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**CHALLENGE TB**



**Challenge TB - Tanzania**

**Year 1**

**Annual Report**

**October 1, 2014 – September 30, 2015**

**October 30, 2015**

**Cover photo:** *KNCV's Deputy Country Director (right) comparing the facility's TB unit register with the district's TB register together with the Unguja Regional TB and Leprosy Coordinator (center) and the District TB and Leprosy Coordinator for Unguja North, Zanzibar (Left) (Credit: Amani Maro, KNCV)*

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## List of Abbreviations and Acronyms

ACSM	Advocacy, Communication and Social Mobilization
ATS	American Thoracic Society
CTB	Challenge TB
CTRL	Central Tuberculosis Reference Laboratory
CHMT	Council Health Management Team
DTLC	District Tuberculosis and Leprosy Coordinator
EQA	External Quality Assurance
ERR	Electronic Recording and Reporting
GF	Global Fund
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
KIDH	Kibong'oto Infectious Disease Hospital
MoHSW	Ministry of Health and Social Welfare
MDR	Multi Drug Resistance
MUHAS	Muhimbili University of Health and Allied Science
NTP	National Tuberculosis and Leprosy Program
NIMR	National Institute of Medical Research
PEPFAR	President's Emergency Plan for AIDS Relief
PMDT	Programmatic Management of Drug Resistant Tuberculosis
PATH	Program for Appropriate Technology in Health
PLHIV	People living with HIV
RTLC	Regional Tuberculosis and Leprosy Coordinator
TB	Tuberculosis
ToR	Terms of Reference
TWG	Technical Working Group
USAID	United States Agency for International Development
WHO	World Health Organization
ZITHLP	Zanzibar Integrated Tuberculosis, HIV and Leprosy Program

## 1. Executive Summary

Tanzania is among the 22 high TB burden countries in the world and has the 8th highest TB burden in Africa. WHO estimates the prevalence of all forms of TB at 295 per 100,000 and the incidence at 164 (157-170) per 100,000 with an estimated case notification rate of new smear positive adult TB patients between 42% and 54%. TB mortality is estimated at 12 per 100,000 both for HIV positive and negative persons. (National Tuberculosis Prevalence survey, 2012).

The Challenge TB Project (CTB) in Tanzania is implemented by KNCV as the lead partner with two collaborating partners, namely the American Thoracic Society (ATS) and PATH. The year one work plan implementation was approved in March 2015 with eleven technical areas, or sub-objectives, namely enabling environment; comprehensive, high-quality diagnostics; patient-centered care and treatment; targeted screening for active TB; infection control; political commitment and leadership; comprehensive partnerships and informed community involvement; quality data surveillance and M&E; and human resource development.

The CTB APA1 work plan was approved in late April was followed by recruitment processes and office set-up. The project activities commenced in June 2015 when a significant number of staff were on board. In APA1, KNCV and coalition partners in Tanzania recruited a total of 14 staff to implement the CTB project in six USAID priority regions namely Dar es Salaam, Pwani, Arusha, Kilimanjaro, Mwanza and Zanzibar. However, after implementation of APA1 activities began, the USAID local mission expanded the CTB geographical coverage to one additional region of Geita, making a total of seven regions.

Despite of the short implementation period, CTB Tanzania managed to cover most of the technical areas indicated in the work plan with a few activities extended to APA2. The following are key achievements highlighting the technical areas covered in APA1:

- Advocacy, communication, and social mobilization (ACSM) training materials were reviewed and initial revisions done in line with the 2013 ACSM strategy with inclusion of aspects for communication for behavior change and key populations.
- The Quote TB Light patient satisfaction assessment protocol was developed and has been submitted to the National Institute of Medical Research (NIMR) for ethical clearance with technical assistance from KNCV headquarters and a local consultant. This tool will be used in APA2 to assess patient perceptions of TB services and improve patient-centered care in selected districts.
- KNCV Tanzania, with support from USAID Tanzania, supported GeneXpert scale up and optimization including training lab personnel, installing seven machines and supporting ongoing use and maintenance at five CTB sites.
- CTB assessed five proposed sites for decentralization of PMDT services and expansion of ambulatory care. Among the assessed sites, three sites had adequate conditions for MDR-TB treatment initiation. Decentralization is planned for APA2 starting with the Muhimbili National Hospital in Dar es Salaam to be followed by Bugando Medical Center in Mwanza and Morogoro regional hospital in Morogoro. This will significantly reduce the delay of initiation of treatment of newly diagnosed patients in the respective zones caused by delays in transportation to Kibong'oto.
- Out of 126 patients on ambulatory MDR-TB treatment, 124 (98.4%) were visited in quarter three by KNCV staff from the central and regional level together with Kibong'oto Infectious diseases hospital staff in different teams. The teams, together with respective district and regional TB and leprosy coordinators, conducted

supportive supervision at the facilities where ambulatory care is provided to ensure that quality of services offered is upheld. Patients were visited at home where social support was assessed and they were supported with a quarterly stipend aimed at assisting them with transportation to health facilities. Among the supported patients 79 (62%) were from CTB regions.

- Two KNCV staff (safety and quality officers) were recruited and seconded to the CTRL in order to ensure provision of quality services in a safe environment in its efforts to become accredited.
- Two national level technical working groups were established with clear terms of reference aiming at meeting quarterly; the PMDT TWG and the laboratory TWG. These TWG meetings will provide an avenue for sharing developments, successes, challenges and way forward in the respective areas in collaboration with the NTLP as well as to ensure activities are implemented in a coordinated manner.
- A TB research committee consisting of different stakeholders involved in TB research in the country was established. Areas of focus for TB agenda for the coming year were identified.
- TB and TB/HIV supportive supervision and mentorship visits were conducted in selected facilities in all districts in CTB regions quarterly. These visits were essential because the quality of services offered to patients could be assessed and documented in various M&E tools. On the job training and mentorship were conducted based on findings of supportive supervision.

## **2. Introduction**

The Challenge TB project was first introduced in Tanzania in March 2015 with KNCV Tuberculosis Foundation being the lead partner in collaboration with PATH and the American Thoracic Society (ATS) as partners. The project took over where the previous TB Task Order 2015 project lead by PATH left off in 2014. Project start up activities including staff recruitment and office set up commenced on January 1st 2015 with a buy in amount of USD 3,816,324 available for the first year.

In collaboration with the National Tuberculosis and Leprosy Program (NTLP), the project aims at addressing the following challenges over the course of 5 years.

- Low case detection
- Limited access to patient-centered care and treatment
- Limited interventions on prevention of transmission and disease progression
- Weakened national leadership and program management

The general approach of the project includes: introduction of new interventions with a high and demonstrable impact, capacity- building at national level, policy development, leadership and technical working groups at national level, for implementation of region-specific approaches in USAID priority regions, scale-down technical dependence of NTLP on Challenge TB technical assistance over the course of the project, while building up capacity at national and regional levels. Coordinate closely with Global Fund PMU and NTLP, using CTB as a technical assistance mechanism and Global Fund to support large (capital) investments, procurement of drugs, supporting establishment of a national data reporting system and salaries; coordinate closely with the National AIDS Control Program, PEPFAR/CDC and technical agencies supporting HIV activities in the scale-up of TB/HIV collaborative activities.

Currently, CTB priority regions are in Arusha, Dar es Salaam, Geita, Kilimanjaro, Mwanza, Pwani and Zanzibar with a total population of 13,523,140 people (2014). Together with the Ministry of Health and Social Welfare (MoHSW) and the NTLP, it was agreed that the CTB project will also support provision of MDR-TB services country-wide. Our support in the regions in our first year of implementation can be categorized as follows:

### **Community activities**

Activities implemented were at a higher level in terms of supporting the NTLP to develop standardized national training materials for ACSM and a participant manual for community TB care. A protocol for assessing patient perceptions of TB services using the Quote TB Light tool was also developed with short term technical assistance (STTA) from KNCV headquarters. Research assistants, regional and district TB and leprosy coordinators and KNCV field coordinators from the 3 districts selected for the assessment were also trained on use of the tool. Due to delay in the start of implementation of activities in this first year, the implementation of the ACSM strategy and Quote TB assessment in selected districts has been carried over to year 2. Mapping of Civil Service organizations (CSOs) and Faith Based Organizations (FBOs) was done in all CTB priority regions in preparation for engagement in TB-related activities from APA2. These activities were coordinated by the Community engagement technical officer seconded to KNCV from PATH.

