anti-tubercular treatment and tuberculosis treatment outcomes in patients with HIV-TB co-infection in Chokwe district, Mozambique	Proposal development completed. Approved by Union Ethics and country ethics. The data collection is in progress
	Notification of diagnosed TB cases from Xai-Xai Provincial Hospital to referral health facilities for DOT: are there leaks?	Proposal development completed. Approved by Union Ethics and country ethics. The data collection is in progress
Lesotho	Tuberculosis (TB) screening and isoniazid preventive therapy uptake among child contacts of bacteriologically-confirmed pulmonary TB patients in Lesotho	Proposal development completed. Approved by Union Ethics. Initial comments from the local ethics committee addressed; re-submitted to the ethics Implementation expected to commence during second quarter of 2019 following ethical approval
	Timing of anti-retroviral therapy and TB treatment outcomes in patients with TB/HIV in Quthing district in Lesotho	**Study completed and preliminary report under review and finalization.**

(ii) Baseline studies

In addition, ECSA-HC provided support to develop concept notes for undertaking baseline studies, where ECSA-HC reviewed and provided inputs to the baseline reports from all the four countries. ECSA-HC provided support to the countries to apply the findings from the baseline studies to update the missing baselines on the project indicators for the results framework in each of the countries that will be used as an important reference point for evaluating progress and impact for the SATBHSS project. The findings will also inform re-setting some of the targets that were unrealistic.

(iii)Client's satisfaction surveys

ECSA-HC supported the development of a Client Satisfaction survey tool to be used for data collection for the baseline studies and subsequently rolled out for routine clients' satisfaction monitoring in all the project countries. The tool was applied during the baseline studies. findings showed high satisfaction for services from clients: Lesotho (95.8%), Malawi (92.9%), Mozambique (85%) and Zambia (80%)

In Lesotho, the TB clients' satisfaction tool is currently piloted in four (4) facilities in Leribe district. Training was conducted in December 2018 to roll it out to nine (9) hospitals. These facilities started collecting routine data from January 2019.

C. Knowledge exchange and sharing

Within the roles of ECSA-HC in facilitating knowledge exchange and regional learning, in addition to the technical areas highlighted in the report, ECSA-HC coordinated knowledge sharing platforms summarized below: -

(i) Conferences and symposia

ECSA-HC in collaboration with the four participating countries hosted satellite symposia sessions in the International Conferences that provided opportunities for the project countries to show case the project results regionally and globally. Table 6 below shows some of the satellite sessions/symposia organized with the project countries and the regional organizations attending and presenting.

Table 6: Symposia and conference sessions at regional and international conferences

Name of the Conference	Dates	Main theme	Main message
47th Union World Conference on TB and Lung Health in Guadalajara, Mexico	11-14, October 2017.	Strengthening Health Systems to support management and control of TB burden in East, Central and Southern Africa	▪ Laboratories plays a critical role in controlling TB burden in East, Central and Southern Africa ▪ Need for Multisectoral collaboration in controlling TB burden in East, Central and Southern Africa
5th SA TB Conference	11-15th June, 2018	Innovative Approaches to Achieve End TB Targets in Southern Africa	▪ Innovative approaches are needed to capture missing cases, bridging the gap to end-TB ▪ Regional approach to TB management needs to be enhanced to tackle cross-border TB transmission and enhance continuum of care
ASLM Conference Abuja, Nigeria	10th-14th December, 2018	Preventing and Controlling the Next Pandemic: The role of laboratories	▪ Laboratories plays critical role in disease surveillance and response ▪ Need to strengthen preparedness and response capacities in the region

(ii) SATBHSS Project Web Portal:

ECSA-HC and NEPAD Agency is responsible for managing, coordinating and providing technical support to the four countries in communication, advocacy and Outreach. A communication, advocacy and outreach strategy for the project was developed. As part of that strategy, ECSA-HC developed a regional project website and the countries web portals through consultation with the country teams who continuously provide content for the website. The country teams were trained on content management and have continuously updated the portal with contents with the support from the NEPAD Agency. The portal is fully functional and available through the following URL - http://satbhss.org

Sub Component 3.2: Centers of excellence in TB and occupational lung disease control

> Under this sub-component each country agreed to provide regional leadership in key technical areas where each has a comparative advantage and serve as a center of excellence. Countries initiated the establishment of CoEs in the areas mentioned below.

(i) Centres of excellence

Countries prioritized establishment of CoEs as follows: - Lesotho - CoE in Community based TB Care, Malawi - Community TB and Integrated Disease Surveillance, Mozambique - Management of Drug-Resistant Tuberculosis and Pediatric TB Management and Zambia – Occupational Health and Safety. ECSA-HC under the SATBHSS Project, supported countries in the development of concept notes for the establishment of Centres-of excellence and currently supporting the implementation. ECSA-HC provided further implementation support for the CoE in Lesotho, by facilitating a knowledge exchange on performance-based funding for community TB care in Rwanda; support for developing the framework for performance-based indicators; support for negotiations with the Implementing entity recruited by the country for implementing the CoE; and support for developing the guideline for community TB care. Additional support is being provided on countries' request.

(iii)Operationalization of Communities of Practice

Communities of Practice (CoP) are regional working groups comprised of technical experts in the respective areas from each of the countries, and are responsible for setting regional priorities for implementation. ECSA-HC through the SATBHSS project coordinated the establishment of CoP based on agreed upon thematic areas and countries' leadership in each of CoP considering the respective countries strengths and comparative advantage. ECSA was responsible for facilitating operationalization of three CoPs by co-facilitating with the respective country leading each CoP and contribute to setting the meeting agenda, coordinating and facilitating technical discussions with the countries. NEPAD Agency was responsible of supporting two CoPs with ECSA-HC contributing to the discussions in those CoPs. The quarterly virtual meetings for the COPs on Research and M&E, Laboratory and Surveillance, Continuum of care and annual face-to-face meetings were held as planned, this provided an opportunity for countries to share experiences and provide oversight for reporting implementation progress in line with the RF. Table 7: Below is a summary of the achievements and key outputs for the CoPs that are coordinated by the ECSA-HC.

