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World Relief Mozambique
Vurhonga Community-Based DOTS Project

Mid Term Evaluation Report, 2012

June 22, 2012

Cooperative Agreement Number: GHN-A-00-09-00017-00 Program Location: Bilene, Chicualacuala, Chigubo, Chókwè, Guija, Mabalane, Massangena and Massingir Districts of Gaza Province, Mozambique Program Dates: September 30, 2009-September 29, 2014, Date of Report Submission: June 22, 2012

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Contents

Acronyms

ACSM	Advocacy Communication and Social Mobilization
AIDS	Acquired Immune Deficiency Syndrome
BL	Baseline
CB-DOTS	Community Based- Directly Observed Therapy Short-Course
CG	Care Group
CGV	Care Group Volunteer
C-HIS	Community Health Information System
CNR	Case Notification Rate
CPT	Cotrimoxazole Preventive Therapy
CSHGP	Child Survival and Health Grants Program
DOT	Directly Observed Therapy
DOTS	Directly Observed Therapy Short-Course
DPS	*Direcção Provincial de Saúde* (Provincial Health Department)
DRAT	District Rapid Assessment Tool
FE	Final Evaluation
FGD	Focus Group Discussions
FHI	Family Health International
FY	Fiscal Year
HBCA	Home Based Care Activist
HC	Health Center
HF	Health Facility
HFA	Health Facility Assessment
HIV	Human Immunodeficiency Virus
HP	Health Post
HQ	Headquarters
KAP	Knowledge, Attitudes and Practices
KII	Key Informant Interviews
KPC	Knowledge Practice and Coverage
LE	Lead Evaluator
M&E	Monitoring and Evaluation
MDR-TB	Multi Drug Resistant Tuberculosis
M-DRAT	Modified District Rapid Assessment Tool
MISAU	*Ministério de Saúde* (Ministry of Health)
MOH	Ministry of Health
MTE	Midterm Evaluation
NGO	Non-Governmental Organization
NTP	National Tuberculosis Program
Padrinho	Community TB treatment observer
PLWHA	People Living With HIV/AIDS

PNCT	*Programa Nacional de Controle de Tuberculose* (National Program for Tuberculosis Control - Mozambique)
Q	Quarter
SS+	Sputum Smear Positive
SS-	Sputum Smear Negative
TB	Tuberculosis
USAID	United States Agency for International Development
VHC	Village Health Committee
WHO	World Health Organization
WR	World Relief

Executive Summary

Design

The Vurhonga Community-Based DOTS[1] project started in December, 2009, in six rural districts and three urban areas (total est. 582,000 population) in Gaza Province, Mozambique. The project is implemented by World Relief (WR) and is funded by USAID's Child Survival and Health Grants Program (CSGHP) with main project office located in Chókwè. The project duration is through September 2014. This report describes the findings, conclusions and recommendations of the midterm evaluation mission (MTE), according to USAID guidelines. The MTE was performed in April 2012.

The project addresses the tuberculosis (TB) problem in the area. Its primary objectives are to increase the TB case notification rate by 50% and to achieve 85% treatment success rate in the project area.

The project Detailed Implementation Plan (DIP) distinguishes three planned Intermediate Results (IR):

IR 1: Empowerment of people with TB to seek and complete treatment with the support of their communities (45% Effort).

IR 2: Strengthen the provincial TB control program to improve TB service delivery and patient outcomes (45% Effort).

IR 3: Decrease the burden of HIV in people with TB and decrease the burden of TB among people living with HIV/AIDS (10% Effort).

Two medical officers, ten district supervisors and support staff constitute the professional staff, all employed by WR. The project uses pre-existing WR volunteer structures, mainly Care Group Volunteer networks and Village Health Committees in rural areas.

Conclusions

1. This project has potential to improve life perspectives for tuberculosis patients. The project offers good potential for developing an effective community based DOTS system:
   a. The project is well established in terms of human resources, counting on a very motivated project staff, a fine mesh of volunteers and a well-structured supervisory system.
   b. The first phase of preparing the staff and volunteers in the project, plus the organizational setup is completed. A solid volunteer network was developed, with a well-structured supervision system. The remaining two years of the project will be dedicated to implementation and transfer to government responsibility.
   c. Community Based DOTS is a national priority. Lessons learnt and an exchange of experiences can lead to a favorable development in TB control in Mozambique.
2. The position of World Relief in the project area can be considered as long-lasting, given its other goals in Mozambique.

[1] DOTS: Directly Observed Treatment Short course is the internationally recommended strategy for tuberculosis control.

3. There is a conceptual issue: objectives, strategies and performance indicators are defined very comprehensive and there are considerable external influences. This causes difficulties in monitoring direct project performance. The M&E table is the main source of project performance assessment.
4. Implementation of planned activities as seen by the M&E table is according to schedule.
5. The main project objective to increase tuberculosis notification is not yet achieved. Outside influences are likely to be major determinants. The project is contributing to reaching the three intermediate results.
6. Relations with the provincial and national government system are good. Strengthening by more intensive support and collaboration is requested by provincial authorities.
7. There are sustainability concerns: project structure and its monitoring system are probably too labor intensive and expensive to transfer to government without significant modifications.

Recommendations

The following activities are recommended to enhance the project quality and ensure sustainability of the project.

1. Make a scenario script.

Such a scenario would outline the steps, resources, organization and timeframe to develop CB-DOTS in a district. The MTE team recommends developing such a How-To manual using the project experiences.

2. Create a platform for sharing experiences.

MISAU and World Relief are encouraged to develop an annual platform, sharing national (and international?) CB-DOTS experiences.

3. Learn more.

The project offers good possibilities to get more insight in processes that enhance or hamper results in community DOTS. Health system research methodology is particularly adequate to seek a better understanding. Suggested topics are:

a) The patient perspective, applying the Quote-Light tool.
b) A cost-effectiveness study, defining investments and running costs per patient found or patient cured.
c) Human resource utilization study: Determination of time spent by CGVs on specific defined tasks.

These studies need a partnership from the MISAU research department or other suitable institutions in the country.

4. Community empowerment

a. Review volunteer tasks

The design of the project, including the use of village volunteers is clearly geared towards empowerment of communities in relative isolation of services. The challenge is to maintain motivation of CGVs by providing adequate satisfying tasks, increasing the scope of voluntary work (HIV!?) without overburdening voluntary solidarity.

b. Include ex-patients

It is suggested to engage TB-affected community members in the project village activities, as they are potential agents of change.

c. Attention to miners

Due to the existing temporary migration of male villagers to work in South African mines, the project is advised to involve male volunteers to increase mobilization of male suspects and assist male TB patients on treatment. The project management should contact USAID and TBCARE1 to pursue a possible project linkage with the recently developed “Mining project” (TBCARE 1 initiated).

d. Collaboration with government services

Strengthening government tuberculosis control services needs more emphasis in the second phase of the project. An increase in case notification and high quality monitoring should be leading targets for this cooperation.

5. One-stop strategy

In Mozambique 61% of detected tuberculosis patients are HIV-positive. It makes sense to support co-infected patients by one organization only. The World Relief project should consider adopting a "community one-stop" strategy, extending home care for TBHIV patients by village CGVs.

A. Preliminary Information

A.1 Summary table

Table 1: Summary of Major Project Accomplishments

Project Inputs	Activities	Outputs	Outcome
IR1: Empower people with TB to seek and complete treatment, with the support of their communities (45% effort)			
Strategy 1.1: Advocacy, Communication, and Social Mobilization (ACSM) (RD) • Address traditional beliefs that inhibit case detection and treatment seeking • Reduce stigma associated with TB and address barriers to treatment seeking	• Training of CG Supervisors • Training of CGVs and FPVs • Training of functional VHCs • Supervision of CGVs and FPVs • Education topics include TB transmission, signs and symptoms, treatment options and transmission methods. • Care Group Volunteers (CGV) also focus on stigma reduction and overcoming barriers for treatment seeking.	• 10 CG Supervisors were trained in Q2&Q3 in year 1 • 3377 CGV and 184 FPVs have been trained • Trained 100% (n=223) of functional VHCs • Project supervisors visit villages in their responsibility every week. • Developed community-based curriculum, "Hope at Home," that includes specific activities community members can do to prevent infection and the spread of TB, which serves as a template for this training. • Created community specific initiatives for reducing stigma and overcoming barriers.	• Knowledge that TB is transmitted through the air by coughing at baseline was 20.7% (95% CI: 12.0% - 29.4%) and by midterm it had increased to 61.3% (95% CI: 55.6% - 66.9%), exceeding the target of 60%. • Knowledge that TB is curable continued to remain high with the midterm level of 91.7% (95% CI: 87.9% - 94.5%) from a baseline of 85.3% (95% CI: 0.0% - 90.7%). • Decline in proportion of respondents who opted to seek care from traditional healers, if they had symptoms of TB from 21.1% at baseline to 0.7% at midterm).
Strategy 1.2: Case Detection	• Periodic house visits by CGVs with supervision by FPVs, and CG Supervisors	• CGVs visit the 10 households in their care and teach mothers about TB signs, symptoms and availability of treatment	• CNR at baseline was 128.3 (n=70) per 100,000 which fluctuated over the past 2 years and was found to be 107.7 (n=61) per 100,000 at midterm
Strategy 1.3: Treatment Compliance (RD)	• Treatment compliance is monitored	• Padrinhos selected by every TB patient, are treatment observers, who register the taking of treatment daily in the patient register, report adverse reactions, or discontinuation of treatment.	• Treatment success was 78.6% (n=44) in Q1'10 and increased to more than 80% in the subsequent quarters, except quarters Q3 and Q4 of 2011 when it dropped to 77.7% (n=73). • Cure rate was 71.4% (n= 40) in Q1'10 which increased to 75.5% (n= 73) in Q4'2011. • Interruption rate was 3.6% (n=2) in Q1'10 and 3.2%

Strategy.1.4: C-HIS (RD)	• Community is assisted in maintaining local data on TB	• Functioning VHCs have local data on TB	• The percentage of functioning VHCs with local data on TB in the previous quarter increased from none to 100%.
Intermediate Result 2: Strengthen NTP Systems to improve TB service delivery and patient outcomes			
Strategy 2.1: Facility Assessments (RD & UC)	• Health center assessments	• All health centers in the project are assessed every quarter using a structured instrument (M-DRAT) as described in the DIP.	• 100% of health center assessments have been conducted with participation from the District TB Supervisor.
Strategy 2.2: Diagnostic Quality (RD & UC)	• Laboratory quality assurance	• Every quarter, a random sample of TB slides is sent to Xai Xai for review.	• Proportion of major errors has been <1%.
Strategy 2.3: Access (RD)	• Sputum bottle stock-outs monitored	• Focal point volunteers (FPV) keep the sputum bottles if a health post is not present in a community. The FPV informs the respective CG Supervisor if stocks are low well in advance.	• At baseline (Q1'10) 25% of health facilities reported sputum bottle stock-out which then declined to 0% in subsequent quarters.
Strategy 2.5: Information Systems (RD & UC)	• Essential TB drug stock-outs monitored	• Every quarter, WR M&E personnel checks the TB drugs stock inventory in health centers.	• At baseline (Q1'10) 87.5% of health centers reported essential TB drug stock-out which remains high at 62.5% in Q4'11.
Strategy 2.6: Supervision (RD)	• Supervision of health posts (HP) by District TB Supervisor is recorded	• Health Posts are supervised by the MISAU's District TB Supervisors and this is documented in the M-DRAT.	• At baseline (Q1'10) 83.3% of health posts were supervised by District TB Supervisor in the previous quarter which declined to 50% in Q4'11.
Strategy 2.7: Coordination with NTP (RD & UC)	• Joint supervisory visits to HP	• MISAU's District TB Supervisors and WR's CG Supervisors make joint supervisory visits of HPs every quarter.	• The target of 6 supervisory visits in a quarter has been achieved in Q4'11.
Intermediate Result 3: Decrease the burden of HIV in people with TB and decrease the burden of TB among PLWHA. (10% Effort)			
Strategy 3.1: TB and HIV Education through ACSM (UC)	• Training of OVC and youth volunteers in TB including stigma reduction	• 60 OVC and youth volunteers were trained in Q3, 2010.	
Strategy 3.2: Case Finding in PLWHA (UC)	• Training of HBCAs	• 40 HBCAs were trained in Q3, 2010.	
Strategy 3.3: HIV/TB Testing (UC & RD)	• Screening of HIV+ patients for TB	• Initially nurses in HIV division would screen HIV patients for TB, now the MISAU has introduced a new screening form for health centers to use thus making this screening systematic.	• At baseline (Q1'10) 44.8% of HIV+ patients were screened for TB which then increased to 71.8% in Q4'11. The target for this indicator is 60%.
	• Screening of TB patients for HIV	• Nurses at the health centers have been trained in HIV/TB co-infection	• The high proportion of TB patients screened for HIV has been maintained (100%

		screening.	in Q4'11).
Strategy 3.4: CPT (UC & RD)	• TB/HIV+ patients on CPT	• Every quarter, WR M&E personnel monitors the proportion of TB/HIV+ patients on CPT.	• The high proportion of TB/HIV+ patients on CPT has been maintained with 98.8% of the TB/HIV+ patients on CPT in Q4'11.
Strategy 3.5: CB-DOT (UC)	• Training of HBCAs in CB-DOTS	• 40 HBCAs were trained in CB-DOTS in Q3'2010.	