### **Laboratory strengthening**

The GeneXpert roll out plan was finalized with contribution from the KNCV team. Scale-up of GeneXpert machines was supported in seven regions with installation and training of service providers, redistribution of cartridges was done where needed. A national laboratory technical working group was re-established with clear terms of reference with the intention

of holding quarterly meetings to discuss updates and address challenges relating to TB diagnosis country-wide. The laboratory strategic plan was reviewed with STTA from KNCV headquarters and the process of finalization is ongoing; with the operational plan anticipated to be finalized in the coming project year. In our efforts to increase the output of the Central Tuberculosis Reference Laboratory (CTRL), a safety officer and quality officer have been seconded at the laboratory. These activities were coordinated by the KNCV laboratory technical officer. Implementation of laboratory activities was coordinated by the laboratory technical officer.

### **Programmatic management of drug resistant tuberculosis**

The decentralization process for PMDT services was initiated by assessment of four regional hospitals and the national referral hospital with STTA from the center of excellence for PMDT in Kigali, Rwanda. Development of PMDT training materials for decentralized sites was also started with STTA from KNCV regional office and headquarters. Quarterly MDR-TB cohort review and clinical panel review meetings were coordinated by the PMDT technical officer and participants financially supported to travel and participate in the five days' workshop. With support from KNCV headquarters a protocol for the introduction of a Bedaquiline based short treatment regimen was drafted. CTB staff, regional and district coordinators conducted supportive supervisions targeting patients on their continuation phase of treatment country wide. A PMDT technical working group with clear terms of reference was also established. The PMDT technical officer supported all of the aforementioned activities in addition to....

### **TB/HIV**

Health facility assessments for TB infection control were done in four health facilities with recommendations made for improved infection control these will be carried out in APA2. This activity was accomplished with STTA from the PMDT center of excellence in Rwanda. Supportive supervision and mentorship was conducted quarterly in all districts During these visits the quality of services offered to patients was assessed together with the quality of documentation on patient cards, registers and reports. On job training and mentorship was then provided according to the needs.

### **Targeted screening for active TB**

Initial steps were taken in order to establish systematic contact investigation. In collaboration with ATS, a stakeholders' meeting was held that came up with an action plan for initiation and coordination of contact investigation activities in CTB regions.

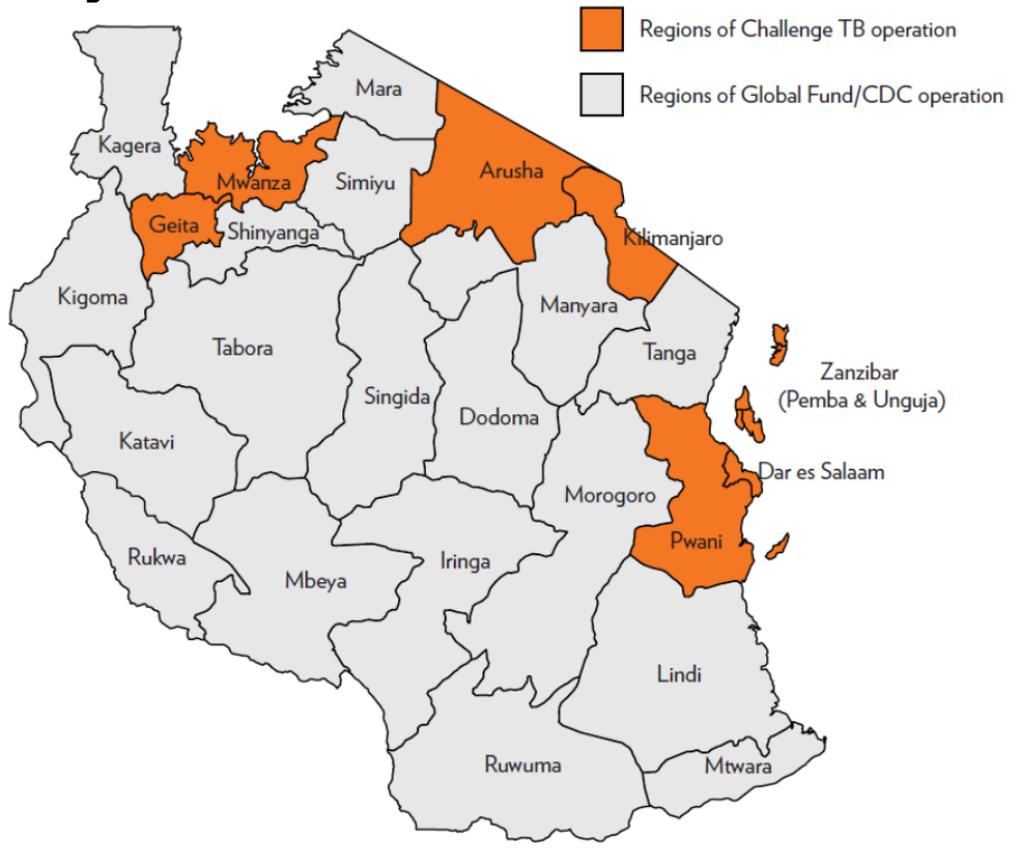
### **Monitoring and evaluation**

A TWG for TB operational research was established through a stakeholders meeting; ten priority research agendas were set for the coming year during this meeting. Assessment and evaluation of current electronic recording and reporting system was done by KNCV with STTA support from the head office this was followed by an electronic recording and reporting (ERR) stakeholders' meeting which came up with a road map to be implemented by NTLP and other stakeholders to ensure an improved electronic recording and reporting system for TB.

### **Human resource development**

Supportive supervision of TB/HIV activities was conducted monthly at the district level and quarterly at the regional and central level from July 2015. Quarterly district performance review meetings were held in each CTB region where quarter three and quarter four data was verified, compiled and analyzed.

**Figure 1: Tanzania with Challenge TB and Global Fund/CDC regional geographic coverage**



### **3. Country Achievements by Objective/Sub-Objective**

#### **Objective 1. Improved Access**

##### **Sub-objective 1. Enabling environment**

##### **1.2. Demand side: Community empowered, especially among risk groups**

Activities under this sub-objective focus on a targeted behavior change and communication strategy for increasing awareness and demand among vulnerable and high-risk populations. It is based on the Advocacy, Communication and Social Mobilization (ACSM) Strategy with involvement of different stakeholders including traditional healers, drug dispensers, ex-TB patient groups, youth and women. In order to inform the development of a patient-centered approach and to create demand for services, the TB QUOTE tool is being utilized. Innovative means for achieving this such as use of m-health (SMS messaging) will be considered in the APA2 implementation.

#### **Key Results**

- i) Challenge TB reviewed and revised ACSM training materials, initial revisions were done in line with the 2013 ACSM strategy with inclusion of aspects for communication for behavior change and the key affected populations. Revisions of these materials will be completed in the coming year of implementation. Printing of the ACSM training package and information materials could not be done as planned as the revision of the training materials was not completed; consequently the planned workshops to introduce and review Communication for Behavioral Change Interventions (COMBI) in 3 selected districts were also not done.
- ii) Mapping of CSOs/FBOs in all priority USAID regions was done. A mapping tool was developed with assistance from KNCV headquarters. District TB and leprosy coordinators (DTLCs) collected the information needed. Training of district coordinators, HCWs, former TB patients and community members on systematic contact investigation in 3 districts has also been carried over to APA2.
- iii) In collaboration with the NTLP team and other stakeholders the community Engagement officer developed a participant manual for community TB care which is ready to be used. This is in preparation to engage community members and health outreach workers to support TB contact investigation activities.
- iv) A Quote TB Light assessment protocol was developed and has been submitted to the National Institute of Medical Research (NIMR) for ethical clearance with technical assistance from KNCV headquarters and a local consultant. KNCV's community technical officer and two facilitators from NTLP (Community coordinator and ACSM coordinator) were introduced to Quote TB Light before they facilitated a workshop whereby KNCV's field coordinators, three research assistants as well as regional and district coordinators from the districts where the assessment is planned to be piloted were trained on the assessment tool. During the training the need to customize the tool to the Tanzanian context was established, this will be done in APA2.

**Figure 2: QUOTE TB light assessment training of regional and district team**



*Group discussions during Quote TB Light Assessment training of regional and district teams conducted at Morogoro in August 2015. (Credit: Rose Olotu, PATH)*

**Table 1: Demand side: Community empowerment indicator**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y1	Result Y1
1.2.3	Number of districts where ACSM strategy implemented	Description: # of districts where ACSM strategy implemented. Indicator Value: number Level: district, Source: district annual report, Means of Verification: workshops held and IEC material distributed	0	6	0

## **Sub-objective 2. Comprehensive, high quality diagnostics**

The project is working to support activities at national level in support of laboratory strategy and policy development, as well as support to the CTRL. Direct laboratory network support is given to capacity building, infection control and bio-safety, recording and reporting systems and linkages between diagnostics and clinical care as well as improved monitoring of data, EQA and feedback of results.