Table 7: Communities of Practice Countries' leadership and key achievements

CoP		Key Outputs
Research and M&E	Lesotho	• Identified country research priorities for the first 18 months, Countries have started implementing the research priorities • Developed a research implementation framework covering the four countries • Undertook capacity building on the results framework for the SATBHSSP reporting, countries are now better reporting than before, • Developed and adopted a project reporting tools and Clients' satisfaction survey tool • All COP members trained in research ethics using existing online platforms. • Identified research and M&E capacity building needs • Conducted M&E Capacity building and Data Quality Assessment
Continuum of Care	Malawi	• Drafted a rapid situation analysis of the implementation of harmonization of TB management in the mining sector and cross-border referrals • Developed a two-year roadmap for the implementation of harmonized management of TB in the mining sector in SATBHSS countries • Commissioned the assessment of the harmonized TB management guidelines • Developed capacity for Introduction/strengthening TB screening for healthcare workers • Developed capacity for introduction of MDR-TB patients support in the project countries
Laboratory and Surveillance	Mozambique	• Development and adopting of the Framework for Cross-Border Integrated Disease Surveillance and Response, for SATBHSS Project and surveillance of MDR-TB • Provided Expert advice on priority Laboratory and Surveillance needs for inclusion into respective country and ECSA-HC regional work plans • Identified 25 Cross Border Surveillance zones for establishment across the 4 project countries and their neighbours, with 9 of these already operationalized • Developed guidelines and assessment tools to monitor compliance with MDR-TB surveillance

Sub Component 3.3: Regional coordination, policy advocacy and harmonization

Under this sub-component ECSA-HC was supported to undertake regional activities that generate economies of scale and deepen learning and knowledge exchange leveraging on existing platforms to promote East-South knowledge sharing

A. Internal Project Coordination

In order to offer effective regional coordination, a Project Coordination Unit (PCU) was set up and fully staffed by February 2017 at ECSA-HC. The unit comprises of the Project Manager/Accounting officer as the Director General, the Project Coordinator, Senior TB Control Specialist, Senior Laboratory Specialist, Finance Officer, M&E Specialist and Medical Epidemiologist. The Project Senior Public Health Specialist separated with the project in January 2019 due to personal reasons and the project is in the process of recruiting a replacement to fill the current gap. The position was critical in supporting the implementation of the research studies and providing technical assistance to the countries on TB control and operational research implementation and data analysis. Based on the project components and needs, the staff have been instrumental in supporting the countries as needed to implement various project activities.

The unit is also supported on a need basis by other experts from the ECSA-HC secretariat drawing from the pool of experts in the organization. Critical additional support on research implementation and M&E roles. Table 8 summarizes the key roles of the various team members and key achievements. Annual Appraisals are conducted for each staff. Annex II provides the staff recent staff appraisals of the project personnel.

Table 8: Contributions of the regional staff in achieving coordination role of ECSA-HC under the SATBHSS Project

Position	Key responsibilities	Key achievements
Project Manager/ Accounting Officer (support covered under overheads)	• Providing overall oversight of the project and maintaining linkages with countries for effective coordination of the project. • Providing final authorization on utilization of project funds. • Establishing partnerships for support of the programs implementation	• Smooth implementation with the support from the office of the Director General as needed • Supported discussion with other partners, such as SADC, Global fund project • Ensured proper utilization of project funds as required
Project Coordinator (50% LoE)	• Providing advice, guidance and technical support to countries and to the Secretariat on implementation of the project. • Lead in developing annual work plans, identifying TA needs and providing management support to timely implementation of planned activities to the participating countries;	• Ensured smooth implementation of the project by providing day to day coordination of all the aspects of the project (technical, financial, procurement, reporting etc) • Ensured coordination of development of the annual work plan and presentation to the relevant authorization level for approval. This included joint work planning with the NEPAD agency

	• Facilitate and support capacity building and training • Provide day to day coordination of implementation of project activities • Maintaining linkages with countries through the technical implementing units, collaborating institutions and technical partners effective coordination of the project.	• Supported staff capacity building to ensure the staff are well equipped to provide the required technical assistance while coordinating support for capacity building for requested support to the project countries • Ensured smooth coordination with NEPAD agency and the project countries as well as other projects within the ECSA-HC i.e. EAPHLNP and Global fund project to ensure synergy and sharing of the resources available within these projects (materials, human resources etc) • Contributed to the establishment of collaboration with other key parners to support the project e.g. Africa CDC, Uganda SRL, bilateral countries (Rwanda, Kenya, Uganda programs) in order to gain from the available resources to support the countries
Senior TB Control Specialist (100% LoE)	• Provides assistance to support countries on TB control activities • Provide support in the implementation of TB continuum of care strategies among the project countries • Contribute/facilitate in the capacity building of countries' experts in TB care including MDR TB management • Facilitate regional dialogue and efforts to harmonize systems and standards for managing TB; • Foster networking and knowledge sharing among the participating countries and with other global experts;	• Engaged regional organizations and stakeholders in reviving regional dialog for domestication of harmonized TB management (SADC,WHO Afro, TIMS, CDC, OIM and other). • Built capacity to strengthen infection control in healthcare settings and correctional facilities in project countries • Provided support for introducing/strengthening health care workers screening for TB and implementation of a welfare programme for HCW • Built capacity for introducing of psychosocial support for MDR-TB patients
Senior Laboratory Specialist (100% LoE)	• Provide technical advice, as needed, on implementation of the project at country and regional level, and promote a harmonized approach for laboratory strengthening across the project countries. • Facilitate and/or support the harmonization of quality assurance systems for public health laboratories in the project countries, and supporting the development of peer review mechanisms in the Southern Africa Region. • Support the accreditation process of participating laboratories, in collaboration with other partners including ASLM, WHO and CDC at country, regional and global level.	• Built capacity of project countries to implement Lab Quality Management Systems towards local, regional and international accreditation through high quality audits (Regionally certified auditors) and mentorship. This strengthened project countries diagnostic capacity including MDR TB • Coordinated the establishment of formal platforms for cross-border collaborations between project countries and their neighbors of South Africa, DRC and |Zimbabwe in areas of preparedness and response to epidemics and other events of public health concern. 25 Cross-Border zones were identified and 9 of these operationalized • Forged strategic Alliances between ECSA-HC and regional organizations like ASLM, Africa CDC, WHO/AFRO, SRL-Uganda that's