B. Evaluation Methodology and Limitations

The methods used in this MTE included extensive preparatory exchange of information by Grantee and Lead Evaluator (LE). A distribution of tasks was made beforehand that facilitated report writing considerably. Before the field visit, questionnaires for the Focus Group Discussions (FGD) and Key Informant Interviews (KII) were developed by the LE, shared, discussed and translated.

Two field teams were created, composed of a balanced mix of expertise and functions. During the field mission, FGDs were held with project supervisors and Care Group Volunteers (CGV) in their respective villages. In each district, the health center was visited and the district TB supervisor was interviewed. In each district, a focus group discussion was held with the CGV, accompanied usually by the village leadership (president of the village or substitute). Discussions were noted down by participants and used in review sessions of MTE progress.

In the health centers, KIIs were held with the district tuberculosis supervisor, and where available, the clinician and the lab technician.

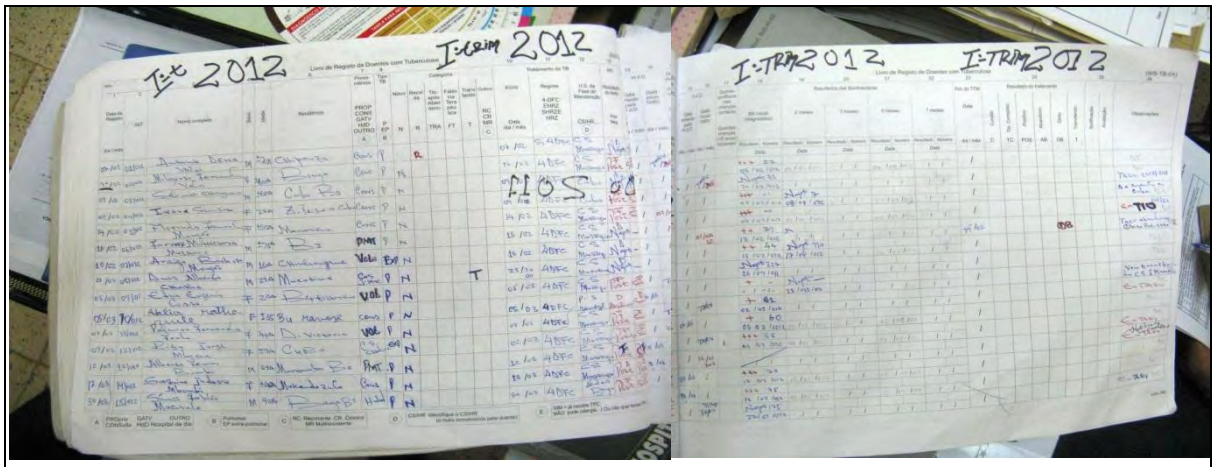


Figure 1: District tuberculosis register, Massingire district, Gaza province, Mozambique

District tuberculosis registers were reviewed extensively; in addition health facility ledgers, HIV and laboratory registers and patient records were reviewed and discussed.

A Knowledge, Practice and Coverage (KPC) survey was held at project inception and just before the MTE. The results of the midterm KPC survey is in Annex 6. Further, the quarterly M-DRAT data that were available were reviewed.

In Annex 9, methods, procedures, timeline and tools of the evaluation are presented in detail.

Limitations included time to investigate issues in depth. Insufficient availability of provincial statistical information was an obstacle for obtaining a broader perspective. As the KPC survey was conducted just prior to the MTE only preliminary data analysis was available during the field visits. The final data analysis was completed soon after the field visits.

C. Data Quality and Use

The project uses a TB-specific monitoring and evaluation (M&E) system called District Rapid Assessment Tool (DRAT) developed by a previous TB USAID grantee which was then modified by World Relief and is referred to as M-DRAT. The sources of data for this system are: 1) the district tuberculosis register and 2) laboratory registers. The M-DRAT is used for quarterly monitoring of defined indicators in line with DIP (see M&E table). In addition, the project also collects data from Village TB registers which are maintained in project villages by the focal point volunteer of the respective village and the VHC. Although this system has proved to be useful for project monitoring, the linkages between village records and health center records need fine-tuning, especially since it was found that not all health centers systematically record if patients are on CB-DOTS, thereby leading to misclassification of TB cases. In the upcoming second phase of the project, a review of the indicators will be necessary in order to propose a simplified and feasible government service-compatible M&E system for project takeover. Further, the MISAU and FHI have plans of introducing a revised TB register for health centers nationally. This revised TB register is to have a separate column to report if the patient is on CB-DOTS or not.

Other sources of data include periodic household surveys conducted to monitor the work of CGVs. The MTE reviewed the quantitative data from the above mentioned sources as well collected qualitative data from FDGs and KIIs. The mix of quantitative and qualitative data assessed during the MTE has been meaningful in understanding the overall progress of the project.

Care group volunteers in the TB project had been part of the earlier USAID funded child survival projects in Gaza province. These volunteers have been enthusiastic about their work and have opted to continue to be CGVs for the current TB project. Focal point volunteers were selected by the MISAU based on their criteria for community health workers, are leaders within their respective care group. The CGVs and FPVs are provided periodic refresher trainings and are closely monitored by CG supervisors. In addition, district TB supervisors make quarterly joint supervisory visits with WR's CG supervisors to villages in the project area.

World Relief project staff work closely with the MISAU's staff as the project is designed to integrate WR project activities and district health centers and health posts activities.

The project implementation has been in conformity with the DIP reaching 6 rural districts and 3 urban areas with activities listed in the project work plan.

The KPC surveys were conducted at baseline and midterm in a systematic manner; however it was found that there were two questions that were ambiguous due to translation errors which were not caught in time and hence the data on these two questions are unreliable (See Annex 6 for further details).

C.1 Compliance with international terminology

In the DIP and the progress reports innovative terms are being used to describe for treatment outcomes of smear-positive pulmonary TB patients. For a better comparison to nationally and

internationally accepted definitions, it is suggested to adapt the outcome options ("Results of treatment") to WHO-suggested words and in Portuguese forms and reports use the terms used in the Mozambique NTP. Annex 12: Suggested terminology provides the suggested terms.

D. Overview of the Project Structure and Implementation

The Vurhonga TB Community-Based DOTS project is a five year project (September 30, 2009 – September 29, 2014) which began implementation in October 2009 in Gaza Province in Mozambique. Six under-served rural districts with a current population of 226,523 and three urban areas with a current population of 354,689 (2011 census) are served by this project. There were a total of 963 suspected TB cases in the project area from the onset of the program up until the third quarter of FY 2011.

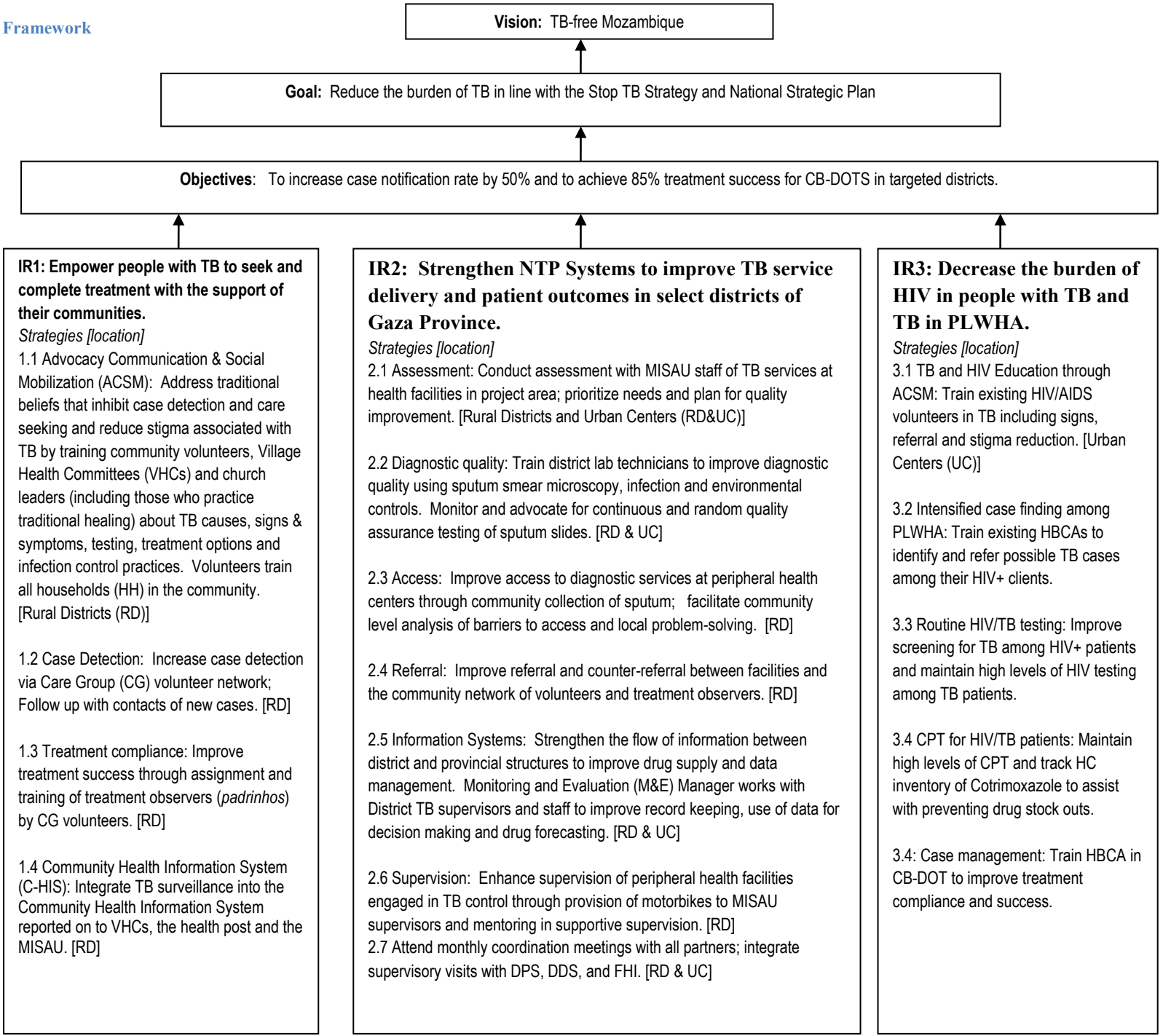
D.1 Project goal and objectives (include the project's Results Framework, if available)

The overall goal of the project is to reduce the burden of tuberculosis (TB), in line with the World Health Organization (WHO) Stop TB Strategy and the Mozambique National Strategic Plan. Its primary objectives are to increase the case notification rate by 50% and to achieve 85% treatment success rate in project areas fully implementing Community-Based Directly Observed Treatment Short-Course (CB-DOTS).

The intermediate results are:

- IR1: Empower people with TB to seek and complete treatment, with the support of their communities.
- IR2: Strengthen National Tuberculosis Program (NTP) Systems to improve TB service delivery and patient outcomes.
- IR3: Decrease the burden of HIV in patients with TB and decrease the burden of TB in people living with HIV/AIDS (PLWHA).

Figure 2: Results Framework



D.2 Project location

The project is implemented in Gaza Province in Mozambique, in six underserved rural districts and three urban areas.

D.3 Estimated project area population

Table 2: Updated population (2011)

6 Rural Care Group Districts		3 Urban Centers with HIV/AIDS Activities	
Geographic Area	Population	Geographic Area	Population
Chicualacuala	41542	Macia	159379
Chigubo	22123	Chokwe	195310
Guija (including town)	80386	Guija Town, Guija	Included in Rural Guija
Mabalane	34517	*Sub-Total*	354,689
Massangena	16845		
Massingir	31110	**Total Beneficiary Population**	581,212
Sub-Total	226,523		

Table 3: SS+ TB cases in project area

	Rural	Rural + Urban
SS+ TB Incidence rate	165/100,000 population	165/100,000 population
Population	226,523	581,212
Estimated # of SS+ TB cases each year	373.8	959.0
Estimated # of SS+ TB cases over 5 years	1868.8	4795.0
Actual # of SS+ TB cases in FY 2011	253	718
Actual # of SS+ TB cases from baseline (Q1'10) to Q4'11	536	1626

D.4 Technical and cross cutting interventions, Project design, Partnerships/collaboration

In this section the project design, its key strategies and partnerships are provided. Annex 14: Key Strategies and Activities: details offers details on activities.