### **Key Results**

- i) KNCV team participated in a workshop to finalize the GeneXpert roll out plan that is currently being implemented
- ii) KNCV Tanzania supported installation of GeneXpert machines at five CTB sites (Sinza Hospital – Dar es Salaam, Tumbi Hospital - Pwani, Mawenzi Regional Hospital - Kilimanjaro, Mount Meru Regional Hospital - Arusha, Sengerema

District Hospital - Mwanza) and two non-CTB sites (Morogoro Regional Hospital – Morogoro and Makambako hospital – Njombe). Installation of the machines was preceded by training of laboratory personnel and clinicians from all the sites. KNCV’s laboratory technical officer together with CTRL staff will continue with regular supportive supervision, mentorship and maintenance of the machines at the sites.

**Figure 3: Laboratory technicians performing practical session during a GeneXpert training**



*Laboratory technicians performing practical session during a GeneXpert training at Makambako Hospital. (Credit: Edgar Luhanga, KNCV/CTB Tanzania laboratory technical officer)*

- iii) A workshop to re-establish a Laboratory Technical Working Group was facilitated by KNCV. During the workshop members of the TWG were identified and terms of reference for the group developed. The workshop involved various stakeholders in the country including government agencies, other TB implementing partners and implementers from regions and districts to discuss implementation of TB lab activities across the country. It was agreed that this group will meet quarterly under the coordination of the NTLN and KNCV.
- iv) The TB laboratory strategic plan was reviewed and updated together with the GeneXpert roll-out plan. The previous plan was developed in October 2013 and

required updating to accommodate new developments in TB control and laboratory network that were introduced since then. In addition, the WHO had endorsed a handbook for development of strategic plan for TB laboratories developed by KNCV in partnership with The Union, CDC Atlanta and MSH and supported by the USAID through TB CARE I. During the workshop members reviewed available TB control documents then extractions from the documents were prepared to facilitate a situational analysis for the TB laboratory network. Detailed discussions of the situational analysis, prioritization of gaps and strategies, setting activities within strategies as well as identifying targets for objectives and main activities was done. This was done with technical assistance from KNCV headquarters.

**Table 2: Comprehensive high quality diagnostics indicators**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
2.1.3	A national strategic plan developed and implemented for providing the TB laboratory services needed for patient diagnosis and monitoring, and to support the NTP	Indicator Value: 0 = Laboratory strategic plan is not available 1 = Laboratory strategic plan is ready but no annual implementation plan and budget available for the current year 2 = Laboratory annual implementation plan and budget is available for the current year 3 = NTP annual report for the current year includes a section demonstrating progress with the implementation of the laboratory strategic plan. Level: National	0	1	1
2.2.6	% of national reference laboratories implementing a quality management system according to international standards (GF)	0=No certified NRL and no link with a SRL; 1=NRL linked with an SRL, but not yet certified; 2=certified NRL linked with an SRL; 3=certified NRL and regional/intermediate reference laboratories	0	100% (1)	1
2.4.2	#/% of Xpert machines that are functional in country (stratified by Challenge TB, other)	Capacity and use of GeneXpert expands to new laboratories/clinics for diagnosing rifampicin-resistant TB (RR-TB) among presumptive and confirmed TB patients as well as diagnosing TB among PLHIV and presumptive TB patients (i.e. children, presumptive extra-pulmonary TB patients, diabetics)	In Feb 2014 29 installed and 29 planned; update will be collected during mapping visit	100% of GeneXpert machines available are functional	National 64/67 (96%)  CTB 14/14 (100%)
2.4.6	#/% of new TB and Rif-resistant cases diagnosed using GeneXpert	Proportion of new TB cases diagnosed using GeneXpert	2,275 (2014)		

### Sub-objective 3. Patient-centered care and treatment

The project's focus is on intensified case-finding among all risk groups and provision of patient-centered care for patients with TB, MDR-TB and PLHIV. Current emphasis is on decentralizing PMDT services to regional hospitals while maintaining the treatment success rate of MDR-TB at 75% or higher and increasing the number of the previously treated patients accessing a Drug Susceptibility Test from 10% to 20%. Implementation of these activities is coordinated by the KNCV PMDT technical officer.

#### Key Results

- i) The decentralization process of PMDT services and expansion of ambulatory care was supported; assessment of 5 proposed sites for decentralization was conducted at Temeke referral hospital – Dar es Salaam, Bugando referral hospital - Mwanza, Mbeya referral hospital - Mbeya, Morogoro referral hospital - Morogoro and Muhimbili national referral hospital – Dar es Salaam. Among the assessed, sites 3 sites (Bugando referral hospital, Muhimbili referral hospital and Mbeya referral hospital) had adequate conditions for MDR-TB treatment initiation. International STTA was involved in this activity from the PMDT center of excellence in Kigali, Rwanda.
- ii) PMDT training materials were reviewed to incorporate decentralization plans. An action plan was set for completion of the training modules in APA2 before piloting of the materials. The technical assistance was done to support the local team in reviewing, organizing and compiling the training materials by providing the framework and assist in the process of reviewing the training material. This was accomplished with STTA from KNCV headquarters.
- iii) Supportive supervision and mentorship of health facilities providing drug resistant TB ambulatory care was done in 20 regions out of 22 regions. During the supervisions, major challenges included patients who were found to have interrupted treatment and poor monitoring of patients' hematologic and biochemical status. The importance of continuous adherence counselling was emphasized to the facility teams.
- iv) Out of 126 patients on ambulatory DR-TB treatment, 124 (98.4%) were supported with a quarterly stipend aimed at assisting them with transportation to health facilities. Among the supported patients (79) 62% were from CTB regions (Zanzibar - 4, Kilimanjaro - 11, Temeke - 25, Ilala - 10, Kinondoni - 18, Geita - 5, Mwanza - 5 and Pwani - 1).
- v) Preparations for the introduction of a nine-month shorter MDR TB regimen which is recommended by the current WHO guidelines was initiated by conducting a workshop where a protocol was drafted. Different partners from NTLP, Tanzania Food and Drug Authority, Pharmacy Council, Medical Store Department,

Kibongoto Infectious Disease Hospital, CTRL and KNCV Tanzania with technical assistance from KNCV headquarters. The forum discussed on the MDR TB short regimen and steps for implementation. The protocol will be finalized and submitted to NIMR for ethical clearance in APA2.

- vi) CTB supported Kibong’oto hospital to become a national Center of Excellence by facilitating the cohort and expert review process. The projected conducted one quarterly 2012 annual cohort review and clinical panel review meeting for difficult cases. The treatment success rate for 2012 annual report was 88.6%.
- vii) Transportation of 12 newly diagnosed MDR-TB patients from different parts of the country to KIDH was facilitated for the period of July to September 2015. Ambulance transportation was supported through payment of fuel and ambulance maintenance costs as well as per diems for the driver and escorting nurse in eleven trips conducted in APA1. In order to reduce the delay in treatment initiation for MDR TB patients caused by availability of only one ambulance for transporting patients to Kibong’oto. CTB is in the process of procuring another specialized ambulance. The procurement process has been initiated and supplier has already been identified awaiting final approval from USAID Washington.
- viii) Health facility assessments were done in 3 districts (3 health facilities) to evaluate readiness for introduction of TB/HIV one-stop shop collaborative services. Findings included inadequate ventilation in some facilities, lack of TB surveillance among health care workers (HCW) and absence of monitoring of infection prevention control plans. Recommendations made included minor renovations to improve ventilation, establishment of systematic HCW screening to be reported quarterly and formation of facility infection control plans that will be followed up closely in APA2 by the TB/HIV technical officer.