	• Contribute, as necessary, to the development and operation of the integrated disease surveillance network. • Coordinate closely with other key stakeholders involved in laboratory strengthening efforts in the participating countries and identify additional opportunities for coordination and collaboration.	supported SATBHSS's Laboratory Systems and Surveillance System Strengthening
Senior Public Health Specialist (100% LoE)	• Elaborate research and evaluation related activities to assess the impact of the interventions supported under the project • Facilitate the development and implementation of operations research activities by participating countries and quality assurance on studies supported by the project • Support research methodology capacity building and mentorship • Support countries to develop instruments and surveys to track household expenditures on TB and occupational lung diseases working closely with NEPAD • Guide participating countries to re-package research to ensure that learning and uptake are widely disseminated at national and international levels as well as follow up on the implementation of recommendations from operational research activities	• Supported the conceptualization of the research studies and their initiation • Provided mentorship and technical assistance to the project countries to develop country studies in collaboration with other stakeholders • Lead in conceptualization and conducting training needs assessment in three project countries to inform the country training programs • Worked with country teams, NEPAD agency and other stakeholders to develop studies tools e.g. clients' satisfaction survey • Cordinated dissemination fora for the project outputs e.g. South Africa TB conference, the Union etc
Finance officer (100% LoE)	• Facilitating the financial requirements at ECSA-HC in support of the relevant technical staff; • Maintain a schedule of Project activities to be conducted by ECSA-HC and the Sub-Grantee in support of the Project Coordinator and Relevant Project staff; • Ensure timely financial reporting for quarterly unaudited IFRs and annual reports in form and content satisfactory to the Bank • Ensure that all internal and external financial administrative reporting requirements are met in accordance with ECSA-HC	• Supported the preparation of project annual workplan and budget. • Enforced internal control mechanisms to ensure activities carried out are adequately resourced and there are no significant budget overruns. • Quarterly and annual Interim Financial Reports prepared and submitted timely • Coordinated the annual external audit of the project. The project received unqualified audit reports • Ensured availability of cash to carry out activities for the project by submitting cash forecast and disbursement requests timely

	• Prepare timely and accurate financial disbursements/withdrawal requests to ensure the project is not financially constrained	
M&E Specialist (25% LoE)	• Ensuring harmonization of understanding of the project indicators, reporting frameworks and data quality • Develop data collection and reporting tools for the project indicators • Tracking and facilitating timely reporting of data quarterly and annually. • Supporting the preparation of Regional Semi annual and Annual Project progress reports • Conducts quality checks for the data before submitting to the World Bank • Support the countries in preparations for their Mid Term Reviews • Support the countries in undertaking their Baseline studies	• Convened discussions with the country M&E focal persons for the project, on quarterly basis to discuss on indicators and guidance were give to countries to insure that they report as required • Lead to the developed data collection and reporting tools. These are currently being used for reporting • Cordinated the preparation of Quarterly, Semi annually and Annual Regional consolidated results framework and shared with the Bank, countries and other stakeholders • Conducted M&E capacity building and data quality assessment to the project countries, to verify the sources and quality of the data submitted to ECSA-HC and World Bank • Supported the countries in their preparations for the Internal Project Mid Term Review, developed and shared a number of guidance documents such as concept notes, guiding evaluation questions were prepared and shared with countries, reviewed and provided inputs to their ToRs for the MTR
Medical Epidemiologist (25% LoE)	• Provide advice in disease surveillance and support cross-border disease surveillance and joint investigations to outbreaks in collaboration • Develop technical materials to support the surveillance and response capacity building support to countries • Lead capacity building and coordination joint response to outbreaks and public health emergencies	• Supported with technical support for the establishment of cross-border initiatives • Provided technical leadership in conducting the simulation exercises • Provided technical advice in the development of events based surveillance for Zambia

Procurement officer (cost on overheads)	• Executing the procurement function within the project and
	• Assisting with preparation of management reports.
		• Improved procurement records keeping
		• Successfully implemented of the procurement activities
		   ○ Consultancies services
		   ○ Goods
		• Uploaded of the procurement documents in STEP and followed through the procurement steps as required
		• Prepared Tender Committee documents for different Procurement activities approvals

In the coordination role, ECSA-HC facilitated: -
- Provision of technical assistance in various project activities to countries as needed;
- Convening and coordination of the regional technical and policy organs of the project;
- Coordination of joint preparedness and disease outbreak response activities;
- Enhancing partnerships to leverage of the resources from other programs and partners;
- Coordination of work planning processes, providing guidance tools and technical support to countries in the planning;
- Facilitating development and signing of Collaborative Framework between project countries (MoU/Cooperative agreement); and
- Consolidation of reports coordination and data quality assessments to ensure quality data is reported to the bank.

B. Regional Coordination

ECSA-HC was able to play its role through coordination with various stakeholders and organs established under the project and through collaboration with other organizations to ensure the countries are supported as needed in the implementation of their country interventions while effectively implementing the regional activities as approved. The following section summarizes the coordination of ECSA-HC with various project organs and collaboration with various partners to leverage on both technical and financial support.

(i) Regional Advisory Committee (RAC)

In accordance to the Subsidiary agreements signed by between the countries and ECSA-HC and the Project Agreement signed with the World Bank, ECSA-HC was expected to establish and maintain a multi-sectoral and multi-disciplinary Regional Advisory Committee to serve as a vehicle for multi-country and multi-stakeholder expert engagement and dialogue. The RAC builds on the partnerships developed during project preparation and provide a forum for countries (including those not participating in the regional project), and their implementing partners to report on overall program progress and to share experiences and lessons. The RAC provides oversight to inter-country learning and draws from lessons learned to enhance the design of the program and draw policy implications. The committee plays a steering, advisory and consultative role. The RAC also constitutes technical experts to offer countries a scientifically sound consultative technical advice on various project aspects and senior government leadership to provide advisory mechanism to meet the challenge of responding to rising demands for TB and Occupational diseases management and enhanced preparedness, surveillance and response capabilities to disease and other public health emergencies.