D.4.1 Intermediate Result 1: Empower people with TB to seek and complete treatment with the support of their communities. (45% Effort)

D.4.1.1 Strategy 1.1: Advocacy, Communication, and Social Mobilization (ACSM) (Rural Districts)

- Address traditional beliefs that inhibit case detection and treatment seeking
- Reduce stigma associated with TB and address barriers to treatment seeking

Objectives:

- Increase knowledge that TB is transmitted through the air by coughing from 20.7% to 60%
- Increase knowledge that cough longer than three weeks is a sign of TB from 13.3% to 60%
- Sustain the high percentage of respondents surveyed who know that TB is curable at 85%
- Increase knowledge that TB treatment is available for free from 39.7% at baseline to 80%
- Train 100% of CGVs in CB-DOTS
- Train 100% of functioning Village Health Committees (VHC) in TB

Role of Key Partners: World Relief has a long history of community health work in this area and will train and interact with existing local structures and people in the community most able to sway popular understanding and opinion (e.g. CGs, VHCs, religious leaders and traditional healers).

D.4.1.2 **Strategy 1.2: Case Detection (Rural Districts)**

- Conduct case detection via Care Group Volunteers (CGVs)

Objectives:

- Increase the quarterly case notification rate (CNR) by 50% from 110 to 165
- Maintain the high percentage of TB suspects examined by sputum microscopy at 80%
- Increase the percentage of referrals made by CGVs from 20.6% to 60%

Role of Key Partners: As with Strategy 1.1, the project will continue to work closely with influential local leaders and local organizations and will continue the partnership with APEs and the Provincial and District Ministry of Health to foster referrals and encourage sputum testing.

D.4.1.3 **Strategy 1.3: Treatment Compliance (Rural Districts)**

- Improve treatment success through the training and use of treatment observers (*padrinhos*) in the community

Objectives:

Conduct cohort analysis of treatment outcomes for SS+ patients including:

- Increase the rate of treatment success from 78.6% to 85%
- Maintain the high level of sputum smear conversion at 90%
- Eighty-five percent of SS- patients will complete treatment
- Increase the percentage of patients on CB-DOT from 26.4% to 60%

Role of Key Partners: District HC records are utilized for data collection on treatment outcomes, thereby not duplicating existing systems. The project works closely with the District TB Coordinators and the Provincial TB Manager, who was present during the BL HFA survey. Further, additional outcome and referral data are collected at the village level by the Lead TB volunteer. This information is then shared with village leaders, VHCs and it is communicated back to the MISAU as well.

D.4.1.4 **Strategy 1.4: Community Health Information System (Rural Districts)**

- Integrate TB surveillance into the Community Health Information System (C-HIS) reported on to VHCs, HP and MISAU

Objectives:

- Eighty percent of VHCs will have local data on TB from the previous quarter
- Eighty-three percent of HCs will compile C-HIS data collected by CGVs on TB

Role of Key Partners: As stated above, the process of collecting, analyzing and distributing the C-HIS data is a collaborative effort involving the CGV, VHCs and the MISAU.

D.4.2 **Intermediate Result 2: Strengthen NTP Systems to improve TB service delivery and patient outcomes. (45% Effort)**

D.4.2.1 **Strategy 2.1: Facility Assessments (Rural Districts and Urban Centers)**

- Conduct accurate assessments of TB activities at health facilities
- Increase participation of district MISAU staff in facility assessments

Objectives:

- Conduct quarterly assessments of all health centers in the project area

- One hundred percent of health center assessments will be conducted with participation from the District TB Supervisors or designated representative

Role of Key Partners: The M-DRAT are utilized jointly by project staff and the appropriate District TB Supervisor. The Provincial TB Coordinator participated in the BL assessment and MTE.

D.4.2.2 **Strategy 2.2: Diagnostic Quality (Rural Districts and Urban Centers)**

- Facilitate training district lab technicians on sputum smear microscopy to improve diagnostic quality
- Advocate for continuous, external, and random quality assurance testing of sputum slides

Objectives:

- Bring the proportion of TB suspects with SS+ confirmation in line with international standards by lowering it from 44.6% to between 10% and 25%
- Maintain low proportion of major errors reported through external review at less than 1%

Role of key partners: While funding and logistical supports are provided by the project, the instruction is led by qualified MISAU TB trainers, Carmelo Hospital and Rural Hospital. FHI (TB-CAP) has had extensive experience providing such trainings in the region and has assisted in referring appropriate trainers with whom they have had good success.

D.4.2.3 **Strategy 2.3: Access (Rural Districts)**

- Improve access by facilitating community level barrier analysis and local problem-solving
- Improve access to diagnostic services at peripheral HFs by assisting community sputum collection

Objectives:

- Less than 10% of HFs will report sputum bottle stock-outs in the previous quarter

Role of key partners: VHCs and local religious organizations play a critical role in identifying those in need of assistance and arriving at creative local solutions to individual situations. They also play a key role in creating an environment of community responsibility. Community level sputum collection is a component within the current NTP. However, they report having difficulty with the inventory and supply of sputum collection bottles. WR, through its census based volunteer structure assists the NTP in monitoring the supply of sputum bottles at the HC and HP levels and provides occasional supply to prevent stock outs.

D.4.2.4 **Strategy 2.4: Referral (Rural Districts)**

- Improve referral and counter-referral between facilities and the community network of CGVs and treatment observers.

Objectives:

- 75% of the patients referred from the community will be recorded at health center
- 80% of TB+ patients will return to the community after receiving their diagnosis

Role of key partners: Data collection on referrals continues to be monitored at the HC level according to the MISAU system; community level data collection complies with MISAU definitions and forms and fully integrates the APE or HP nurse.

D.4.2.5 **Strategy 2.5: Information Systems (Rural Districts and Urban Centers)**

- Strengthen the flow of information between district and provincial structures, to improve drug supply and data management.

Objectives:

- Less than 17% of HCs reporting drug stock-outs of essential TB drugs for the last quarter
- Less than 5% of those who start treatment will drop out (Interruption rate)

D.4.2.6 **Strategy 2.6: Supervision (Rural Districts)**

- Enhance supervision of peripheral health facilities engaged in TB control through provision of motorbikes to MISAU supervisors and modeling of supportive supervision.

Objectives:

- 85% of HPs will be visited by the District TB Supervisor during the previous quarter as reported in the M-DRAT
- 85% of HPs will report supervisory visits by the District TB Supervisor

D.4.2.7 **Strategy 2.7: Coordination with NTP (Rural Districts and Urban Centers)**

- Collaborate with the NTP, TB-CARE and other partners to ensure complementary and comprehensive implementation of the National Strategic Plan for TB Control

Objectives:

- Attend 80% of meetings to which WR is invited
- Conduct six joint supervisory visits to HPs each quarter

Role of key partners: At the onset of WR's TB project, the only other NGO implementing TB activities in Gaza Province is FHI (TB-CAP). WR is partnering with them as a sub-grantee in WR's urban project areas.

D.4.3 **Intermediate Result 3: Decrease the burden of HIV in people with TB and decrease the burden of TB among PLWHA. (10% Effort)**

D.4.3.1 **Strategy 3.1: TB and HIV Education through ACSM (Urban Centers)**

- Utilize existing WR HIV/AIDS programming to change beliefs and perceptions surrounding TB and HIV in the community through established church and peer social networks for advocacy

Objectives:

- Train 60 OVC and youth volunteers in TB, including in stigma reduction
- Train three Pastors' Networks in TB, including in stigma reduction

Role of Key Partners: The project works closely with existing PNs, some of which are in the process of becoming locally registered CBOs. WR has received additional funding through a sub-grant from FHI's TB-CARE project.

D.4.3.2 **Strategy 3.2: Intensified TB Case Finding among PLWHA (Urban Centers)**

- Utilize existing WR HBCAs to identify potential TB cases among their HIV+ clients

Objectives:

- Train 40 HBCAs in TB case finding, referral and stigma reduction

Role of Key Partners: Local churches and HCs provide integral support to the HBCAs to ensure that they are well supported and that referrals are adequately documented.

D.4.3.3 **Strategy 3.3: Routine HIV/ TB Testing (Urban Centers and Rural Districts)**

- Improve TB screening among HIV+ patients
- Maintain high levels of HIV testing among TB patients

Objectives:

- Improve the percentage of HIV+ patients screened for TB from 46.6% to 60%
- Maintain high levels of HIV testing among TB patients at 95%

D.4.3.4 **Strategy 3.4: Cotrimoxazole Prevention Therapy (CPT) (Urban Centers and Rural Districts)**

- Prevention of opportunistic infections with CPT in HIV/TB patients
- Track HC inventory of Cotrimoxazole to assist with preventing drug stock outs

Objectives:

- Maintain high levels of CPT in HIV/TB patients at 90%
- Less than 25% of HCs reporting stocks out of Cotrimoxazole in the previous quarter

Role of key partners: As treatment regimens and medications are determined by the MISAU, WR supports the activities of the NTP, District and Provincial MISAU.

D.4.3.5 **Strategy 3.5: Case Management of Co-Infections (Urban Centers)**

- Train HBCAs in CB-DOT to improve treatment success

Objectives:

- Number of HBCAs trained on CB-DOT

Role of key partners: WR has routine contact with the MISAU and HFs in the urban areas through the M&E Manager and project supervisors to encourage communication and participation with the HBCAs on CB-DOTS when a current HIV+ patient is diagnosed with TB.

D.5 USAID Mission Collaboration

USAID Mozambique Mission is committed to support the Government of Mozambique's National TB Program. Consequently, the detection, diagnosis and prompt treatment of tuberculosis are among the health priorities of the USAID Mozambique Mission. WR's TB project strategies align well with these health objectives of the Mission. USAID Mozambique Mission representative, Dr. Alfredo MacArthur participated in the site visits of the MTE. Further, WR Mozambique, through the FHI (TB-CARE) sub-grant, has received multiple site visits conducted by USAID. The debriefing of the MTE was hosted at the USAID Mission Office by the Head of HIV/Infectious Diseases Division, Sarah Bowsky and Dr. MacArthur. Also discussed in this meeting were communication misunderstandings about USAID Mission in Mozambique not receiving the project's first annual report in time. These misunderstandings were cleared and an improved future cooperation pledged. USAID Mozambique Mission has requested that they be copied on all electronic submission of reports to USAID, Washington.

E. Presentation of Progress toward the Achievement of Project Results

E.1 Intermediate results

Three intermediate results (IR) were defined in the DIP, each with its objectives and strategies. The next sections will deal with progress in each of these IRs.

E.2 Intermediate result 1

"Empower people with TB to seek and complete treatment with the support of their communities. (45% effort)".

E.2.1 Project achievements

Achievements in strategies S1.1 (on Advocacy, communication and Social Mobilization-ACSM) and S1.4 on VHCs and HCs data are directly attributable to project efforts. These strategies were fully achieved (See Table 1). Other strategies have considerable external influences. The main strategies are discussed in the sections below. Details are available in the M&E matrix (Annex 17).

E.2.2 Case notification

E.2.2.1 *National perspective*

In Mozambique the incidence burden of tuberculosis (including HIV) is estimated at 544 per 100,000 population in 2010 (source: WHO, Annex 15: Mozambique page WHO global tuberculosis report 2011). In 2010, WHO estimated that 34% of all cases were found and put on treatment. In the country, 48% of new cases are sputum-smear positive, or 260 per 100,000 pop. The national notification rate for smear-positive tuberculosis cases was 87/100,000 in 2010 and slowly increasing. There is no reason to assume that in the project area the burden differs significantly from the national average. The area population is more rural than the country average, but harbors a high-risk subpopulation of miners/temporary emigrants.

The project objective aims to improve the smear-positive tuberculosis case notification rate from 110 to 165 per 100,000 population at the end of the project in 2014. For the project area population, currently at 226,523 (rural areas), this means an annual number of approximately 375 new smear-positive tuberculosis cases.

E.2.2.2 *Provincial data*

Gaza province has an estimated population of 1,330,000 (2011 estimate). The provincial annual NTP report states that during 2011, 4237 new TB cases were notified. The Case Notification Rate (CNR) was 304/100,000, all forms of tuberculosis. Out of these, 1874 (44%) were sputum-smear positive cases (SS+ CNR: 135/100,000). This rate is considerably higher than the national SS+ CNR of 87/100,000. It is not clear whether this high rate is mainly due to increased risk of contracting tuberculosis disease (exposure) or because of increased access to health services (detection).