**Table 3: Patient-centered care and treatment indicators**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe )	Target	Result
				Y1	Y1
3.2.4	#/% of eligible patients with drug-resistant TB enrolled on second-line treatment (disaggregated by sex, age and urban/rural)	Expand access to diagnosis and treatment of MDR-TB, distribution of services in facilities that are accessible to the entire population and with a capacity that can address the population size, demand and disease burden	Cumulative 286 by June 2014		87

3.2.7	Treatment success rate for MDR-TB patients on treatment	The proportion of confirmed MDR-TB patients successfully treated (cured plus completed treatment) among those enrolled on second line TB treatment during the reporting period	80% in 2011 cohort	Maintain 80% for 2011 cohort	88.6% (39/44) 2012 cohort
3.2.10	#/% of planned cohort reviews conducted	Proportion of planned cohort reviews conducted	1/ Quarter	1/quarter	1 (50%) Jul - Sep
95%3.2.11	% of HIV+ registered TB patients given or continued on CPT during TB treatment	Number of HIV-positive TB patients, registered over a given time period, who receive (given at least one dose) CPT during their TB treatment	>90% in 2012 according to NTLF annual report 2013	95%	96%
3.2.12	% of HIV-positive registered TB patients given or continued on anti-retroviral therapy during TB treatment	All HIV-positive TB patients, registered over a given time period, who receive ART (are started on ART) Vs All HIV-positive TB patients registered over the same given time period.	50% in 2012 according to annual report 2013	60%	95%
3.2.14.	% of health facilities with integrated or collaborative TB and HIV services	The proportion of health facilities with integrated or collaborative TB and HIV services (includes 3Is, 5 NTP activities - HIV testing, HIV prevention methods, CPT, HIV/AIDS care and support, ART)	80% in 2012 according to 2013 report; while previous years > 90%	90%	41% (547/1334)
3.2.24.	% MDR patients provided patient support (stratified by type of support: psychosocial, economic, etc.)	Proportion of TB patients who receive any social or economic benefits (defined as tangible support through interventions delivering services, psycho-emotional support, material goods and/or financial assistances) during the first month of second-line drug (SLD) treatment	0%		0% (0/30)

3.2.25.	% of MDR patients that are no longer infectious receiving outpatient care	Proportion of MDR-TB patients that are no longer infectious receiving outpatient care	Were to be collected during first PMDT visit	80% of those in CTB areas	127/192 (66%)
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## Objective 2. Prevention

### Sub-objective 4. Targeted screening for active TB

In collaboration with ATS the project is building on examples and evidence of existing successful models of contact investigation and targeted screening among key populations.

#### Key Results

- i) A Stakeholders meeting was held to review the background for and overall status of contact investigation activities in the country including potential models for scaling up and implementing programmatic approaches for contact investigation, its monitoring and evaluation, and financing. Key implementation steps include a situation assessment based on recent program reviews, prevalence surveys, and strategic plans; formulating national policies and guidance, prioritizing geographic areas and risk groups, approaches to be used (active vs. passive), algorithms for evaluation, development of local implementation strategies, development of manuals of procedures, development of training materials and trainings for trainers, development of data collection forms, strategies for community engagement and monitoring and evaluation.
- ii) Intensified TB case finding is emphasized in outpatient and inpatient departments whereby clinicians are reminded during supportive supervision to raise their suspicion index for TB and screen both adult and pediatric patients using appropriate TB screening tools. These activities are coordinated by the TB/HIV technical officer
- iii) A community TB care training package with a component for community health care workers involved in contact investigations was developed and finalized in collaboration with the NTLP.
- iv) Mapping of key populations such as miners, people with intravenous drug use and people with diabetes in CTB regions was done by the community Engagement officer in collaboration with field coordinators. This information will be used in selection of districts to be engaged in community activities in APA2.

**Table 4: Targeted screening for active TB indicators**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
4.1.1	#/% of eligible index cases of TB for which contact investigations were undertaken	Number of index cases of TB for which contact investigations were undertaken during the period of assessment	0%	50% in CTB areas	NA
4.1.3	% of confirmed TB patients by case finding approach (CI, ACF, ICF), by key population and location (ex, slum dwellers, prisoners) (Service cascade)	Number and where available, percent Number of TB cases all forms (bacteriologically confirmed + clinically diagnosed; includes new and relapse cases) reported (by setting/ population/ case finding approach) nationally and in Challenge TB geographic areas in the past year	0	5	NA
4.2.4	#/% of TB patients linked with support for comorbidities (stratified by malnutrition, diabetes, drug use, etc.)	Number of TB patients who receive medical support from other programs for comorbidities Vs Total number of TB patients with comorbidities	0	1	NA

### Sub-objective 5. Infection control

PMDT and TB/HIV care settings were assessed and will be given priority for minor renovations to operationalize decentralization of PMDT and the TB/HIV one-stop-shop model in APA2.

### Key Results

- i) Assessment of infection control was done in five proposed sites for decentralized PMDT services, including four regional referral hospitals and the national referral hospital (Temeke, Bugando, Mbeya, Morogoro and Muhimbili) in collaboration with a PMDT consultant from the PMDT center of excellence in Rwanda and the in-country CTB PMDT technical officer. Areas assessed included administration, environmental issues and personal protective measures. Findings of the

assessment and plans for minor renovations were made, which will be supported in year two.

- ii) Three health facilities were assessed for TB/HIV infection control in three districts (Tumbi Special hospital in Pwani region, Seliani Council Designated hospital in Arusha region, and St. Joseph Municipal Designated hospital Kilimanjaro region) to evaluate for readiness of one-stop services including but not limited to TB infection control. So far assessment has been conducted at 5 PMDT and 3 TB/HIV sites, support for IC will be provided in APA2. The assessment identified areas for improvement in all three health facilities that include limited space, inadequate ventilation and suboptimal implementation of TB infection control measures. To address these, some renovation work is needed in terms of architectural modifications and refurbishment of existing buildings (Seliani and St. Joseph hospitals) or use of an alternative building (identified at Tumbi hospital).

**Table 5: Infection control indicators**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
5.1.5	#/% of high-risk sites in which TB IC is implemented with Challenge TB support (stratified by applicable sites: PMDT, HIV, mines, prisons, etc.)	Number of TB IC certified health facilities in the area Vs Total number of health facilities in the area	0	2	0%

### **Objective 3. Strengthened TB Platforms**

#### **Sub-objective 7. Political commitment and leadership**

The Country Project Director and team will work closely with the NTLP team with particular attention given to strengthening the commitment from the government and developing a sustainable financing strategy (e.g., exploring resource mobilization from different levels of government and involvement of various private sector entities). CTB will support activities aimed at encouraging and strengthening local ownership and sustainability of TB control efforts, including advocacy to the government and private sector to increase financing in the health sector (mining companies, corporate companies and private businesses) exponentially over time. We will consider an approach to develop memoranda of understanding with corporate entities to further financially commit to and/or engage in TB control. Subject to availability of funds we will also consider engaging a retired NTLP manager on a part time basis for the purpose of liaising with the corporate and government sector or otherwise hire a Challenge TB Government & Corporate Sectors Engagement Officer in APA3 to 5 of this project.

#### **Key Results**

- i) Activities in this area have been postponed due to the slightly delayed start-up of the project as well as the upcoming national elections in October with anticipation of

some changes in parliamentarians which we expect to engage. Plans are currently underway to engage a former NTLF manager in these advocacy activities.

**Table 6: Political commitment and leadership indicators**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
7.2.1.	% of NTP budget financed by domestic resources	The amount of NTP expenditures from domestic sources during reporting period Vs Total NTP expenditures in the period	in 2012 around 10-20% (see epi assessment)	No increase expected in Year 1	N/A

### Sub-objective 8. Comprehensive partnerships and informed community involvement

In order to maximize synergy of operations of the large network of partners supporting TB prevention and care activities in the country, CTB has planned to coordinate the establishment of a PMDT TWG and a laboratory TB TWG to be followed by establishment of a national STOP TB partnership. This national coordination platform is expected to meet semi-annually to coordinate all national discussions on TB prevention and care, for policy, strategy, annual planning, operational research and resource mobilization.

#### Key Results

- i) A PMDT technical working group (TWG) formation meeting was held to formulate terms of reference and propose members. Stakeholders from the NTLF, ZIHTP, WHO, Academia, CTRL and other TB implementing partners were involved. Achievements, challenges and the way forward for implementation of PMDT activities were discussed and the draft ToR for the planned quarterly PMDT TWG meetings was developed.
- ii) A workshop to establish a Laboratory Technical Working Group was facilitated by KNCV. During the workshop members of the TWG were identified and terms of reference for the group developed. The workshop involved various stakeholders in the country including government agencies, other TB implementing partners and implementers from regions and districts to discuss implementation of TB lab activities across the country. It was agreed that this group will meet quarterly under the coordination of KNCV and the NTLF.
- iii) The STOP TB partnership will be established in year 2. This was postponed due to delayed start of implementation of activities.