ECSA-HC facilitated the establishment of the RAC and in collaboration with the Governments of Mozambique, Malawi, Lesotho and Zambia, ECSA-HC successfully convened four RAC meetings in December 2016, June 2017, January 2018 and November 2019 respectively. The key outputs of the RAC meetings were inputs to strengthen country and regional annual implementation plans, provided direction on various aspects including: -
- Approving regional studies and providing advise priorities for countries' research agenda;
- Formation of communities of practice and other knowledge management platforms;
- Healthcare workers screening and infection control interventions;
- Technical on TB and Occupational lung disease management and control interventions;
- Engagement of partnership to foster better collaboration in control of TB and lung diseases; and

- Reviewed progress reports and provided suggestions to accelerate implementation.

This is a key organ that also provides an opportunity for inter-country learning on both technical and matters of policy concerns and should be maintained.

(iv) Coordination with project countries

ECSA-HC has maintained coordination of implementation and provision of technical assistance as required by the countries through coordination with the project management units within the countries and the leadership of the various Communities of Practice. Consultations on various country needs are discussed with the focal persons and the NTP managers. ECSA-HC explores in-house capacity within the project and also in ECSA-HC to provide the needed technical assistance. Occasionally, where the capacity is not available within the organization, ECSA-HC seeks the needed expertise to facilitates the support in some cases, consultation with World Bank. Official communication has been maintained through the established channels as spelt out in the Subsidiary Agreements.

On *technical coordination,* ECSA-HC team has been in close communication while carrying out regional activities with contribution of the countries team leaders, project coordinators and the CoPs team leaders. As noted above, establishment of technical support structures for the various CoPs has been important to provide linkage of the regional recommendations made through the CoPs to the project and follow through technically to implementation.

On Involvement of Regional Agencies in work plan development: In order to ensure synchronization and a coordinated support to countries, involvement of ECSA-HC and NEPAD in the countries' work planning process and prioritization of activities has been important. During year 1 and 2 implementation, a number of technical assistance (TA) activities were informed by the country work plans and allowed the two regional agencies to proactively initiate assistance and support.

ECSA-HC supported the technical assistance requested by the countries summarized in the categories below but described in details in the previous sections: -
- Support for development of CoEs
- Quality of care for TB concepts development
- Infection control for health care workers and correctional facilities
- Capacity building for emergency preparedness and response (Laboratory based surveillance, THIRA, 1st and 2nd line DST, specimen transport and laboratory mentorship programs guidelines development
- Operational research (proposal development and data analysis capacity; data for decision making)
- Development of Strategic Plans for Public Health Institute (Malawi)

(v) Coordination with NEPAD Agency

ECSA-HC has also been coordinating with the NEPAD Agency to support the countries as needed. ECSA-HC conducts periodic calls with NEPAD Agency during implementation and joint planning to make inputs to each other's plans and identify areas of synergy and needs for inter-institutional support to enhance support provided to countries on specific areas each of the institutions is mandated.

Following the approval of the work plans, ECSA-HC develops a regional annual calendar of activities and synchronized with the countries' plans (if available) to ensure countries and NEPAD Agency are aware of the regional activities planned and scheduled for the year. Where country visits are required, ECSA-HC and NEPAD synchronizes visits as much as is possible. Similarly, the calendar is also matched with the planned implementation support missions planned by the bank so that there is close coordination of country visits for similar missions.

(vi) Collaboration and coordination with other regional initiatives and partners

The project established/strengthened partnerships and collaborations with other regional organizations and projects to leverage on human, material and technical resources and where possible facilitate synergies and cost efficiencies in implementing the regional projects. A few examples are cited below: -

- ECSA-HC is the regional coordinating organization for the Bank funded *East Africa Public Health Laboratory Networking project*. The project was initiated in 2010 and has established a number of resources such as training programs/curricula, strategic documents like framework for cross-border surveillance, peer laboratory assessment program and human resources capacity for laboratory and disease surveillance among others that have been utilized by the SATBHSS project. Additionally, the project utilizes the technical capacity for M&E and disease surveillance & coordination functions between the two projects to enhance synergy and seamless transfer of skills and efficient utilization of technical resources.
- ECSA-HC is the Principal Recipient of the *Global fund regional laboratory strengthening project* that is targeting the National TB laboratories in all the four SATBHSS project countries. Uganda Supra National Reference Laboratory (SRL) is the sub-recipient of the project. ECSA-HC has been leveraging on the capacity built by the EAPHLN Project at the Uganda SRL to coordinate and enhance technical assistance to the project countries through technical training on drug resistance testing & surveillance, National TB Laboratory strategic plans development, provision of laboratory external quality Assessment panels, laboratory management training and supporting in the roll out of WHO Recommended Diagnostics (WRD).
- ECSA-HC and NEPAD Agency are now joint Secretariat for the *TIMS project* and putting efforts to ensure that activities in both projects are synchronized and that there is synergy in the implementation to maximize benefits in the supported countries. Similarly, SATBHSS project is invited in the Regional Steering Committee of the Global Fund project that is hosted by ECSA-HC. Technical teams of the Global fund project and SATBHSS project have shared related work plans and are working together to offer technical assistance to the countries in a coordinated manner. This arrangement is being implemented to enhance collaboration for SATBSS Project with the two other regional projects and will be continued during the subsequent period of project implementation. In addition, countries have been encouraged to target areas not supported by other projects and advise ECSA-HC and NEPAD where there is potential or actual duplication.

Other collaborative activities with various institutions is summarized in table 9 below.