Almost all (99%) of new TB cases were tested for HIV. 75% tested positive for HIV infection. Cotrimoxazole Preventive Therapy was provided for 98% of TBHIV patients. Only 33% of TBHIV patients were put on Anti-Retroviral therapy. A total of 352 child TB cases were notified in 2011 (8.3% of total notifications). Provincial data (2011) revealed results of

treatment as follows: Success rate: 79% (all but three cases declared cured). Death rate was 14%.

E.2.2.3 *Notifications in the project area*

The notification results in the first two years of the project are graphically displayed in Figure 3. Statistical data are provided in Table 1. In 2010, a total of 301 SS+ cases were notified, or a CNR of 137/100,000. In 2011, 235 SS+ NC were notified in the project area equivalent to a CNR of 103.7/100,000 (Source: M-DRAT). The trend is declining, rather than the desired increase. Differentiation of the data show marked differences among the project area districts (although the absolute numbers are small and therefore need to be interpreted with caution).

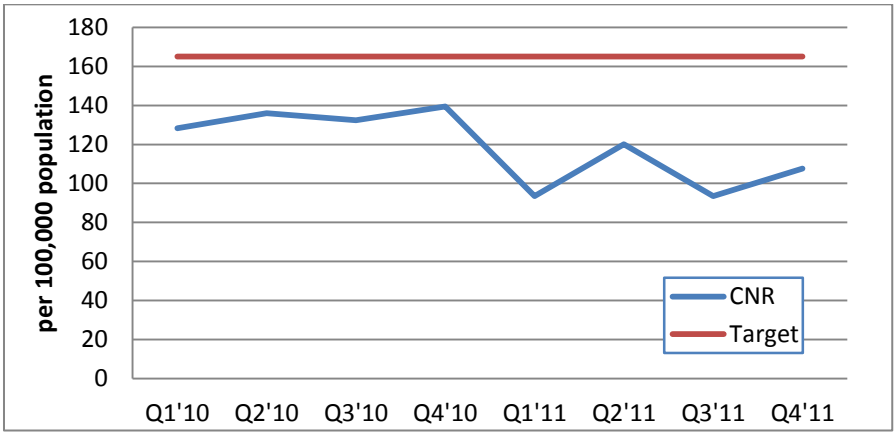


Figure 3: Smear-pos. TB Case Notification Rates (CNR), project area, 2010-2011

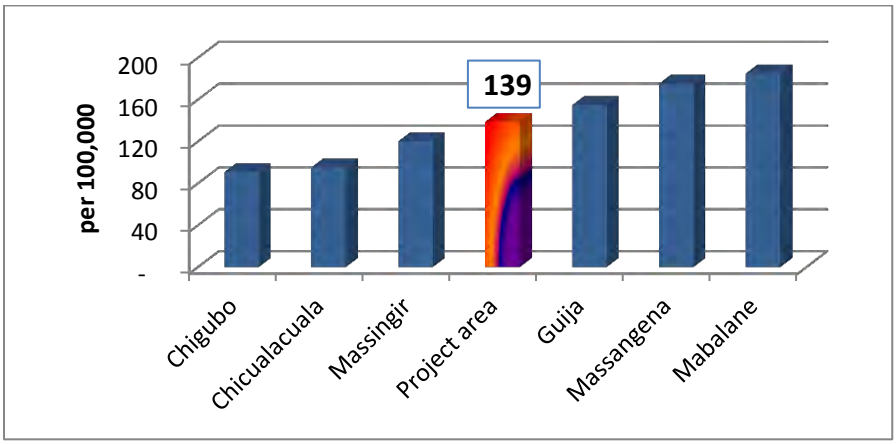


Figure 4: Smear-pos. TB notification rate; project area, per district, Mozambique, 2010

E.2.3 Training of CGV

The CGVs were mostly recruited from an earlier World Relief Child Survival Project. Others applied spontaneously. Volunteers have been trained in prior projects in malaria, diarrhea, nutrition, maternal care, immunizations, family planning, pneumonia and HIV/AIDS. With their knowledge on above topics they are able to "care" for the health (especially children under 5yrs in the previous project) of the 10 families under their care. Initial training in tuberculosis of CGVs and supervisors was completed March 2012. The M&E matrix (Table 1) shows details, including reaching the training targets for volunteers and village health committees (VHC) (see below). Almost all CGVs are women. The network is extensive and shown graphically in Figure 3.

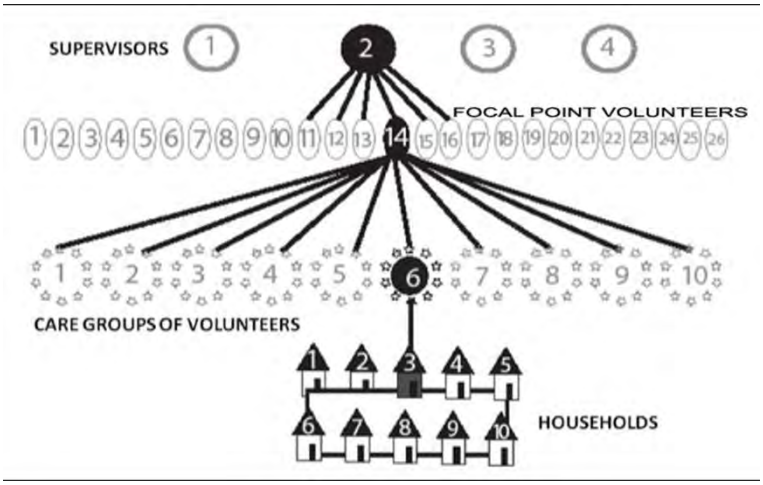


Figure 5: Care Group Volunteer network for CB-DOTS project

Elements of the network:

- There is one Care Group Volunteer (CGV) per 10 families (= 50-60 persons).
- The CGV tasks in tuberculosis care are as follows:
  1. Identify villagers with symptoms suspect for tuberculosis;
  2. Convince suspect to seek health care in health services (Refer)
  3. For tuberculosis patients that started treatment, CGVs provide support to adhere to treatment, encourage patients to report to the health services for follow-up sputum examination after 2 and 5 months of anti-tuberculosis treatment and observe for signs of unsatisfactory recovery or drug side effects.
- This patient support is done together with an individual patient *padrinho* or *madrinha* [2](= buddy). The patient chooses an individual to support him or her during treatment. Reportedly, in most cases, the CG Volunteer is chosen as buddy.
- There is one Focal Point Volunteer (FPV) per 10-20 CGVs (= 500-1000 population).
- Project-employed supervisors have trained CGVs during 3 weeks in the village. Initial training is now complete in the whole of the project area. The project supervisors will start supervising the volunteer networks from April 2012 onward.

E.2.3.1 *Suspect referral*

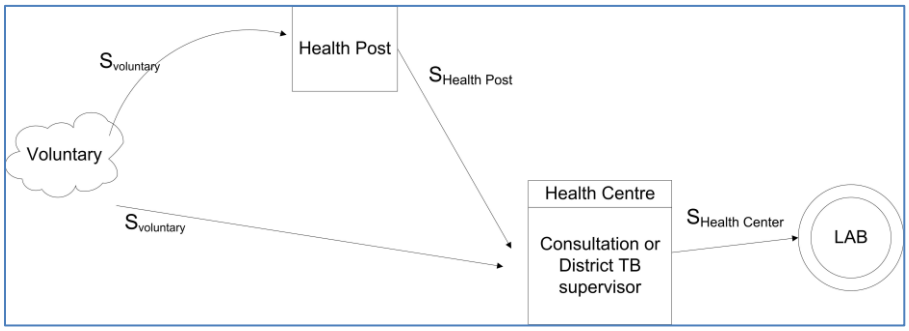


Figure 6: Suspect (S) flow

2

padrinho

sm (*fem* **madrinha**) **1** *Ecles* godfather, sponsor (at a baptism). *ele serviu de padrinho para meu filho* / he stood sponsor to my child. **2** best man (at a wedding). **3** second (of a duel). **4** paranymph. **5** *fig* patronizer, protector.
Source: http://michaelis.uol.com.br/moderno/ingles

Volunteers in the village notice persons with symptoms suspect for tuberculosis and refer them to health services (see Figure 6) either directly to the health center (clinician or district tuberculosis supervisor) or via a nearby health post. Health staff assesses the person and if suspicion for tuberculosis is confirmed, a sputum examination and possibly additional examinations are requested.

E.2.4 Village health committees

The government of Mozambique has encouraged the development of village health committees (VHC) since its independence in 1975. These community health councils (*Conselhos comunitários de saúde*), as they are called officially have not all survived. The child survival project had reanimated and trained 54.1% of VHCs in project villages by the end of FY11. VHC are composed of up to 15-30 people. They were supposed to meet monthly on MNCH issues during the child survival project. They do not have a significant role for the current CB-DOTS project.

E.2.5 Accompanying tuberculosis cases in the village

If the circumstances of a newly diagnosed tuberculosis patient permit (clinical condition, willingness, and distance to health institution) they are 'referred back' with anti-tuberculosis treatment in the form of Fixed Dose Combination (FDC) medicines to the village CGVs. The patients receive one to two weeks of treatment at a time. In the village, CGVs help to motivate the patient to complete his or her treatment. As outlined above (E.2.3) there is also a system of 'buddies', madrinhas, assisting the individual tuberculosis patient during treatment. The community DOTS contribution to new tuberculosis cases in the project area is small, but growing (see Figure 7). During field visits, the evaluation team noted larger proportions of patients registered as being treated as community DOTS patients than appears in the graph, often over 50% of all patients on treatment.

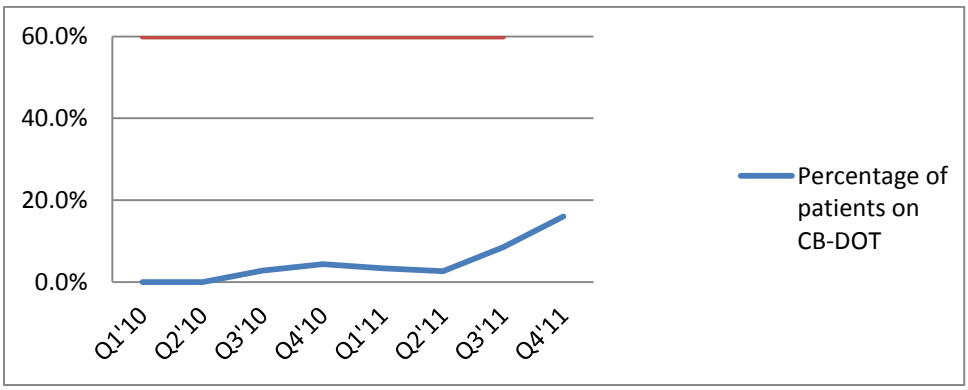


Figure 7: Proportion of patients on CB-DOTS. Source: M-DRAT.

E.3 Intermediate result 2

"Strengthen NTP Systems to improve TB service delivery and patient outcomes in select districts of Gaza Province (45% Effort)".

E.3.1 Project achievements

Achievements in strategies S2.1 (On health center assessments) and S.2.7 (on coordination meetings and joint supervisory visits) are directly attributable to project efforts. These strategies were fully achieved (See Table 1). Other strategies have considerable external influences. The main strategies are discussed in the sections below. Details are available in the M&E table (See Annex 17).

E.3.2 Sputum positivity problem

Government health services in the project area reports a proportion of TB suspects with SS+ confirmation to be extremely high: 44.6% (compare with international standards between 10% and 25%). Various operational reasons may have caused this (e.g. clinician sputum request strategies, laboratory quality), none of them directly within the project objectives. The role of the project could be, in line with IR2 to assist in the analysis of causes of this phenomenon and contribute to ideas to remedy the situation.

E.3.3 Treatment outcome

E.3.3.1 *Conversion rate*

Conversion rates as recorded in the project area laboratories remain slightly below the target of 85% in the first phase of the project Again, the project is not responsible for attaining this target. Its role (IR2) in strengthening health services could be in helping to assess the reasons for sub-optimal conversion rates.

E.3.3.2 *Results of treatment*

The results of treatment, as determined by cohort analysis are recorded in the project M&E system (M-DRAT). The evaluation team was unable to obtain provincial data on the cohorts evaluated in 2010 and 2011. The M-DRAT shows a slightly deteriorating trend (Figure 8) in treatment success rates. Quarterly cohort sizes were small: the average quarterly cohort size during project period was 77. Comparing the two years of project implementation the trend is downward: The success rate in 2010 was 84% and in 2011, the success rate was 79%. This is comparable to provincial results and slightly below reported national success rate (85% in 2010). Of concern is the high death rate: 8% in 2010 and 13% in the first 3 quarters of 2011, in line with 2011 provincial data. The high proportion (reported to be 75% in Gaza province in 2011) of tuberculosis patients with a HIV co-infection are undoubtedly a determinant of this high death rate.