**Table 7: Comprehensive partnerships and community involvement**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
8.1.1	#/% of national partnership members that are from the private sector, civil society, or current/previous TB patients (stratified by each key group)	The number of national Stop TB partnership members that are from the private sector, civil society, or current/previous TB patients	0	Will be set after the first meeting to establish the stop TB partnership	0

### Sub-objective 10. Quality data, surveillance and M&E

Challenge TB focuses on strengthening the NTLP’s capacity to produce reliable and relevant data that provide solid evidence for policy and strategy development. The project assisted NTLP in advocacy at the national level for sustainable funding as well as acquisition of donor support, and meeting Global Fund and other donor reporting requirements. The project has supported the development of a TB operational research agenda, identification of local research partners and planning to build research capacity. Research priority areas have been identified and are waiting for endorsement by the Ministry of Health and Social Welfare.

Only 41% of data in the paper-based recording and reporting system is reflected in the Electronic TB Register. To build a successful ETR that covers 100% of paper-based data in the coming years, NTLP needs short-term and long-term technical assistance from CTB in combination with significant investments from Global Fund (or other funders, e.g. government) in the hardware and the software development, as well as maintenance of the electronic TB surveillance system. Key is that the ETR has good interoperability with HIV and Health Management information systems.

#### Key Results

- i) CTB conducted an assessment and evaluation of the current Tanzania TB case-based electronic recording and reporting system (ERR) with STTA from KNCV headquarters. The assessment was followed by a meeting with key stakeholders (including DHIS2 development team members) to develop a way forward (roadmap) for TB and DR-TB surveillance (including Leprosy), interoperability, data management and data utilization. The first phase of the roadmap consists in general of the revision of the ERR tool and integration of the case-based and web-based ERR in the existing DHIS2. This will be further developed based on the design of the system together with the HMIS ICT department and the University Computing Center of the University of Dar es Salaam (UDSM).
- ii) A TB operational research meeting consisting of different stakeholders involved in TB research in the country was facilitated and funded by KNCV with STTA from the headquarters; the aim was to establish a national TB operational research committee

and to set up a national operational research agenda for TB in Tanzania. Participants came from various organizations and government institutions; these included representatives from NTL, regional TB and leprosy coordinators from 3 regions, National Institute for Medical Research (NIMR), and other research institutes. The meeting selected an operational research committee and 10 priority research questions to be focused on in the next year of implementation.

- iii) CTB will also support one operational research committee meeting in APA2. The project will support two TB operational research topics based on the identified national priority research questions. These will be implemented by local research partners with the aim to build research capacity. Priority will be given to operational research on MDR-TB, and evaluation of active case-finding interventions directed at high-risk and vulnerable populations, including cost-effectiveness of different diagnostic algorithms.
- iv) CTB has been reporting on four mandatory PEPFAR indicators on a quarterly basis to the USAID local mission. The indicators include TB HIV testing and counselling, TB Antiretroviral treatment (ART), TB HIV status and TB outcome. These reports require data collection from the facility level. Two PEPFAR report has been successful submitted in APA1.

**Table 8: Targeted screening for active TB indicators**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
10.1.4	Status of electronic R&R	Score based on below: 0=R&R system is entirely paper-based; 1=electronic reporting to national level, but not patient/case-based or real time 2= patient/case-based ERR system implemented in pilot or select sites (TB or MDR-TB). 3=a patient/case-based, real-time ERR system functions at national and subnational levels for both TB and MDR-TB 4= a patient/case-based, real-time ERR system is functional at national and subnational levels for both TB and MDR-TB completely and meets WHO standard for TB surveillance data quality	2 (2014)	2	2

10.2.5	# of successful approaches identified to improve diagnosis and treatment	Number successful approaches identified to improve TB diagnosis and treatment	2 (2014)	2	1
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### Sub-objective 11. Human resource development

In ensuring that there are strong and competent regional, district and facility teams with appropriate knowledge, skills and competencies that are in line with the roles and responsibilities of the NTLP, supportive supervision and mentorship was done in all CTB supported regions.

### Key Results

- i) District coordinators conducted 3 monthly supportive supervision visits at health facilities offering TB services; activities included updating unit registers, mentoring health workers on service provision, reporting and recording, data collection and supplying anti-TB medicines. Regional teams of TB/HIV/Leprosy coordinators, regional laboratory technologist and CTB project's field coordinator conducted 2 quarterly supportive supervision to their respective districts, while staff from central project office supported regional teams through supervisory visit in all priority regions at selected facilities. Key areas of improvement include knowledge gaps at district and health facility levels, high health facility staff turn-over, inconsistencies in recording and reporting, low performing and few TB diagnostic centers, and limited space for TB/HIV services provision.
- ii) Regional-level performance review meetings were conducted in all six original priority regions with participation of central project staff and both district and regional TB/Leprosy, TB/HIV, HIV/AIDS coordinators and laboratory technologists. HIV/TB implementing partners were also invited. This group collects, aggregates, compiles and analyzes district and regional data before submission to the national level. Operational successes and challenges are discussed and action plans developed at both levels and a comprehensive report is delivered.
- iii) The CTRL was supported to ensure provision of quality services in a safe environment in its efforts to become accredited. Two KNCV staff were seconded at the laboratory, a safety and a quality officer.

**Figure 4. Supervision in Hai District in Kilimanjaro region**



*KNCV's field coordinator (left) with DTLC and facility HCW conducting regional supportive supervision in Hai district (Credit: Dr Oliver Mallya, Ag RTLC Kilimanjaro region)*

**Table 8: Human resource development**

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y1	Y1
11.1.2	Status of system for supportive supervision	Number of planned supervisory visits conducted during reporting period Vs Total number of supervisory visits planned for the same period	1 (2014)	2	3/8 (38%)
11.1.2.	% of planned supervisory visits conducted (stratified by NTP and Challenge TB funded)		TBD	100%	NTLP (0%) CTB 3/8 (38%)

## 4. Challenge TB Support to Global Fund Implementation

**Table 9: Current Global Fund TB Grants**

<b>Name of grant &amp; principal recipient</b> <i>(i.e., Tuberculosis NFM - MoH)</i>	<b>Average Rating*</b>	<b>Current Rating</b>	<b>Total Approved Amount (Million)</b>	<b>Total Disbursed to Date (Million)</b>	<b>Total expensed (if available)</b>
Tuberculosis NFM	A2	A1	\$55.2	\$36.8	

\* Since January 2010

### **In-country Global Fund status - key updates, current conditions, challenges and bottlenecks**

Global Fund through Ministry of Health and Social Welfare (MoHSW) has recently developed a joint TB/HIV concept note under the New Funding Mechanism (NFM) which has recently approved for the period of July 2015 – Dec 2017. The secured Grant will aim to increase TB case detection from the current 54% to 75% by 2017. Global Fund grant negotiation has been completed, funds is yet to be disbursed. New Mechanism Funding (NFM) budget currently are revised to include savings accrued from Grant negotiations and delayed disbursement from previous grants.

Global Fund delayed bridging funds disbursement and implementation for 8 months contributed to implementation challenges and low achievement of the planned target in Tanzania. The bridging funds disbursement was to be implemented for the period of November 2014 to June 2015.

### **Challenge TB involvement in GF support/implementation, any actions taken during Year 1**

Despite the delay in actual implementation in year 1 planned work plan activities under CTB project, the project has implemented several activities that involved various stakeholders in TB in Tanzania, including Global Fund partners.

## 5. Challenge TB Success Story

### **The benefit of supportive supervision to patients on ambulatory phase of MDR-TB treatment: an experience from the Manyara region.**

The CTB project in Tanzania, in collaboration with the National Tuberculosis and Leprosy Program (NTLP), supports quarterly MDR-TB supportive supervision visits in districts where there are MDR-TB patients in ambulatory phase of treatment countrywide. The supervisory teams comprise of CTB staff, Kibong'oto Infectious Diseases hospital (KIDH) staff together with regional and district TB and leprosy coordinators' teams. Teams travel to different parts of the country in order to assess and monitor the quality of MDR-TB treatment services provided to patients at ambulatory sites following discharge from the only MDR treatment initiation site in the country, located in Kibong'oto in the north of the country.

During these visits patients records and clinical notes are reviewed to monitor clinical improvement or deterioration, drugs' side effects, follow up sputum culture and appropriate remedial measures. Facility registers and copies of reports are also reviewed to ensure accuracy in data reported. Adherence counselling is also done during these visits which is aimed at ensuring patients are retained on treatment. CTB targets to visit all MDR TB patients on ambulatory phase during the quarterly supportive supervision visits.