Table 9: Collaboration and coordination with implementing partners and regional institutions

Program/Institution	Areas of support/collaboration
Regional Projects	
East Africa Public Health Laboratory Networking Project (EAPHLNP)	• Additional technical capacity for M&E and disease surveillance & other technical & human resources • Implementation of preparedness, surveillance and response interventions • Sharing of strategies and documents (e.g. peer assessment program, framework for cross-border surveillance, training programs) • Laboratory based surveillance
Global fund project (Uganda SRL)	• Technical training on drug resistance testing & surveillance • National TB Laboratory strategic plans development • Laboratory external quality Assessment • Roll out of WHO Recommended Diagnostics (WRD)
TB in the Mines (TIMS) Project	• Advisory in the RAC • Cross-border referral system
Bilateral governments	

Ministry of Health, Rwanda	Knowledge exchange and training support for:-
	  o MDR-TB management
	  o PAL
	  o Specimen transport systems
	  o Performance based financing

Ministry of Health, Kenya	• Collaboration for training on TB data for decision making for TB coordinator
Regional Bodies	
SADC	• Channeling project reports to SADC policy organs for deliberation and guidance for sustainability of some investments
Africa CDC/African Union	• Threats and hazards and risk assessment training and implementation to aid in the development of multi-hazard preparedness plans • Roll out of Events based surveillance (EBS) to enhance preparedness and early detection of outbreaks and events of public health concern
East African Community	• Field Simulation exercises for priority diseases
Supporting partners	
US CDC	• Member of the RAC supporting on technical capacity to improve infection control interventions in the countries
Biomedical Research Training Institute (BRTI), Zimbabwe	• Health care workers screening and infection control training and mentorship
University of Zambia (UNZA), School of Public Health	• Collaboration in training and mentorship of project teams in developing protocols and implementation of operational research
ASLM/WHO Afro - SLIPTA	• Laboratory quality systems improvement and assessment in preparation for accreditation
The Union	• Technical advisory on TB control strategies • Research capacity building and mentorship

Monitoring and Evaluation

The project emphasizes on generation and use of data for decision making at various levels. Through the support of ECSA-HC, a community of practice on Research Monitoring and Evaluation comprising M&E officers and researchers from the participating countries was formed. The SATBHSSP Results Framework focuses on accountability for results; there are five project outcome indicators and fifteen intermediate outcome indicators. Countries as implementers lead and own the data collection process for key indicators in the results framework. The following activities were undertaken to support the monitoring and evaluation function of the project: -

- *Harmonization of the reporting across the countries:* Since the project is implemented in the 4 countries there was a need to ensure harmonization and reporting on the project indicators. To achieve this, ECSA-HC convened the members of Community of Practice (CoP) for Research Monitoring and Evaluation. Project indicators were reviewed, definitions clarified as per the Project Appraisal Document (PAD) and sources of data identified. Arising challenges are normally clarified during the quarterly video-conferences held with the countries.

- *Development of data collection and reporting tools for the project indicators:* Data collection tools were developed, reviewed by the members of the CoP for Research Monitoring and Evaluation and adopted by the countries. The tools are currently being used by countries for collecting and reporting on indicators in the results framework.

- *Collection and consolidation of project-monitoring data:* ECSA-HC working closely with project country M&E focal persons tracks and facilitates the timely flow of quarterly and semiannual progress reports which have formed important inputs to the semiannual and annual regional progress report prepared by ECSA-HC and shared with the countries, the World Bank and other stakeholders periodically. The aggregated reports have also been used to populate the project implementation status report. As shown in table 10 below, countries are either on track or have achieved 4 out of the 5 PDO indicators. The updated aggregated results framework is attached as Annex III.

Table 10: Aggregated performance of the countries on the PDO indicators

PDO Indicators	Baseline	Year 1 & Year 2 (mid-term)		End target
		Achievements	Cumulative targets	Cumulative targets for Year 3,4 &5
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

- *Technical support to countries to ensure compliance to reporting requirements:* This included development of guiding documents such SoPs and tools for assessing compliance to surveillance of MDR-TB in the participating countries and client satisfaction tools amongst others. These tools have enabled the countries to assess themselves and report on Project Outcome Indicator # 4 (On project supported laboratories compliant with Regionally harmonized SoPs for surveillance of MDR-TB) and the Intermediate Outcome Indicator # 3 (On TB client satisfaction). The developed tools have been adopted and incorporated into the data collection systems of the countries.

- *Data quality assessment and assurance:* ECSA-HC coordinated a regional M&E capacity improvement and data quality assessment in September 2018 to the four participating countries to enhance their capacity for reporting. A regional peer review data quality assessment was held, where countries coordinated by ECSA-HC exchanged expertise, learnt and assessed each other and provided recommendations to improve reporting while enhancing inter-country learning. During the DQA a number of cross cutting issues were noted, which called for revision of some of the project indicators, re-wording of some indicators and consideration of re-looking at targets for others. ECSA-HC also coordinated feedback and discussion of project indicators during the communities of practice on M&E, and provided guidance for clarification and appropriate reporting. The discussions are also continuing with ECSA-HC coordinating the discussions of indicators ahead of the MTR.

- **Preparation for Mid Term Review (MTR):** ECSA-HC supported the countries in their preparations for the Internal Project Mid Term Review, a number of guiding documents were prepared and shared with the countries, these includes: the concept notes for the MTR and a detailed questionnaire. ECSA-HC reviewed and provided inputs in the ToRs for the MTR. Upon request, participated in the country preparatory meeting and also in the in-country mid-term self-assessments in Zambia and Lesotho.

Financial Management and Performance

(i) Annual Work plan and Budget performance

ECSA HC got total budget approval from the Project Regional Advisory Committee and World Bank of **US$5,097,421** since the inception of the project to March, 2019. The budget supported regional activities undertaken by ECSA HC in line with its mandate described in part 3,3 (a) of the 1 schedule of the Financing agreements and Roles and Responsibilities specified in Annex 1 to the Subsidiary agreements.