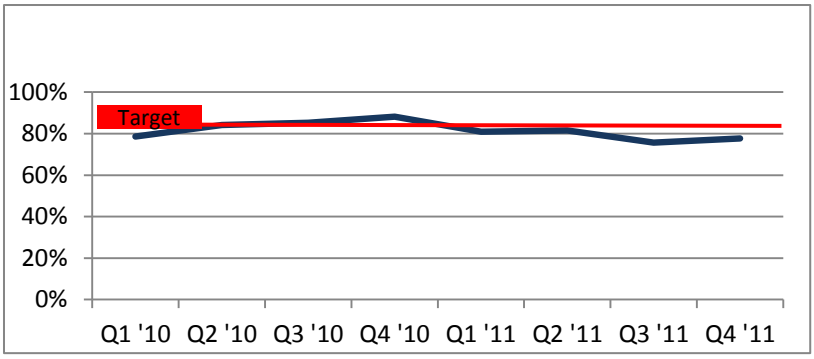


Figure 8: Treatment success rate, project area, cohorts evaluated in period 2010-2011

E.3.4 Drug stock-outs

The project indicator on drug stock-out is to have less than 5% of health centers reporting drug stock-outs of essential TB drugs for the last quarter. Stock-outs have occurred nationally during one month in 2011 for adult combination tablets (4DFC) and pediatric DFC. Project intervention was limited to the World Relief M&E manager in his quarterly visit to HC checking actual drug stocks. The M&E table Strategy S 2.5 shows a disconcertingly high percentage of health centers reporting TB drug stock outs in the last quarter.

E.4 Intermediate result 3

"Decrease the burden of HIV in patients with TB and decrease the burden of TB in people living with HIV/AIDS (PLWHA). (10% Effort)".

This minor IR (minor in terms of defined project effort) was addressed mainly by providing training for health staff on HIV/AIDS. The M&E matrix (Annex 17) shows that in Strategies S.3.1. S3.2 and S.3.5, the targets were reached. The other strategies have indicators measuring progress outside the direct influence of the project.

F. Discussion of the Progress toward Achieving Results

F.1 Contribution toward Objectives/Results

F.1.1 Conceptual issue

The DIP was constructed to include Goals, Primary Objectives and three Intermediate Results (IR - see E.1). The IRs and its relevant objectives and strategies were defined in such a broad manner, that the project cannot be held responsible exclusively for the attainment of these IRs. In all strategies, essential outside factors will determine the degree of achievement of the objectives and results. This makes evaluation using the IRs and its indicators sometimes a futile exercise: full achievement cannot be attributed to project efforts alone, for suboptimal realization the project cannot be held accountable. It would have been more effective for monitoring and evaluation if IRs/strategies would have been defined as "Project Attributable Results", in which the results are obtained mainly because of project performance. In the current project design, monitoring and evaluations can be done on the set of planned activities. From this table the project can be assessed for the degree of successful implementation, and problems identified.

In the next sections the project contribution towards the three IRs are discussed.

F.1.2 IR1: empowerment of tuberculosis patients improving health seeking behavior

F.1.2.1 *Health information*

Empowerment also implies informing the community about important characteristics of the disease tuberculosis. Focus Group Discussions (FGD) participants suggested that common beliefs about the etiology of chronic cough and wasting ("*ndere"* in Shagan language) were related to inadequate cleansing ceremony after someone's death. The participants suggested that this belief had lost followers in the 18 months after the trained CGVs explained the infectious nature of tuberculosis. The KPC survey corroborated this observation: The knowledge that TB is transmitted by coughing increased from 22% (KPC, 2010 baseline) to 66% (KPC, 2012).

F.1.2.2 *Community knowledge*

Q16 on airborne etiology of Tuberculosis showed an increase in knowledge on this subject from 20.7% to 61.3% in two years' time. This is very encouraging. It seems very doubtful to the MTE Team Leader, however, that this change in responses to the KPC questions reflects a change in practice in the communities studied: In his opinion, behavior based on traditional beliefs tends to transform more slowly requiring many years of gradual change of insight for a large proportion of the adult population.

F.1.2.3 *The Volunteer network density*

The CGV network is conceived as having one volunteer per ten families or approximately 50-60 population. For frequent health events, like pregnant women support (4% of population) or under-five child monitoring (20% of pop.) this dense network makes good sense, in terms of adequate voluntary workload.
The density is less appropriate for tuberculosis activities, as the number of true TB suspects and TB -patients are less frequent.
Theoretically a CG volunteer will on average:

- Refer 1-2 true suspects per year (2% of pop. with chronic cough)
- Accompany 1 new PTB patient (SS- and SS+) every 5 years (4 per 1,000 pop)

This would, again, in theory, lead to a possible loss of motivation, unless the volunteers have other tasks to fulfill. If this is the case it did not become clear during this evaluation mission.

F.1.2.4 *Village Health Committees*

Village Health Committees that were activated and trained by the child survival project can also play a role in the community based DOTS project. A stronger endorsement from MISAU is needed for this to be realized.

F.1.2.5 *Case detection*

Trends in case notification rates (new and relapse cases, all forms) (black) and estimated TB incidence rate (green). Shaded areas represent uncertainty bands.

Mozambique key data:
2010: Incidence (all forms): 544 per 100,000 pop.
Case detection: 34% of incidence
Case notification rates:
Smear-positive new cases: 87 per 100,000 pop.
New cases, all forms: 183 per 100,000 pop.

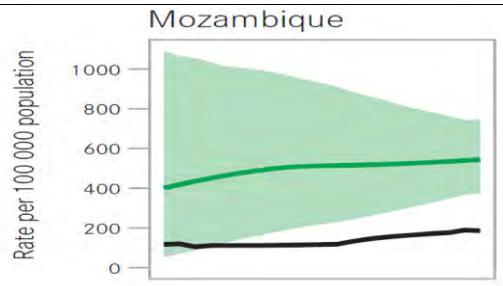


Figure 9: Case notification and estimated TB incidence rates, Mozambique, 1990–2010.
Source: Global tuberculosis control: WHO report 2011.(See annex on page 112 for more WHO report information on Mozambique)

In strategy 1.2 (Case detection), one of the objectives is to increase the quarterly case notification for smear-positive pulmonary tuberculosis cases from 110 to 165 per 100,000 population during the project period. The project M&E system (see M&E table) shows a slight declining trend (See Figure 3).

With the community-based project fully operational, one expects an initial increase in case notification for the first two to three years, due to clearing of backlog patients. A continuous leveled-off increased notification rate is to be expected as it approaches the notification of most incident (new) cases. National incidence rate of all forms of tuberculosis are estimated at 544 per 100,000 pop. (Source: WHO Global tuberculosis control report 2011). In 2010, about half (48%) of all new cases were smear-positive (SS+). The annual incidence in the population of new SS+ cases therefore may be estimated to be around 260 per 100,000. Provincial notification rates were reported (2011) as SS+ CNR: 135/100,000. The end-of-project target of 165 per 100,000 pop. (an increase from pre-project level of 110/ 100.000), seems to be a feasible but ambitious target. At the time of the midterm evaluation this target was not yet reached by far. Available statistics show no progress towards the target. Additional targeted interventions to increase case finding (notably strengthening systematic contact examinations) are essential for the second phase of the project.

F.1.2.6 *Gender and child tuberculosis notification*

Information about the gender and age of new tuberculosis cases is recorded in the district tuberculosis registers and the project M&E system (M-DRAT). The project has not reported on data that would permit analyzing gender balance and the proportion of child tuberculosis in the project area. The data on indicators stratified by gender may be analyzed to assess any trends in these categories of patients.

F.1.2.7 *Referral from village to health services*

The targeted increase in village CGV referral suffers from current incomplete recording:

a. The number of suspects referred is duly registered in the CGV records, but at the health services suspects are not registered as such.
b. The current system of village referral forms is complicated and does not function well. In this system a form is filled in the village by the focal point volunteer, given to the suspect person to be handed over at the health center. Health staff keeps one part and returns the other part to the suspect who may have been diagnosed as a tuberculosis patient.
c. A suspect register kept by the district TB supervisor would be useful to keep track of all suspects reaching the health services, including recording the contribution of village CGV referral (See for example the South Africa national tuberculosis control program register[3].

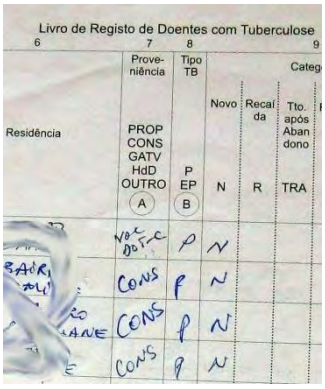


Figure 10: District tuberculosis register, column 7

d. A proxy indicator would be measuring the proportion of tuberculosis cases reaching the health services through referral by village CGVs. For this purpose, column 7 (*proveniência)* in the district tuberculosis register is the appropriate place to register patients referred from the village. This was done in some districts (see Figure 10), but not yet consistently as the MTE team was able to verify.

F.1.2.8 *Results of treatment*

Cohort analyses on sputum conversion after 2 months of treatment and after completing treatment are being recorded health services; they are collected and analyzed by project staff using its M-DRAT M&E tool. The M&E system does not permit yet to separate results of treatment stratified by volunteer-referred, volunteer-accompanied patients and patients not managed by project CGVs. Given the small numbers of quarterly notification, it will probably not be possible to establish a statistically significant difference between the different categories of patients in the cohorts.

F.1.2.9 *Co-infection issues*

In Mozambique 61% of detected tuberculosis patients are HIV-positive. There is no reason to believe that this proportion in the project area is lower than the national proportion. Therefore, most new tuberculosis patients who return to their home to take DOTS in the community also need HIV treatment and/or care. The project does not address this issue. Reportedly, the national AIDS program is rolling out a HIV activist support scheme. It would make sense to support the co-infected patient by one organization only, especially where it concerns ensuring adherence to chronic drug taking (DOTS & TARV treatment for eligible cases). Where government services are promoting the "*Paragem única*" (One-stop) institutional

[3] Accessible at: http://www.ecdoh.gov.za/uploads/files/230906112038.pdf

approach towards co-infected patients, the World Relief project should consider adopting a "community one-stop" strategy. This would be for the benefit of the patient.

F.2 Contextual Factors

F.2.1 World Relief

World Relief is an organization that operates in Mozambique since 1994, working for the underserved population through community volunteer structures such as care groups and VHCs in rural areas, and HBCAs, Youth mobilization volunteers, volunteers for OVC and Pastors' Networks in urban areas. Care groups were first introduced by Dr. Pieter Ernst in the mid 1990s with child survival projects funded by USAID involving CGVs. A survey conducted 20 months after the end of World Relief's Vurhonga 1 Child Survival Project (1995-1999) indicated a very small attrition rate of 6.59% (n=96) of CGVs. Further, two years following the end of WR's Vurhonga 2 Child Survival Project (1999-2003) project, 50% of households stated that they had received a volunteer visit within the previous two weeks.

These data indicate a high retention rate of CGVs. Furthermore, most of the CGVs volunteering in TB CB-DOTS and TB-CARE are the same volunteers used as far back as 1995 (Vurhonga 1), 1999 (Vurhonga 2) and 2004 (Vurhonga 3), excluding those who died. Hence it likely that CGVs in the current TB CB-DOTS project are likely to remain operational after the end of the current project activities.

F.2.2 Miners-emigrants

In the project area an unknown but significant proportion of men migrate to South Africa to work in the mines. They bring back from their temporary homeland, money, new ideas, and sometimes diseases like tuberculosis and AIDS. The semi-nomad lifestyle warrants specific approach to give this subpopulation access to tuberculosis and HIV/AIDS services and care.

F.2.3 Community DOTS initiatives elsewhere in Mozambique

The Mozambican Ministry of health (MISAU) has given priority to community-based DOTS strategies. It is experimenting with home-based DOTS with support by fellow-villagers (*padrinhos*). NGOs have also started CB-DOTS projects. Specifically, FHI is implementing a USAID/TBCARE sponsored project in other provinces of Mozambique.