After the health facility record assessment, patients are then visited at home where drugs' side effects and treatment adherence issues are addressed. A quarterly stipend equivalent to 75 USD is provided to support each patient's monthly visits to the treatment facilities where they collect drugs. During these visits, MDR-TB patients lost to follow-up from treatment are traced to try to engage them back into treatment. A total of 124 MDR TB patients out of 126 (98%) were visited in quarter four of APA1 among whom 26 (21%) patients were found to have interrupted treatment. Out of the 26, 18 (69%) resumed treatment following the supportive supervision conducted by CTB.

Before CTB implementation commenced, these supportive supervision visits were not regularly conducted due to a lack of financial support to the NTLP. As a result, monitoring of patients on ambulatory phase was not routinely done since the phase out of Task order 2015. This also affected patients that were in need of financial support to facilitate transportation from their homes to facilities where they receive ambulatory care services.

On a personal note, in quarter four of APA1, one of the 13 supervisory teams went to Babati Town council in the Manyara region where a patient was found to have been lost to follow-up from his ambulatory phase of treatment for more than a week. Efforts to trace his whereabouts took the team to a different district in Singida region (more than 200km) where he was allegedly staying with a relative. After travelling on rough terrain for many hours the team was told that he had gone to Hanang' district in Manyara region. Without losing hope the team went back and finally located him in Hanang', 60km from Babati town.

He claimed he had missed his medications because he could not travel back to Babati Town Council to collect them and believed that he was already cured because the TB symptoms he was experiencing before were resolved. He had developed deafness as a side effect of drugs so the team communicated with him by writing, explaining the importance of adherence and completion of treatment as well as explaining the reason for his deafness.

The findings from this visit were a lesson learnt on the importance of providing continuous treatment adherence counselling to patients from the initiation phase to ambulatory phase and the difference that is made to patients' lives by the quarterly stipend that is provided. In a broader sense, this was also a lesson learned about the importance of oto-toxicity surveillance including baseline and monthly to try to prevent deafness, as possible. CTB will continue to monitor whether this needs to be strengthened and re-inforce this, possibly with support to pilot and roll-out tele-audiometry.

**Figure 5: The supervisory team tracing a patient lost to follow-up from MDR treatment**



*The supervisory team on its way to trace the patient using a motor vehicle and on foot in Manyara region (Photo: Rose Olotu, PATH)*

The district team was mentored on adherence counselling and management of deafness as a side effect of MDR TB treatment drugs. The patient was also given his quarterly stipend aimed at supporting his monthly transport to the health facility. The patient has since resumed treatment and his adherence to treatment is satisfactory.



*Figure 6: MDR TB patient being interviewed by the supervision team (Rose Olotu, PATH)*

## 6. Operational Research

CTB supported a two days workshop to establish the national TB operational research committee with STTA from KNCV headquarters. The workshop was also used to set up the 10 national TB priority research questions that were proposed through vetting by the participants. The committee was established with the intention of meeting semiannually to coordinate and exchange information on current selected 10 priority TB research questions in Tanzania, as well as to establish an M&E framework to monitor its implementation. The following 10 research questions were selected for implementation in the APA1:

1. *Which is the best model of accessing MDR-TB treatment?*
  - a. *Home-based vs health facility*
  - b. *Mixed model*
2. *Will intensified case finding methods from targeted groups such as communities, CSOs, volunteers and traditional healers increase case notification?*
3. *How to increase pediatric case detection?*
4. *What is the shared agenda of different care providers and how can this facilitate establishment of sustainable collaboration?*
5. *Are PLHIVs properly screened for TB?*
6. *What is the burden of TB among miners?*
7. *What are the barriers to timely definitive diagnosis and treatment after TB suspicion? –*
8. *Will enhanced TB screening at all entry points in HFs (government, private and pharmacies, MCH, wards) increase case notification?*
9. *What is the cost of not treating TB susceptible/MDR-TB on the national GDP? – cost-effectiveness of treating TB and MDR-TB to advocate for investing in TB control*
10. *How to screen and increase case finding in the elderly (also highlighted in national TB strategic plan)*

In APA2, CTB will support 2 local researchers to develop and implement 2 research protocols. The following research topics were selected among the current research agendas in line with the overall CTB 5 years' strategy; "The best model for accessing MDR-TB treatment" and "What are the barriers to timely definitive diagnosis and treatment after TB suspicion?"

## **7. Key Challenges during Implementation and Actions to Overcome Them**

Given the delayed staff recruitment during this APA 1 work plan, the actual implementation of KNCV CTB Project activities in Tanzania was delayed for two quarters; much of the planned activities could not be implemented on the planned timeframe. Staff hiring started in March 2015 and was completed in July 2015. Given the short period of time, there was little time for staff orientation and smooth implementation. In APA1 there were only 4 Field Coordinators located in 4 regions out of 7 regions allocated to CTB geographical coverage. This has been a challenge to some of field coordinators who are covering more than one region. Several of the areas are newly created with new government staff in place who require additional attention and support to be familiarized with TB and TB/HIV control processes.

Some of the activities that were planned for APA1 have been carried over to APA2 i.e. delay in getting ethical clearance on QUOTE TB Light from the National Institute for medical Research has affected its implementation in APA1. Subject to timely approval of the year 2 proposed work plan; the CTB team in Tanzania has set itself up to implement planned activities in a timely manner ensuring provision of quality patient-centered care in the supported regions.

## **8. Lessons Learnt/ Next Steps**

### **Sub-Objective 1: Enabling environment**

- i) Little involvement of civil society organizations (CSOs) in TB control in Tanzania.
- ii) Difficulties in accurately measuring the impact of community based TB activities: the current versions of the paper-based district and unit registers have a community component that captures presumptive confirmed patients referred from the community, but does not capture those presumptive clients referred from the community who were not diagnosed with TB at the facility.
- iii) Lack of consumers' voices in decision making when planning for TB services

### **Next steps for year 2**

- i) Pilot the developed ACSM training materials with selected CSOs to initiate the action planning process for addressing the districts' unique barriers to diagnosing and treating people with TB.
- ii) Update and disseminate recording and reporting tools for TB community interventions to end users to capture community contribution in the M&E systems with focus to CTB regions in collaboration with CTB's monitoring and evaluation officer.
- iii) Quote TV light assessment of patients' perspectives of TB services to be conducted in three districts.

### **Sub-Objective 2: Comprehensive high quality diagnostics**

- i) Poor sputum specimen referral mechanism: only 15% of required specimens, according to the national algorithm, are sent to CTRL; no structured specimen referral from peripheral treatment health facilities to districts; no sputum specimen referral guidelines in Tanzania
- ii) Poor and lack of EQA for direct smear microscopy in many regions of Tanzania and, where present, it is poorly done
- iii) Presence of non-functional microscopy laboratories due mainly to non-functional microscopes. Lack of understanding of the current situation in the field.
- iv) Low number of GeneXpert machines available in CTB regions

### **Next steps for year 2**

- i) Technically and financially support use of locally available means of transportation such as motorcycles, in specimen transportation from peripheral health facilities to the districts in CTB priority regions.
- ii) Support targeted supportive supervision at least quarterly to supervise EQA implementation and AFB microscopy centers as a whole
- iii) Optimize non-functional TB microscopy centers with functional microscopes (e.g., replacement microscopes) and appropriate minor infrastructural renovations
- iv) Procurement and installation of 4 GeneXpert machines in CTB priority districts.

### **Sub-Objective 3: Patient-centered care and treatment**

#### **TB/HIV**

- i) Sub-optimal TB/HIV collaboration at the national level
- ii) Sub-optimal integration of TB/HIV services (< 50% in some CTB regions); consequently there is delay in diagnosis and treatment and some patients may have to travel to another facility, usually for HIV services.

### **Next steps for year 2**

- i) Strengthen coordination and collaboration of TB/HIV services at all levels of the health system by involving all stakeholders at the national level from the NACP in meetings and supervision visits.
- ii) Support the expansion of TB/HIV “One-Stop-Shop” model of care by providing comprehensive TB/HIV trainings to health care workers from districts identified to have knowledge gaps during supportive supervision visits.

#### **PMDT**

- i) Poor access to timely, patient-centered MDR-TB treatment due to centralized PMDT system at KIDH.
- ii) Inadequate DST result feedback for retreatment cases. Only 10% of DST results from re-treatment patients are brought back to patients and their providers; 90% missed opportunity for timely uptake of appropriate treatment.