Expenditure

Out of the total budget of **US$5,097,421**, expenditure was at **US$4,295,750** by March 2019, which represent **84%** of the budget. The table below shows the summary of expenditure by sub-component against the budget. ECSA HC employed competitive bidding processes when procurement for good and services in order to get value for money and be cost efficient. Proper planning and frequent reviews of project activities helped the project to manage cost efficiently especially like air tickets which is one of the major cost elements of the project due to frequent travels to project countries and regional meetings.
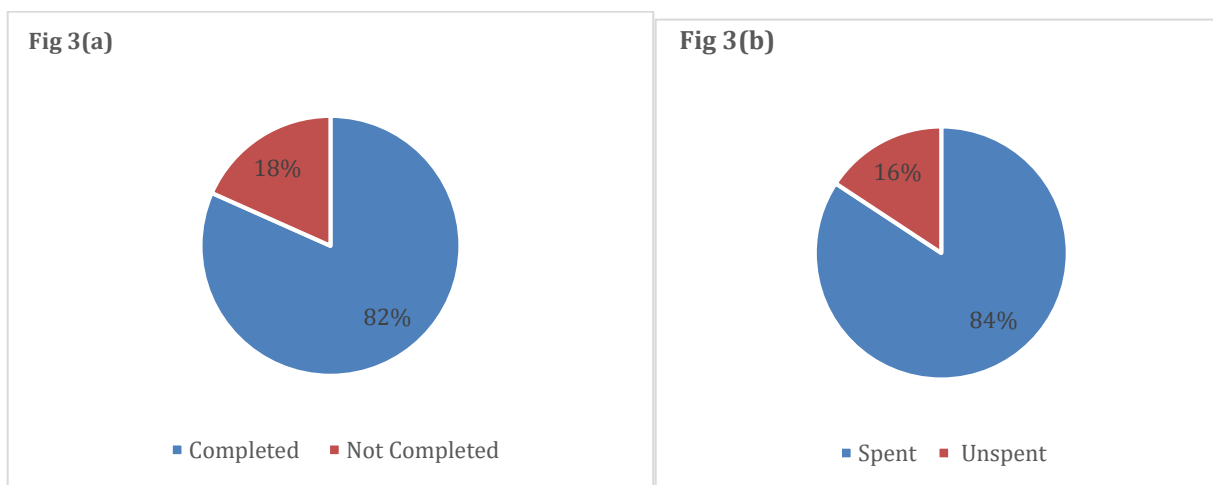

Figure 3(a) proportion of completed activities; Figure 3(b) Proportion of budget spent againt the approved budget
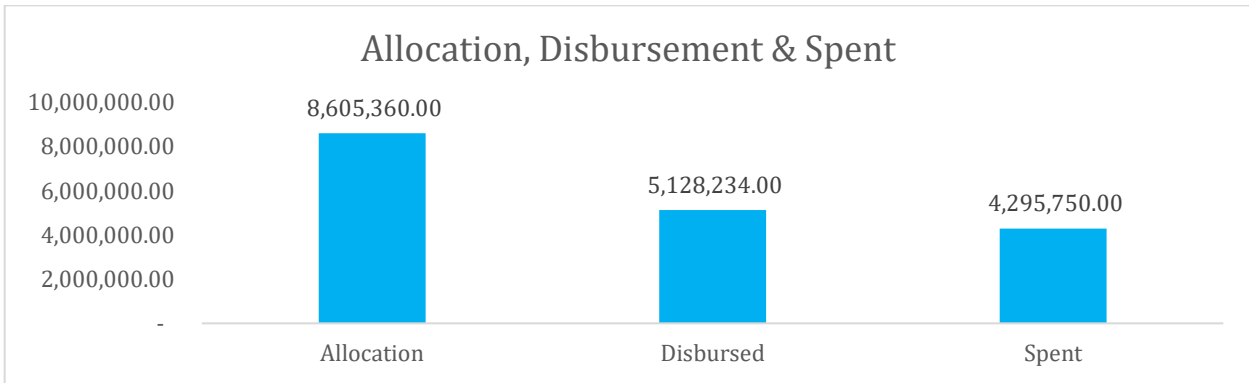***Partially done activities are included in not completed percentage.**

Table 11: Financial performance - budget vs actual expenditure from inception to March 2019

Description	Budget	Actual Expenditure	% of Expenditure
SUB COMPONENT 1.1: Enhancing TB case detection and treatment success	597,486	346,612	58%
SUB COMPONENT 2.1: Improving quality and availability of human resources in the target areas	488,538	409,198	84%
SUB COMPONENT 2.2: Strengthening diagnostic capacity and disease surveillance	453,161	478,712	106%
SUB COMPONENT 3.1: : Operational research and Knowledge sharing	645,610	345,996	54%
SUB COMPONENT 3.2: Centers of Excellence in TB and Occupational lung disease control	325,131	312,388	96%
SUB COMPONENT 3.3: Regional coordination, policy advocacy and harmonization	2,587,495	2,402,845	93%
Totals	**5,097,421**	**4,295,750**	**84%**

(ii) Funds flow and disbursement

Since inception to March, 2019, ECSA HC received US$5,128,235 from the project Countries (Malawi, Lesotho, Mozambique and Zambia) through World Bank. Below is the disbursement summary from each country.

The current funds flow arrangement where ECSA HC is able to access resources directly from World Bank based on the agreed country contributions to support regional coordinating organization is efficient and easy to manage. It has worked very well so far. We only had one case where the disbursement has reached 100% therefore ECSA HC is unable to access its contribution from that basket.

Country	ECSA HC Allocation	Cumulative Receipts to March 2019	Balances
Malawi	1,199,164	799,064	400,100
Mozambique	3,173,687	1,810,413	1,363,274
Lesotho	1,058,822	708,341	350,481
Zambia	3,173,687	1,810,416	1,363,271
Total	8,605,360	5,128,234	3,477,126

Allocation, Disbursement & Spent

	Allocation	Disbursed	Spent
Values	8,605,360.00	5,128,234.00	4,295,750.00

(iii) Financial Reports

ECSA HC submitted all quarterly Interim Financial Reports in time to the World Bank Senior Financial Management Specialist. All the reports after review by SFMS, had no issues of concern therefore got TTL no objection in time for purposes of expenditure documentation and withdrawal applications.

(iv) External audit

The project was subjected to external audit by Ernst and Young twice during the period under review in accordance with ECSA HC financial years ending June 2017 and 2018. The project received clean (unqualified) audit reports on both occasions. The 2017 audit report was shared with the Bank in time while 2018 is ready waiting management letter from the auditor. The 2018 audit report missed the deadline of six month after the end of financial year. ECSA HC is working with the External auditor to ensure that deadlines are complied with moving forward.