F.3 Role of key partners

Partner	Role in Project	Result of Collaboration/Suggestions for improvements
Care Group Volunteer	ACSM	Improved awareness of TB in community and execution of CB-DOTS at the household level
Focal Point Volunteer	Supervision, ACSM	Improved awareness of TB in community and execution of CB-DOTS at the household level
Village Health Committee	Community partnership and support	The VHC has helped in the project in times of resistance from community members to build trust. They have made collective decisions regarding the health of their community members and encouraged the implementation of the project in their villages. Without the support of the VHCs it would have been difficult for the project to have gained momentum.
Health Post Nurse	Referral	The health post is located in the community and so the health post nurse is the first point of contact with the MISAU. Trainings sponsored by WR have enabled them to understand the importance of CB-DOTS and referrals

		from the community, which has improved the progress of the project.
District TB Supervisor	Supervision	This is a key MISAU at the district level. The district TB supervisor and WR's CG Supervisor undertake quarterly joint visits to their respective community in the respective district. The district TB supervisor also maintains the district TB register which is the source of M-DRAT data. In future, WR's CG Supervisor will also have a list of TB cases on CB-DOTS in their community are also enlisted in the district TB register to minimize recording errors.
Provincial TB Coordinator	Supervision and administration	The support of the Provincial TB Coordinator has been invaluable to the implementation of the project. The project has benefited from the supervision and coordination functions of the Provincial TB Coordinator, who also participated in the baseline and MTE of the project.
Carmelo Hospital	Laboratory training	Carmelo Hospital located in Chokwe with expertise in tuberculosis diagnostics. Hence they have provided laboratory training for MISAU's lab technicians as well as peripheral nurses in slide fixing, which were sponsored by the project's funds.
FHI	TB-CAP followed by TB-CARE	FHI is a large NGO that has been implementing tuberculosis projects nationally. WR partnered with them and was given a sub-grant to implement the tuberculosis project in the urban project areas of Gaza province.
USAID Mozambique Mission	Support	World Relief has maintained communication with the Mission before and after the development of the DIP and has had occasional in-person meetings with the Mozambique USAID representative. In June 2011 in Xai Xai, the National Director for TB in Mozambique organized a TB-DOTS meeting which was supported by the USAID health representative, Dr. MacArthur. All NGOs working on TB in the province were invited which was a good opportunity for World Relief staff to meet the USAID representative and MISAU TB officials. In December 2011, World Relief's new Health Advisor visited the project sites and met with Dr. MacArthur and discussed the status of the project. In April 2012, Dr. MacArthur participated in the MTE and was part of the team of evaluators. In-country debriefing of the MTE was hosted by USAID Mozambique Mission and was attended by the head of HIV/infectious diseases division, Sarah Bowsky and Dr. MacArthur. WR was asked why the first and second annual reports were submitted to them together, to which WR clarified that the first annual report was revised and hence the revised first annual report was submitted along with the second annual report in October 2011. WR was asked to copy the Mission on all electronic submissions made to USAID, Washington.

In conclusion, the MISAU is overall responsible for providing guidelines on DOTS organization and service delivery, in line with international recommendations (WHO). It provides for the human and material resources to run the government program. It provides all the anti-tuberculosis drugs through the Medical Store facilities. The USAID mission is providing support to its tuberculosis projects in the country.

F.4 Overall Design Factors that Are Influencing Progress Toward Results

F.4.1 Sustainability

The project design was geared towards a sustainable end-of-project situation, without formally applying a Sustainability Framework. The transformation of knowledge, attitudes and practice for the villagers regarding etiology of tuberculosis and improved health-seeking behavior is at the core of the project sustainability. The project design, procedures and practice after end-of-project in 2014 including plans to hand over an effective and feasible monitoring system to the provincial government tuberculosis services. In this respect, the project management will need to simplify its current M&E system (M-DRAT) and elaborate steps to hand over the monitoring system.

F.4.2 Composition of CG Volunteer groups

The CGVs already existed, recruited and trained in an earlier World Relief project in the area (Child Survival Project). The tasks in child survival involved more frequent events (e.g. monitoring child health – 20% of population). The fine mesh (one volunteer for 50 population seems less adequate for more rare events like tuberculosis suspect identification (~2% of population) and tuberculosis patient support (<0.5% of population). The evaluation mission has concerns over a gradual loss of volunteer motivation, when few "results" (care for TB patients on treatment) can be expected over the years.

F.4.3 Expertise in tuberculosis control at project design stage

Although difficult to assess, it seemed to the MTE Team Leader that the project experienced a certain dearth of expertise in tuberculosis control programs, in its inception and in its endeavor to improve the quality of government services.

a. The planned Results, Objectives and Strategies included several items that are influenced to a great extent by outside factors. The M&E system (M-DRAT) is based on the DIP design and thus contains several indicators that measure situations and progress outside project influence (see also F.1.1.). Expertise in national tuberculosis control could have trimmed the M&E system so that all indicators measure just project-relevant interventions and epidemiological trends.
b. The terminology used in describing results of treatment (see section C.1) was clearly not in line with the NTP terminology or with recommended international terms.
c. The second intermediate result (strengthening provincial NTP services) would be more easily achieved with more profound knowledge and skills of routine tuberculosis control program by project staff. The provincial tuberculosis control program staff seems seriously understaffed, and strengthening planning, supervision and monitoring these services in the project district continue to be needed. Community-based DOTS efforts and institutional support should both be supported to strengthen the weakest links in the system.

F.4.4 Gender of CGVs

The great majority of CGVs are women, as are all their project supervisors. Partly this is due as a heritage from the former Child Survival Project implemented by World Relief, where the same CGVs were active. It is also the conviction of the project management that women are more suitable as CGVs, in their caring role in the community. This is a traditional view that could be challenged in a society where outside influences are present, such as in the project area.

A specific feature in the project area is the relatively large proportion of men that work elsewhere for long stretches. Employment in mines in neighboring South Africa is frequent. This feature brings about specific extra exposure to both tuberculosis and HIV infection.

Engaging male CGVs in the village community could well increase acceptance by male suspects and tuberculosis patients, increasing access of male villagers to health (HIV and tuberculosis) services. This option should, in the MTE Team Leader's opinion, be explored further by the project staff, as it may increase acceptance by male tuberculosis suspects and patients on treatment.

G. Conclusions and Recommendations

G.1 Conclusions

1. This project has potential to improve life perspectives for tuberculosis patients. The project offers good potential for developing an effective community based DOTS system:
    a. The project is well established in terms of human resources, counting on a very motivated project staff, a fine mesh of volunteers and a well-structured supervisory system.
    b. The first phase of preparing the staff and volunteers in the project, plus the organizational setup is completed. The remaining two years of the project can be dedicated to implementation and transfer to government responsibility.
    c. Community Based DOTS is a national priority. Lessons learnt and an exchange of experiences can lead to a favorable development in TB control in Mozambique.
2. The relations with the provincial and national government system are good. Strengthening by more intensive support and collaboration is requested by the provincial tuberculosis control supervisor.
3. The project M&E system is well-established and extensive. As it is based on planned results partly influenced mainly by much external factors, there is an attribution issue: how to attribute indicator values to project performance?
4. There are sustainability concerns: project structure and its monitoring system are probably too labor intensive and expensive to transfer to government without significant modifications.

G.2 Recommendations

The following activities are recommended to enhance the project quality and ensure sustainability of the project.

G.2.1 Sharing project learnings

G.2.1.1 *Make a scenario script*

The experiences and lessons learnt on the development and maintenance of the community structure of trained and motivated CGV, the referral system and the M&E system used are of great value. These should be shared with other organizations, government and non-government alike. Future CB-DOTS projects would greatly benefit from a systematic scenario developed by the World Relief CB-DOTS project. Such a scenario would outline the steps, resources, organization and timeframe to develop CB-DOTS in a district. The MTE team recommends the project staff and World Relief HQ to develop such a systematic report of the project experience in the form of a scenario, a How-To manual.

G.2.1.2 *Platform of sharing experiences*

It would potentially be very useful to continue the sharing of CB-DOTS experiences with other projects and government institutions in Mozambique. Last year a first step was made in July 2011 during a workshop on CB-DOTS. MISAU and World Relief are encouraged to develop an annual platform, sharing national (and international?) experiences.

G.2.2 Learning more

The community DOTS project offers good possibilities to get more insight in processes that enhance or hamper results. Health system research methodology is particularly adequate to seek a better understanding. The following is a small list of possible subjects. These were discussed during the debriefing, and especially the FHI Chief-of-Party had similar ideas, some of these already in progress:

a. The patient perspective: Define patient appreciation of CB-DOTS project, by applying the Quote-Light tool[4].
b. A cost-effectiveness study, defining investments and running costs for CB-DOTS development and maintenance per patient found or patient cured.
c. Human resource utilization study: Determination of time spent by CGVs on specific defined tasks.
   These studies need a partnership from the MISAU research department or other suitable institutions in the country.

G.2.3 Community empowerment

G.2.3.1 *Project design*

The design of the project, including the use of village volunteers is clearly geared towards empowerment of communities in relative isolation of services. The project implementation so far shows that developing and maintaining a structure of volunteers, plus systematic supervision shows good potential for a transformation of awareness and access on tuberculosis care. The revival of Village Health Committees supports that transformation. The challenge is to maintain motivation of CGVs by providing adequate satisfying tasks, increasing the scope of voluntary work (HIV!?) without overburdening voluntary solidarity.

G.2.3.2 *Increase village stakeholders*

The WHO in its ACSM Handbook suggests to "engage TB-affected community members in the development and implementation of ACSM activities". This suggestion seems valid in this project. Male and female ex-TB patients could be included in the ranks of CG volunteers.

G.2.3.3 *Involve male CGVs*

Due to the area-specific demographic condition (temporary emigration of male villagers to work in SA mines) recruiting and involving male volunteers could increase mobilization of male with suspect signs and symptoms and those with TB disease on treatment. This measure would give a special attention to villagers working temporarily in South African mines. A recently started "Mining project" (TBCARE1 initiated) to increase quality of care for tuberculosis patients in the South African mining industry could be beneficial to services in the project area. The project management is advised to contact USAID and TBCARE1 to pursue a possible project linkage.

[4] Available on the TBCTA website: http://www.tbcta.org//Uploaded_files/Zelf/QuoteTBLight1281523545.zip

G.2.4 IR2: Strengthening government tuberculosis control services

This expected intermediate result need more emphasis in the second phase of the project, maintaining the project strategies in IR2 as defined at the onset. An increase in case notification and high quality monitoring should be leading targets for this cooperation. Efforts could be concentrated by:

1. Intensifying contacts with provincial authorities, defining agreed activities, monitoring after a distribution of tasks.
2. Mutual transparency in sharing data and experiences.
3. Assisting in remedying occasional government shortages of resources, without creating a structural dependency
4. Preparing to hand over project learnings as outlines elsewhere in this report.

G.2.5 IR3: Lessening the burden of HIV

In Mozambique 61% of detected tuberculosis patients are HIV-positive. As argued above (see F.1.2.9) it would make sense to support co-infected patients by one organization only, especially where it concerns ensuring adherence to chronic drug taking. The World Relief project should consider adopting a "community one-stop" strategy, extending home care for TBHIV patients by village CGVs.

H. Action Plan for Responding to Evaluator Recommendations

Recommendation	Action Plan
G.2.1 Sharing project learnings	
G.2.1.1 Make a scenario script	Agreed: Project manager will be the primary person writing with help from the Integration director and previous CS staff. Completion date: 30 November'12
G.2.1.2 Platform of sharing experiences	Agreed: FHI in Mozambique is the organization with the largest provincial representation of TB projects and already has a plan to bring NGOs from other provinces together for sharing experiences on an annual basis. WR would use those opportunities to share experiences and lessons learned.
G.2.2 Learning more	Official studies are very time consuming and HR intensive and would need a separate team with a separate budget. The suggestions are valid but the results of some will not necessarily affect changes to the project. The Quote Light Tool will be looked at as a possibility to improve services at district level.
G.2.3 Community empowerment	
G.2.3.1 Project design	1. The volunteers chosen are not from outside the area but her household is part of the 10 households she cares for. Her main task in this TB project is, after training her households on TB, to identify possible suspects with symptoms and refer them to the focal point volunteer as well as looking after any patients on treatment within her 10 families. They cannot run away as they form part of the 10 families. 2. Most of them were volunteers during the Child Survival program and already have tasks related to children under 5 yrs. in her 10 families.
G.2.3.2 Increase village stakeholders	Since all the volunteers have already been chosen at the beginning of the project it would not be right to replace them without reason. If some would fall away for some reason we would look into replacing her with a healed patient provided the patient is in the same 10

	households and willing to accept responsibility. Healed patients are frequently used as positive testimonies in meetings, village assemblies and during TB days.
G.2.3.3 Involve male CGVs	Historically male volunteers have been tried in several projects in Mozambique and even in Gaza but always with poorer results than females. They are the breadwinners and always demand payment for their work. Most husbands are absent (in SA) and would not like them visiting their wives in their absence. Healed male patients have been used with success to convince difficult male patients. However, the project has trained 10,414 community leaders and other men in TB.
G.2.4 IR2: Strengthening government tuberculosis control services	A taskforce consisting of managers from WR, AMODEFA, TEBA(TB NGO working with SA Miners with TB in Moz) and the Provincial TB officer will meet once or twice a quarter to discuss issues related to progress and improvement of the CB Dots program in Gaza province.
G.2.5 IR3: Lessening the burden of HIV	The task of overseeing TB treatment on a daily basis is doable as it only lasts for 6 months but overseeing AIDS treatment would be a life-long commitment and the best option would be to build the capacity of family members to oversee that task. In case of any special needs, the volunteers have been trained on HIV before and would assist, even if it means referring the patient back to HC/Hospital. Even HBC would be best performed by family members and the focal point volunteer (one per village) could be given special training on this so she could assist to train family members. The CGV would be the link between the family and Focal Point Volunteer and would be able to identify these specific needs and would inform the Focal Point Volunteer.