### **Next steps for year 2**

- i) To continue supporting the decentralization process for PMDT and further support expansion of ambulatory care through training of health care workers
- ii) To strengthen coordination between CTRL and facilities

### **Sub-Objective 4: Targeted screening for active TB**

- i) Poor coordination of contact investigation activities where they existed in a few districts

- ii) Key population groups are not well addressed and given priority in active TB case finding activities
- iii) Low suspicion index of health care workers in regard to childhood TB
- iv) Inadequate information on the TB burden in the mining sector (both informal and formal)

**Next steps for year 2**

- i) To develop contact investigation recording and reporting forms, guidelines, SOPs, training materials and M&E plan will be developed under the active case finding which will address contact investigation and intensified case finding.
- ii) To develop tool for contact investigation assessment on TB, TB/HIV and MDR TB (desk work)
- iii) To conduct a baseline assessment of current status of contact investigation activities in seven districts
- iv) Finalize mapping of congregate settings and mining sectors (desk work)
- v) Finalize and print TB –diabetic guidelines
- vi) Update national guidelines for management of pediatric TB to align with WHO recommendations from 2014
- vii) Conduct an active TB screening campaign among mining and PWIDs communities.

**Sub-Objective 5: Infection control**

**Lessons learned from Year 1**

- i) Most health facilities visited do not implement standard TB infection control practices and do not have written TB IPC plans

**Next steps for year 2**

- i) To conduct infection control assessments at seven proposed new sites for DR-TB treatment initiation and strengthen IPC at proposed sites for decentralization assessed in year 1.
- ii) Conduct TB IPC health facility assessments in 28 health facilities, four from each of the seven regions.
- iii) Support 28 health facilities in developing TB IPC plans during supportive supervision via mentoring.
- iv) Sensitize health workers on TB screening among themselves through coordination committees and health facility continuing education sessions.

**Sub-Objective 6: Management of latent TB infections**

- i) Provision of preventive therapy for children under the age of 5 is not done in a systematic manner in most TB clinics with poor recording and reporting.

**Next steps for year 2**

- i) Support IPT provision among childhood contacts (<5 years old) of parent(s) living with HIV and with bacteriologically confirmed TB

## **Sub-Objective 7: Political commitment and leadership**

### **Lessons learned from Year 1**

- i) High dependence of TB services on donor funding; due to Task Order 2015 being phased out, many essential TB services were disrupted that the government did not take up with other resources
- ii) Very limited contributions of private sector in TB services
- iii) Private insurance schemes do not adequately address TB control re-imbursements

### **Next steps for year 2**

- i) Develop a CTB roadmap for engagement of political and business leaders using a local expert consultant.
- ii) Engage key policy and political leaders such as ministry officials and members of parliament for resource mobilization through forums such as the World TB Day commemoration, special sessions to be organized for new members of parliament following elections in October.
- iii) Engagement of business community forums (mining and gas companies) and corporates (banks and audit/law firms) in resource mobilization with established MOUs

## **Sub-Objective 8: Comprehensive partnerships and community involvement**

### **Lessons learned from Year 1**

- i) Activities in this area have been postponed due to the delayed start-up of the project and shifted to Year 2.

### **Next steps for year 2**

- i) To support establishment of the national Stop TB Partnership with clear terms of reference. This will be followed by 1 semiannual meeting in quarter 4. Participants will include stakeholders from the ministry of health and finance, the business community (mining and gas companies), corporates (banks and audit/law firms), CSOs and the media.
- ii) To support the annual RTLCS' meeting.
- iii) To support launching and printing of the NTLP's national strategic plan.

## **Sub-Objective 10: Quality data, surveillance and M&E**

### **Lessons learned from Year 1**

- i) Frequent changes and revision of the national data collection tools require regular training, printing and distribution. This has resulted into some facilities reporting using old tools and others new tools causing loss of required data.
- ii) Electronic recording and reporting systems are not linked e.g., DHIS2, ETR, eLMIS, CTC2.
- iii) Multiple data requirements that are not linked e.g. PEPFAR, NTLP etc. There is no tool that captures all information
- iv) TB Operational research conducted are not monitored or guided to ensure links to NTLP needs.

## **Next steps for year 2**

- i) Establishment of an electronic recording and reporting technical working group involving TB-ETR, DHIS2 and CTCS2 databases' stakeholders that meet semi annually
- ii) Update and disseminate recording and reporting tools for TB community interventions to end users to capture community contribution in the M&E systems with focus to CTB regions in collaboration with the community engagement officer.
- iii) Establish an excel template for uploading data into the PROMIS database which is used by PEPFAR implementers to report their activities (desk support only)
- iv) Adapt to the Tanzanian context the Routine Data Quality Assessment Tool (RDQA) for TB interventions
- v) To support annual TB operational research committee meetings.
- vi) To support local researchers to develop 2 research protocols and begin implementing them. The following were selected among the current research agenda's recommendations for increased understanding among specific key populations to conduct operational research on "The best model for accessing MDR-TB treatment" and "What are the barriers to timely definitive diagnosis and treatment after TB suspicion?"

## **Sub-Objective 11: Human resource development**

### **Lessons learned from Year 1**

- i) The project had initially planned to recruit only four regional coordinators to oversee all six CTB regions; a gap has been noted in Arusha and Zanzibar where the coordinators in Kilimanjaro and Dar es Salaam were originally thought to be able to oversee those other regions as well. Given the burden of TB in Dar es Salaam and the number of health facilities, it is also not feasible for one field coordinator for Dar es Salaam to oversee all facilities. Geita region was also added to CTB supported regions after plans for recruitment had been finalized.
- ii) Not all districts have identified and allocated TB/HIV officers as was the Ministry's directive.
- iii) CTRL has no specific person stationed there to oversee EQA issues at the lab and support regions on the EQA country wide.

## **Next steps for year 2**

- i) Recruit four additional CTB regional coordinators so that all CTB priority regions are covered
- ii) To follow up with CHMTs to select TB/HIV officers and train them.
- iii) Support recruitment of an EQA officer to be seconded at the CTRL

## Annex I: Year 1 Results on Mandatory Indicators

<b>MANDATORY Indicators</b>				
<i>Please provide data for the following mandatory indicators:</i>				
<b>2.1.2 A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Score</b> as of September 30, 2015	No	N/A	Moderate	CTB in APA1 supported the finalization of Laboratory Strategic Plan. In APA2 CTB has planned to support development of National TB Laboratory Operational Plan
<b>2.2.6 Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number and percent</b> as of September 30, 2015	100% (6/6)	N/A	Moderate	The Central TB Reference Laboratory and five intermediate culture laboratories are in an implementation phase for LQMS using the GLI Stepwise Process the score will be Central TB Reference Laboratory (CTRL) (Score 3), Mbeya Referral Laboratory (Score 3), Bugando Zonal Culture Laboratory (Score 1), Pemba Public Health Laboratory (score 2), Kigongoto Zonal Culture Laboratory (Score 2) Dodoma Zonal Culture Laboratory (Score 1). CTB only supports accreditation of CTRL

<b>2.2.7 Number of GLI-approved TB microscopy network standards met</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number of standards met</b> as of September 30, 2015	3	N/A	Moderate	CTB in APA 2 is expecting to increase the number of standards
<b>2.3.1 Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result.</b>	<b>National 2014</b>	<b>CTB 2014</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Percent (new cases)</b> , include numerator/denominator	2,808/23,583 (11%)	2,808/23,583 (11%)	<b>Substantial</b>	The number reported is for bacteriologically confirmed TB cases who are tested for drug resistance over total number of bacteriologically confirmed TB cases with recorded results reported by CTRL for the calendar year 2014. The target for new cases 20% and retreatment is 100%.
<b>Percent (previously treated cases)</b> , include numerator/denominator	505/1008 (50%)	505/1008(50%)		
<b>Percent (total cases)</b> , include numerator/denominator	3,313/24592 (13%)	3,313/24,593 (13%)		
<b>3.1.1. Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach</b>	<b>National 2014</b>	<b>CTB 2014</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number and percent</b>	63,151	23,154	None	The reported data is for total cases notified by all forms. Data could not be disaggregated by setting as there is still some challenges noted in the new system (DHIS2). The information given in the STEP table will be updated to reflect this reported data. The data reported in the STEP table was captured from the new system (DHIS2) that still need verification. This reported data was captured and verified by NTLF from both ETR and