(v) World Bank Financial Management Support

ECSA HC received sufficient support in Financial management during the period under review from World Bank. We had one physical review by Senior Financial Management Specialist in 2017. We maintained constant communication with the SFMS, the disbursement team and TTL on FM issues from our end which got resolved quickly and decisively. Interim Financial Reports (IFRs) were reviewed and feedback was given in time. The Regional project coordinating team at ECSA HC were trained by World Bank Financial Management and Disbursement Specialists on World Bank project Financial management and disbursement.

(vi) Financial Management Support to Project Countries

The financial management support arrangement between ECSA HC and the project countries is on need basis. ECSA HC supported countries with the development of financial reporting template for semiannual and annual report for the project. There were no additional requests from project countries during the period under review that required ECSA HC support.

Procurement

The World Bank team conducted Post Review auditing at ECSA-HC in 2018, the following issues were highlighted as weaknesses and needed to be strengthened,

- There was insufficient staff in procurement Unit;
- There is a poor record keeping on the project procurement matters;
- Insufficient number of Members of the Tender Committee to convene Tender Meetings;
- Delayed Approval of the Procurement Requests.

The following measures have been taken by ECSAHC to strengthen the procurement system: -

- Strengthened procurement unit by employing new staff who was assigned to Bank projects;
- Improved procurement record keeping in hard copy and electronic versions;
- World Bank Systematic Tracking of Exchange in Procurement (STEP) is now continuously updated;
- The Tender Committee Membership was expanded to ensure smooth convening of the tender meeting and make procurement decisions;
- Procurement opportunities are advertised through Countries Newspapers, ECSA-HC, Project websites and UNDB;
- Procurement processes are collaborative with other departments and project countries through development of Specifications, development of terms of references, formation of evaluation committees and negotiation teams;
- Prior to the deadline of proposal submission. Bid submission, queries on bid documents/quotations are always responded to all consultants/suppliers;
- ECSA-HC has strengthened procurement unit by employing new staff so as to reinforce the compliance of these procedures and processes;
- Training to ECSA-HC Staff on Procurement procedures and processes has been done, the staff are now conversant with WB procurement policies and guidelines;
- Currently, the average processing time frame for the procuring Goods and Services as improved as follows: -

Procurement Milestone	Minimum numbers of days Required
Development of the Procurement Plan	7 days after the approval of the work plan
Development of Procurement Request	2 days
Development of Specifications/Terms of References/Statement	4 days
Invitation for Quotation/Expression of Interest	2 days
Opening of the quotation/evaluation of the EOI	2 days
Preparation of the Request for Proposal (RFP) doc	4days
Submission of the RFP	14 days – International 10 days – National
Evaluation Financial and Technical proposal	7 days
Negotiation of the tender, Notification of intension to award, Notification of Award, Contract signing	10days
Delivery of the Goods, Inspection of the Goods	14 days
Contract management and submission of the consultant report.	As contract agreement

Social Safeguards

Since ECSA-HC is not involved in activities that would trigger environmental safeguards, not environmental safeguards plans were put in place. ECSA-HC however works with the countries to strengthen compliance to occupational safety and environmental management regulations.

(i) Grievances Redress Mechanism

The ECSA-HC Secretariat is governed by the ECSA-HC Human Resources Manual (2011), where recruitment, code of conduct, disciplinary code and grievances are addressed. A detailed procedure on grievances is addressed under section 9 of the HR manual. The HR manual clearly stipulates that any employee at the secretariat may submit grievances without fear of prejudice or whatsoever regarding his/her employment conditions.

The ECSA-HC secretariat resolved to establish a staff welfare to address pertinent issues which may arise at the workplace or any social personal challenges which may arise during the period of engagement. Coordination of the staff welfare committee is constituted by employees on rotational bi-ennial basis.

Since in this project works in countries and external entities such as partnerships and collaborations, the organization acknowledges the absence of a component on reporting of grievances and redress beyond the ECSA staff. Currently there are no policies at the ECSA secretariat governing projects' grievances and redress, which has been identified as a gap during this assessment.

Challenges, Lessons and opportunities

A. Implementation challenges and opportunities for improvement

- **Delayed procurement:** We experienced delays in the procurement of consultancy services to kick-start regional studies due to limited capacity of the procurement team on bank processes and shortage of staff in the procurement unit. In order to mitigate this, ECSA-HC recruited an additional staff to boost capacity of the procurement unit. The officer is dedicated to supporting World Bank projects at ECSA-HC. Additionally, the World Bank procurement and financial management team organized a one-week training to build capacity of the technical, procurement and FM teams at ECSA-HC. The procurement processes are have now improved with reduced turn around for procurement requests.

- **Funding and Ethical approval processes for regional studies:** countries have different ethical approval processes for research studies with approvals in some countries faster than others. While conducting the study on training needs assessment, approvals were received at different stages with the study being implemented in phases when ethical clearance is received. Additionally, in some countries the country-led studies did not have budget allocated and therefore despite receiving ethical clearance, they remained un-implemented. This caused delays in the studies implementation and availability of the study findings at the same time. Support by the countries' team to help with follow

up on approvals has helped to unlock some of these bottlenecks and the regional studies have since commenced implementation.

- **Implementation of cross-border referrals:** ECSA-HC has since year one, been coordinating the implementation of CBRS with WITS health consortium, given that they have pioneered the development of the cross-border referral system (CBRS), under the TIMS project. However, several challenges have been experienced in the process, namely, delays in the system development, system has not been piloted cross-border, data sharing agreements have not been signed by countries, there has not been buy-in by SADC, and there are issues observed by the global fund regarding the sustainability of the software. This has delayed the interventions planned by ECSA-HC to implement the CBRS, and no clear way forward has been defined. The delays in the procurement of consultancy to undertake the assessment of domestication of harmonized guidelines also impacted the development and implementation of tools to harmonize TB management. To mitigate, ECSA-HC is (i) is expediting finalization of the implementation of harmonized guidelines study that has since commenced; (ii) working in coordination with SADC and TIMS project to accelerate the development and implementation of tools for harmonization and cross-border collaboration for TB management; (iii) will build on the already existing cross-border committees to introduce the tools for cross-border collaboration.