I. Tuberculosis Grantees

World Relief has followed the DIP in monitoring the progress of the project using the M&E indicators discussed in the DIP (See Section E). However, during the MTE it was found that a few of these indicators were redundant and did not add valuable information on the status of the project. Hence it was recommended by the MTE Team Leader that these indicators be dropped. In addition, it was recommended that the terminology of cohort indicators follow the WHO terminology. Annex 13 presents the M&E indicators from the DIP; further, indicators that may be removed are highlighted in blue and terminology to be changed is in green. In addition to monitoring and evaluation according to the DIP, project activities have been implemented following the work plan stated in the DIP (See Annex 4). This project has been the first TB project implemented by WR. The project has greatly benefitted from the input provided by the MTE Team Leader and the organization appreciates his guidance.

J. Annex

J.1 Annex 1: Learning brief

Tuberculosis Control in Gaza Province, Mozambique

The World Health Organization (WHO) reports that Mozambique has the 3rd highest incidence rate of all forms of TB (544 per 100,000), 6th highest the prevalence rate of all forms of TB (491 per 100,000), and the 4th highest TB mortality rate (49 per 100,000) among the 22 high tuberculosis burden countries. Further, among these 22 countries that comprise over 80% of all TB cases, Mozambique has the lowest case detection rate (34%) [1]. Gaza province in Mozambique notified and reported 1874 TB BK+ cases in 2011 with an SS+ CNR of 135/100,000. This rate is considerably higher than the national SS+ CNR of 87/100,000 [2].

World Relief introduced the Vurhonga TB CB-DOTS project in late 2009, covering a population of 226,523 in six under-served rural districts and 354,689 in three urban areas, of Gaza province. The overall goal of the project is to reduce the burden of tuberculosis (TB), in line with the World Health Organization (WHO) Stop TB Strategy and the Mozambique National Strategic Plan. Its primary objectives are to increase the case notification rate by 50% and to achieve 85% treatment success rate in project areas fully implementing Community-Based Directly Observed Treatment Short-Course (CB-DOTS).
The intermediate results are:

- IR1: Empower people with TB to seek and complete treatment, with the support of their communities.
- IR2: Strengthen National Tuberculosis Program (NTP) Systems to improve TB service delivery and patient outcomes.
- IR3: Decrease the burden of HIV in patients with TB and decrease the burden of TB in people living with HIV/AIDS (PLWHA).

The project supports the National Tuberculosis Program of Mozambique in Gaza province by training community volunteer structures such as Care Groups some of which have been in existence since 1995, Village Health Committees, TB focal point volunteers appointed by the MISAU in rural areas, and Pastors' Networks, OVC volunteers, HBCAs in urban areas. They have been trained to educate their communities about tuberculosis, detect TB cases, refer them to the health facility for testing and monitor their compliance to treatment regimens. The project has trained a total of 48,352 community volunteers since the onset of the project. Further, the project builds capacity of the local MISAU staff and sponsors training peripheral nurses and laboratory technicians in tuberculosis diagnostics. Joint supervision of health centers and communities are undertaken by WR care group supervisors and MISAU's district TB supervisors every quarter, and the collaboration with the MISAU is thereby fostered at several levels from the village to the health facility.

The project uses a rigorous M&E system which obtains data using the Modified District Rapid Assessment Tool (M-DRAT) and project records. The M-DRAT data collection is conducted quarterly by WR's M&E personnel from all district health centers where the district TB registers are maintained by the district TB supervisors. In addition, project villages maintain community TB data in the village TB registers. Other data collection includes assessment of knowledge, beliefs and practices in the community by the baseline, midterm and final KPC surveys that are conducted in the project areas.

Key results at the end of Q4,11 are:

- Increase in Case Notification Rate (CNR) from 128.3 per 100,000 population (baseline/Q1,10) to 139.5 per 100,000 (Q4,10) followed by a fluctuation in CNR. The CNR in Q4'11 was 107.7 per 100,000 population.
- Increase in percentage of TB suspects examined by sputum smear from 80.9% (baseline/Q1,10) to 95.7% (Q3,11) which then dipped to 81.8% (Q4'11); project target is 80.0% – *Rapid Indicator.*
- Negligible major error rate of less than 1% in diagnostic quality of TB microscopy.
- Increase in KPC respondents indicating that they had received information about TB in the last 6 months from 36.1% at baseline to 66% at midterm.
- Increase in knowledge that TB is transmitted through the air by coughing from 20.7% at baseline to 61.3% at midterm.
- Decrease in proportion of respondents who opted to seek care from traditional healers if they had symptoms of TB from 21.1% at baseline to 0.7% at midterm.

This is the first CB-DOTS project in the rural areas of Gaza province. Hence it was first viewed with skepticism by the traditional healers in the community and health post nurses who were not systematic in providing referral forms to the CGVs. However, care group volunteers persisted in educating households including that of traditional healers. With time, when some of the traditional healers themselves had symptoms of TB, they approached the CGVs who referred them to the health center for treatment and followed-up the treatment intake in the community. To date, 990 traditional healers have participated in TB trainings offered by the project. Meetings were held with the support of the MISAU for peripheral nurses about the importance of CB-DOTS, which has improved the referral system considerably. Further, the project sponsored training of peripheral nurses (n=35) in slide fixing to improve access to TB diagnosis. Systematic recording of TB patients on CB-DOTS in district TB registers has been a challenge in several district health centers leading to underestimation of CB-DOTS TB cases. The MISAU is now planning to introduce revised district TB registers which will have a column to record this information systematically.

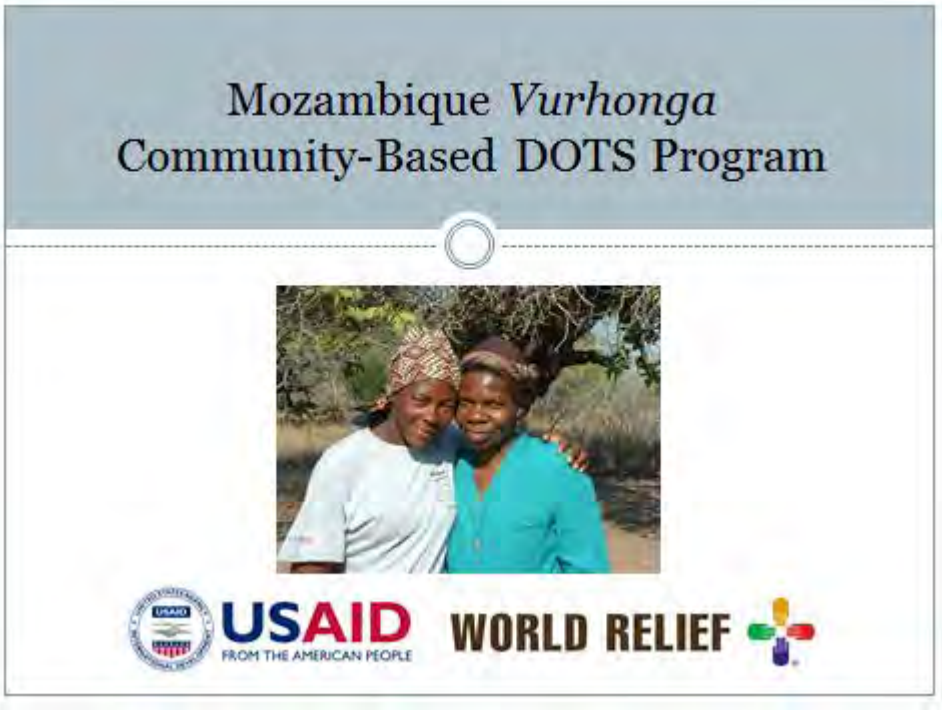
The project is designed to support the MISAU's National Tuberculosis Program; therefore, several project activities are closely meshed with the MISAU activities, which create a conducive environment for partnership and joint responsibility to reduce the burden of TB in these high burden areas. The joint working of project staff and MISAU staff on a regular basis has built local capacity in TB case detection, diagnosis and treatment, and will facilitate transference and institutionalization of project approach and design.

References:

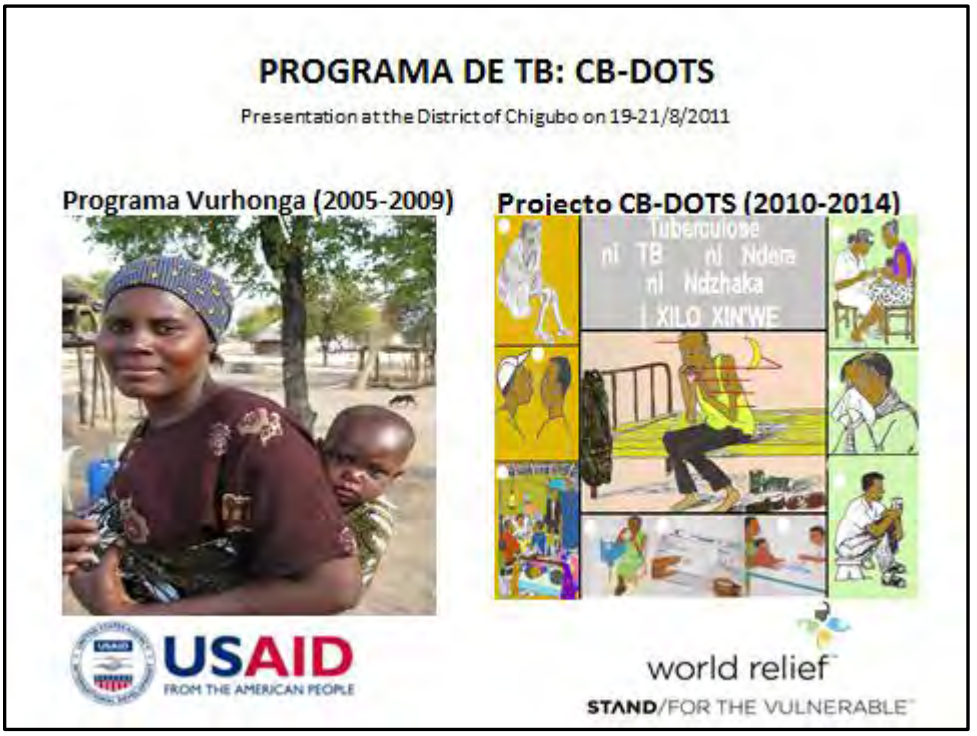
1. World Health Organization, Global Tuberculosis Control, 2011.
2. Annual TB Report, Gaza Province, Mozambique, 2011.

J.2 Annex 2: List of Publications and Presentations Related to the Project

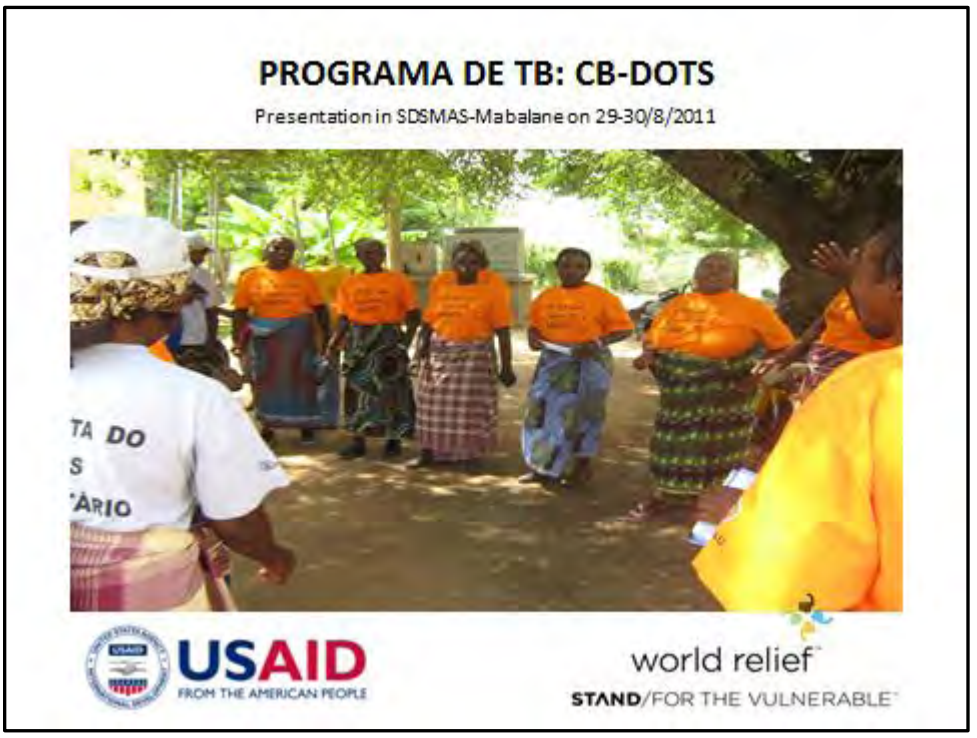
1. New Grantee Presentation, November 5, 2009.