				DHIS2.
<b>3.1.4. Number of MDR-TB cases detected</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
Total 2014	144	144	<b>Moderate</b>	CTB supports MDR TB services country wide
<i>Jan-Mar 2015</i>	74	74		
<i>Apr-June 2015</i>	61	61		
<i>Jul-Sept 2015</i>	30	30		
To date in 2015	165	165		
<b>3.2.1. Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).</b>	<b>National 2013 cohort</b>	<b>CTB 2013 cohort</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number and percent</b> of TB cases successfully treated in a calendar year cohort	Getting from WHO	10,323/20,697 (50%)	<b>Moderate</b>	The reported data is for treatment outcome of 2013 cohort from the CTB regions reported by RTLCS.
<b>3.2.4. Number of MDR-TB cases initiating second-line treatment</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
Total 2014	134	134	<b>Moderate</b>	CTB supports MDR TB services country wide
Jan-Mar 2015	34	34		

Apr-June 2015	23	23		
Jul-Sept 2015	30	30		
To date in 2015	87	87		
<b>3.2.7. Number and percent of MDR-TB cases successfully treated</b>	<b>National 2012 cohort</b>	<b>CTB 2012 cohort</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number and percent</b> of MDR-TB cases successfully treated in a calendar year cohort	Getting from WHO	88.6% (39/44)	<b>None</b>	This is based on verified national data from the National TB and Leprosy Program during the cohort review meeting held in July 2015. CTB does not have direct influence on the achieved results. It only provided support on the workshop for the Cohort review. One of the recommendation established was to update the Cohort review tool to suite for regional decentralization process that is planned for APA2.
<b>5.2.3. Number and % of health care workers diagnosed with TB during reporting period</b>	<b>National 2014</b>	<b>CTB 2014</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number and percent</b> reported annually	0	0	<b>None</b>	There was no planned activity to track data for this indicator in APA1, this is planned to be done in APA2 for CTB regions only. Data will be captured and reported during Quarterly Meetings organized by CTB
<b>6.1.11. Number of children under the age of 5 years who initiate IPT</b>	<b>National 2014</b>	<b>CTB 2014</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number</b> reported annually	U	U	<b>None</b>	This data could not be collected in APA1, the current national tools does not capture the data for IPT for under 5. The tools have not been revised, data for IPT will be recorded at the back

				of TB unit registers.
<b>7.2.3. % of activity budget covered by private sector cost share, by specific activity</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Percent</b> as of September 30, 2015 (include numerator/denominator)	N/A	0%	<b>None</b>	This was not in APA1. In APA2 CTB and NTLP will engage the private sector in resource mobilization for TB activities
<b>8.1.3. Status of National Stop TB Partnerships</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Score</b> as of September 30, 2015	0	N/A	<b>Limited</b>	Establishment of a national stop TB partnership has been carried over to APA2.
<b>8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Percent</b> as of September 30, 2015 (include numerator/denominator)	N/A	0	<b>None</b>	Currently, besides engagement of local consultants, there are no local Challenge TB coalition partners in Tanzania besides PATH & ATS. Currently there is only one local partner NTLP that is implementing the TB intervention. However, there is no direct funding support from challenge TB to NTLP in Tanzania.
<b>8.2.1. Global Fund grant rating</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Score</b> as of September 30, 2015	A1	N/A	<b>None</b>	Global Fund rating of the latest rating based on the website visited in October 2015.

<b>9.1.1. Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Number</b> as of September 30, 2015	U	U	None	Currently there is no TB supply chain management data that provides aggregated data for TB drugs stock outs from the facility to the national level. The new TB and Leprosy Logistic System (TBL) in the eLMIS is in the rollout phase in some of the regions. Stock out data will be tracked from APA2 through eLMIS.
<b>10.1.4. Status of electronic recording and reporting system</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Score</b> as of September 30, 2015	2	N/A	Moderate	In APA1 CTB supported assessment of the current TB ERR system; through a stakeholders' meeting a roadmap for improving the system was developed. The new improved system that will incorporate MDR TB is expected to be developed and piloted in APA2.
<b>10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Yes or No</b> as of September 30, 2015	No	N/A	Limited	The last surveillance assessment was conducted in November 2013. Only 5 out of the 10 required standards were met. As part of meeting the S&B, in APA1 CTB supported assessment and evaluation of ERR and developed the roadmap for improving the system

<b>10.2.6. % of operations research project funding provided to local partner (provide % for each OR project)</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Percent</b> as of September 30, 2015 (include numerator/denominator)	N/A	0%	<b>Moderate</b>	CTB in APA1 supported establishment of operational research committee and operational research agenda. Support on operational research project will be done in APA2
<b>10.2.7. Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Yes or No</b> as of September 30, 2015	N/A	No	<b>Moderate</b>	Two operational research projects will start in APA2
<b>11.1.3. Number of health care workers trained, by gender and technical area</b>	<b>CTB APA 1</b>		<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
			<b>Substantial</b>	
	<b># trained males APA 1</b>	<b># trained females APA 1</b>	<b>Total # trained in APA 1</b>	<b>Total # planned trainees in APA 1</b>
1. Enabling environment	<b>8</b>	<b>5</b>	<b>8</b>	<b>13</b>
2. Comprehensive, high quality diagnostics	<b>11</b>	<b>8</b>	<b>19</b>	<b>19</b>
3. Patient-centered care and treatment	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
4. Targeted screening for active TB	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
5. Infection control	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
6. Management of latent TB infection	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

7. Political commitment and leadership	0	0	0	0
8. Comprehensive partnerships and informed community involvement	0	0	0	0
9. Drug and commodity management systems	0	0	0	0
10. Quality data, surveillance and M&E	0	0	0	0
11. Human resource development	0	0	0	0
Other (explain)	0	0	0	0
Other (explain)	0	0	0	0
<b>Grand Total</b>	<b>19</b>	<b>13</b>	<b>32</b>	<b>32</b>
<b>11.1.5. % of USAID TB funding directed to local partners</b>	<b>National APA 1</b>	<b>CTB APA 1</b>	<b>CTB APA 1 investment</b>	<b>Additional Information/Comments</b>
<b>Percent</b> as of September 30, 2015 (include numerator/denominator)	N/A	0%	<b>None</b>	There was no funding from CTB directed to local partners in APA1

## Annex II: Status of EMMP activities

Year 1 Mitigation Measures	Status of Mitigation Measures	Outstanding issues to address in Year 2	Additional Remarks
Education, technical assistance and training about activities that inherently affect the environment include discussion on prevention and mitigation of potential negative environmental effects.	Mitigation of environmental impact included in education material used in technical assistance, trainings and On job trainings and supportive supervision conducted in APA1	Strengthen on mitigation of environmental impact, this will formally be added in the checklist supervision checklist at all levels	
Challenge TB will conduct training to clinicians and lab based trainings for health care workers. The training will address issues related to environment control, protection and mitigations of environmental risks associated with waste storage and disposal of used GeneXpert cartridges.	19 Health care workers trained with mitigation of environmental risk associated with proper storage and disposal incorporated into the training module. This was part of section covered during the GeneXpert trainings	Contact JSI that are implementing the Supply Chain Management System (SCMS) that are supporting the MoHSW to provide inputs on the reviewed waste management guideline	Incorporate the inputs into the training conducted under the CTB
Challenge TB program will provide necessary precautions on environmental impacts through the technical assistance provided (training, on-site technical assistance and on-the-job training and monitoring) to support proper storage and disposal of GeneXpert cartridges.	2 Regional/central supervision were conducted with incorporation of environmental impacts mitigation through proper storage and disposal of waste	4 Regional/central supervision conducted with incorporation of environmental impacts mitigation through proper storage and disposal of waste	Environmental mitigation measures will be among the area that will be highlighted in all APA2 field supervisions
To ensure proper storage and disposal of the cartridge, CTB is not supporting the development of waste management guideline. However, it will incorporate the waste management component in the training package used for the technical support (training, supportive supervision and the On job training).	Providers trained on proper waste management.	CTB followed up with JSI that are implementing the Supply Chain Management (SCMS) project) which has supported the MoHSW in development of pharmaceutical waste management guideline. It was learnt that they are only support solid Pharmaceutical waste	

		only for this APA1.	
CTB will use the current developed national training package that have specific section that address proper storage of the used cartridges and those expired during the implementation to all supported facilities	2 trainings conducted to lab personnel with environmental mitigation as part of strengthening on environmental impact mitigations	Training package to be reviewed to accommodate new interventions in environmental mitigations	
It will also be a clear responsibility of all health care providers to ensure the safe and correct disposal of all waste produced in the course of their work.	On site monitoring and quality control checks prove satisfactory results	In APA2 all field supervisions to incorporate environmental mitigations	