- **ECSA-HC involvement in community TB** control has limited, especially in the context of cross-border migration: ECSA-HC has acknowledged the need to provide support to strengthen community-based interventions in order to increase coverage and quality of TB in migrant populations, with special focus to **undocumented migrants**. Due to shortage of funding for this purpose, this is yet to be addressed. ECSA-HC will leverage on existing efforts to harmonize TB management, and strengthen countries commitment to provide formal user-friendly services to migrant populations.

- Furthermore, there is need for ECSA-HC put more efforts to support countries in the implementation of **TB prevention strategies including preventive TB treatment**, specifically in implementing guidelines and strategies to increase coverage and uptake. The interventions will include the implementation of the new recommended regimens by the WHO and the preventive TB treatment for MDR-TB patients.

B. Lessons and experiences from the implementation

- **Roles of the CoPs in the project implementation:** The involvement of the CoPs enhanced ownership to activities and successful implementation. However, it was expected that the structure for the CoPs would replicate at the country level using the existing working groups in the countries or setting up dedicated CoP to follow through implementation of the recommendations agreed at the regional level. This was not the case and it will be important to continue to advocate for the project to facilitate setting up/using existing technical working groups in the countries to contribute and roll out agreed upon regional recommendations in line with countries' plans.

- **Coordinated implementation of the project with countries and other stakeholders:** countries are receiving support from other partners to support TB management interventions. Similarly, other regional organizations are implementing TB programs within the SADC region and therefore

coordinated efforts are required to minimize duplication and enhance synergy. ECSA-HC worked closely with the TIMS project in order to understand some of the interventions the project undertook as scale up some of the interventions such the Cross-border referral system (CBRS) instead of initiating fresh interventions. However, this provided a downside of the approach in that the system from TIMS did not materialize and become available as planned. Further discussion to rethink the model will be done during the next RAC meeting.

- **Involvement of non-project countries:** While the project funding is available for the four countries, some of the interventions involving cross-border collaborations would be successful only when other neighboring countries are involved. For example, while implementing cross-border disease surveillance and response activities, it is important to engage South Africa for collaboration with Lesotho and for this reason, a cross-border meeting was carried out between Lesotho and South Africa as prioritized by the first meeting of the Laboratory and Surveillance CoP in order to enhance collaboration in surveillance between South Africa and Lesotho. Similarly, in subsequent years, Swaziland, Tanzania and Zimbabwe will be involved in establishment of cross border committees as required.

C. Implementation risks and mitigation

There has been risks associated with the implementation of the regional activities that have been addressed over time not to affect the project implementation negatively.

- **First**, there had been concerns with the limited capacity of the **procurement function** in which consultancy recruitment was delayed. This risk is already being mitigated through training by the World Bank team in Tanzania on Procurement and Financial Management. ECSA-HC hired additional staff during the year 2018 who has helped a lot to streamline procurement matters and eased the burden on the technical team.

- **Secondly**, risk of potential **duplication of regional interventions** with other projects e.g. TIMS and Global Fund Laboratory project (has been raised). ECSA-HC is working with the two regional projects to harmonize activities with other resources. ECSA-HC is represented at the RCM of the TIMS project and vise versa, the RCM is represented in the SATBHSS project through the RAC and other technical organs of the project (CoPs). ECSA-HC and NEPAD Agency are now joint Secretariat for the TIMS project and putting efforts to ensure that activities in both projects are synchronized and that there is synergy in the implementation to maximize benefits in the supported countries. Similarly, SATBHSS project is invited in the Regional Steering Committee of the Global Fund project that is hosted by ECSA-HC. Technical teams of the Global fund project and SATBHSS project have shared related workplans and are working together to offer technical assistance to the countries in a coordinated manner. This arrangement is being implemented to enhance collaboration for SATBSS Project with the two other regional projects and will be continued during the subsequent period of project implementation. In addition, countries have been encouraged to target areas not supported by other projects and advise ECSA-HC and NEPAD where there is potential or actual duplication.

- **Thirdly**, countries are expected to take leadership in the **implementing the work of the various CoPs based on the shared responsibilities and to ensure that the agreed actions at regional level are implemented**

within the countries, countries should establish national level CoPs or use the existing similar working groups, this has not been implemented to date and hence linkage of regional CoP decisions in some countries is not smooth. It is our expectation that during the second year, countries will have the technical working groups (CoPs) in place to ensure good linkage of regional technical decisions with the countries' operations and ensure activities follow through of action points at countries' level. Fourthly, the team at the regional is purposefully thin and the **countries' needs may go beyond the existing capacity** at the ECSA-HC secretariat and NEPAD Agency in the larger scope of delivery of TB and other health systems support interventions. This risk has been mitigated by working with specialized institutions and external resources for areas where the capacity needed is not available at the secretariat to build national and regional capacity.

- **Lastly,** ECSA-HC has since year one, been expecting to implement CBRS supposedly developed by the WITS health consortium, given that the latter organization pioneered the development of the cross-border referral system (CBRS), under the TIMS project. However, several challenges were experienced in the process, namely, delays in the system development, CBRS system has not been piloted cross-border, data sharing agreements have not been signed by countries, there has been lack of buy-in by SADC, and concerns on the sustainability of the software considering the high licence renewal costs. This has delayed the interventions planned by ECSA-HC to implement the CBRS, and no clear way forward has been defined. Following the discussions at the CoPs meetings, consideration is given to add a module for cross-border referral in already existing DHIS2 system adopted by the countries. ECSA-HC and NEPAD Agency would take advantage of the cross-border disease surveillance agreement signed between project countries while through SADC advocating for advocate for signing of data sharing agreement by all SADC countries.

Additional areas of future consideration

A number of activities although prioritized by the countries through the communities of practice or expressed directly could not be implemented due to funding prioritization. Some of the priority areas that would be considered include: -
- Implementation of Antimicrobial Resistance (AMR) resistance interventions in support of countries National Action Plans on AMR
- Integrated Specimen transportation and referral strategies in support of the country plans
- Community TB control in the context of cross-border migration - formal user-friendly services to migrant populations.
- TB prevention strategies including preventive TB treatment