2. Presentation in the District of Chigubo, August 19-21, 2011



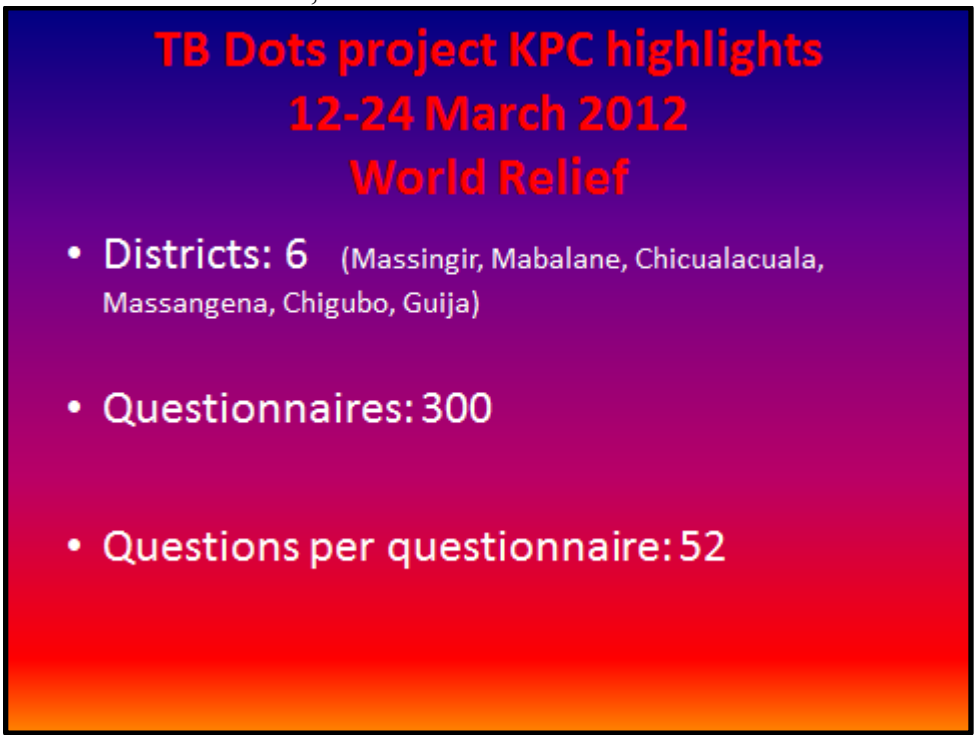
3. Presentation in Mabalane, August 29-30,2011



4. Presentation in Guija, September 2011

5. Presentation in Xai-Xai, October 2011

6. Presentation in Chokwe, March 2012



7. Presentation in Chokwe, April 2012

J.3 Annex 3: Project Management Evaluation

J.3.1 Planning

The project has been implemented in accordance to the DIP. In addition to the activities in the work plan presented in the DIP, the project conducted trainings for peripheral nurses to facilitate their involvement in CB-DOTS. The M&E indicators listed in the DIP are very elaborate and would need to be simplified if this is to be institutionalized.

J.3.2 Supervision of Project Staff

World Relief CG Supervisors periodically visit the care groups under their supervision. Any challenges faced by CGVs are reported to focal point volunteers who relay the information to the respective supervisor who takes necessary steps and or informs the project manager. In addition, every quarter, joint supervisory visits are made to villages by MISAU's district TB supervisor and WR's CG Supervisor to ensure the smooth functioning of tuberculosis activities. The joint visits are practised to foster institutionalization of the supervisory system.

J.3.3 Human Resources and Staff Management

The partnership with the MISAU staff is strong and the project is seen as strengthening the national TB control agenda. Working relationships among project personnel are very strong and the staffs take much pride in their work. The staff turnover has been 25 staff over 2 years in the field office. In the initial stages of the project, it had been difficult to find a suitable TB manager but in June of 2011 the position of TB-DOTS Manager was filled. At the headquarters, the individual most closely involved in development of the project's M&E systems and tools resigned in 2010. In late September 2011 a Health Advisor was appointed for technical support as part of the health technical unit in Baltimore. While the recruitment process for these two positions continued, senior staff in the field office and HQ stepped in to lessen the gap in staffing.

J.3.4 Financial Management

Project finances are maintained by the organization-wide Enterprise Resource Planning (ERP) system. Financial managers along with the project manager record budget forecasts, track expenditures and variances by this system. Financial reports are obtained through the system and the system creates transparency within the organization. The project has maintained to stay within budget for each year despite implementing all activities in the work plan as well as additional trainings that were important for the smooth functioning of the project.

J.3.5 Logistics

The procurement and distribution of project equipment and supplies for the most part had not had any negative impact on project implementation, except for the distribution of motorbikes. Motorbikes were distributed in Q1 of 2012 as 6 motorbikes were needed instead of just 3 as budgeted in the DIP. To compensate, 6 second hand motorbikes were purchased and repaired which required additional time.

J.3.6 Information Management

The project has a systematic data collection method by using the M-DRAT system as described in section C. In addition, the project maintains project records on staffing, volunteer training and logistics. At the community level, focal point volunteers and VHC are trained to maintain the village TB registers from which community level data are obtained. This system of data collection is very thorough; however, the intensely detailed list of M&E indicators warrants simplification. The M&E officer is responsible for data collection using the M-DRAT who is well experienced with the data collection

methodology. It is now recommended that CG Supervisors maintain a list of TB suspects referred from the community who were diagnosed as TB cases in order to counter-check if these patients were listed as CB-DOTS in the district TB registers during the quarterly M-DRAT data collection at health centers. The quarterly M-DRAT data, baseline and midterm KPC data keeps the MISAU informed of the progress of TB control in their communities.

The project conducts annual household surveys to assess the work of CGVs. The surveys are administered to households by CGVs of neighboring villages to minimize bias.

Further, soon after the midterm KPC survey and MTE debriefing sessions were held to present the findings and the status of the project to project staff. WR CG Supervisors were also given a synopsis of the midterm KPC survey data to inform their respective district TB supervisors.

J.3.7 Technical and Administrative Support

The project's TB Mentor who is a faculty at Johns Hopkins University has been a support to the project, offering review of project plans and reports as requested.

Within the organization, the MCH specialist at the HQ was closely involved in the project design, DIP and M-DRAT development. The current Health Advisor at the HQ in Baltimore, as the technical backstop of the project, has visited project sites twice within 6 months, assessed the progress of the project, met with partners and made relevant recommendations. Further, the Health Advisor has been responsible for writing of annual reports, assisting the field staff in data entry using Epi Info by developing a step-by-step manual, analyzing the midterm KPC data and writing the report, coordinating the MTE by writing the scope of work and participating in the evaluation and co-authoring the report. In addition, there are plans to publish findings from the project in the future.

J.3.8 Management Lessons Learned

- There needs to be closer supervision of FPVs and CGVs so that only those who are committed to their work should be retained as volunteers.
- There needs to be a prompt response to staff turnover.
- There needs to be continued proactive interaction with the MISAU staff and USAID Mission.

J.4 Annex 4: Work plan Table

Work Plan for WR CB DOTS Program in Gaza, Mozambique																					
	Year 1				Year 2				Year 3				Year 4				Year 5				Objective Met	Activity Status
		2010				2011				2012				2013				2014				
IR1. People with TB will be empowered to seek and complete treatment with the support of their communities																					Yes	
Staff recruitment	x	x	x																			Completed
Introduction of program to village/church leaders with approval letter from district administrator and MISAU.		x	x																			Completed
TB Curriculum preparation for Supervisors to train Volunteers who will in turn train households.		x																				Completed
Accommodation arrangements for supervisors in districts/villages		x	x																			Completed
Update volunteer-household census for 6 districts and update rosters of HBCAs and assigned families			x																			Completed
Staff (supervisor) training on TB DOTS		x	x																			Completed
Animator/Volunteer (C/G) training on CB DOTS			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			Completed; refresher training in progress
Household training on TB DOTS by volunteers			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
VHC/Pastor's Network training on CB DOTS by animators or supervisors			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			In progress
Referral of suspected TB patients to the nearest TB health facility			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
CGV facilitate the selection of padrinhos and monitor progress during the course of treatment for active TB patients in their area			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
Training for general community awareness, dispelling myths			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			In progress
IR2. Strengthen the NTP systems to improve TB service delivery and patient outcomes																					Yes	
Introduction of program to provincial and district MISAU directors as well as district administrators. Mini workshop for stakeholders, MISAU for M-DRAT.	x	x																				Completed

Procurement of M/bikes and lab equipment for districts			x	x																	Motorbikes were distributed in Q1 2012 as 6 motorbikes were needed instead of just 3 as budgeted in the DIP. So 6 second hand motorbikes were purchased and repaired. This required additional time.
MISAU district supervisor training on CB DOTS			x																		Completed
MISAU lab technician training on TB DOTS, co-infection with HIV				x							x										In progress
IR3. Implement integrated TB/HIV activities aimed to address high co-infection rates																				Yes	
HIV/AIDS program volunteer training on CB DOTS, CPT uptake			x				x				x				x						In progress
Training of pastor networks on TB symptoms, referral and treatment			x				x				x				x						In progress
Radio programs to educate about TB symptoms, referral and treatment				x		x		x		x											In progress
Monitoring & Evaluation																				Yes	
Baseline KPC in the community	x																				Completed
Needs assessment of district labs-and facilities: clinical care, data management, drug supply and referral system		x				x				x			x								In progress
Supervision of WR supervisors			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			In progress
Supervision of MISAU TB DOTS supervisors			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			In progress
Home visits to evaluate volunteer household training.			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			In progress
Modified LQAS to evaluate household knowledge on TB					x		x		x				x		x		x				In progress
Monthly staff meeting to get feedback and to plan for the following month			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
District management/coordination meetings			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
Provincial management meetings			x		x		x		x		x		x		x		x				In progress
Modified DRAT used for tracking of TB patients and outcomes				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			In progress
Village data collection by lead TB volunteer in each community				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
District data collection, analysis and feedback to the communities				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress

Feedback on community and HF data collection to the MISAU and HFs				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
Monitoring of the referral process to ensure CB-DOTS patients are recorded and tracked at all levels				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
MTE											x										
FE																			x		
Supervisor monthly reports			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
Project quarterly reports		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		In progress
Annual reports				x				x							x						In progress

J.5 Annex 5: Rapid Catch Table

This is not applicable at Midterm.

J.6 Annex 6: Mid-Term KPC Report

World Relief Mozambique
***Vurhonga* Community Based DOTS Project**

MidTerm Knowledge, Practice and Coverage (KPC) Survey Report

May 14, 2012

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Acronyms

ACSM	Advocacy Communication and Social Mobilization
CB-DOT	Community Based, Directly Observed Therapy
CB-DOTS	Community Based- Directly Observed Therapy Short-Course
CGV	Care Group Volunteer
C-HIS	Community Health Information System
CNR	Case Notification Rate
CSP	Child Survival Project
CSTS+	Child Survival Technical Support Plus
DOT	Directly Observed Therapy
DOTS	Directly Observed Therapy Short-Course, Internationally recommended strategy for TB control
DST	Drug Sensitivity Testing
HIV	Human Immunodeficiency Virus
KPC	Knowledge Practice and Coverage
SS	Sputum Smear
NTP	National Tuberculosis Program
TB	Tuberculosis
VHC	Village Health Committee
WHO	World Health Organization
WR	World Relief

Table of Contents

1. Executive Summary

In March 2012, the World Relief Vurhonga TB team conducted a Midterm KPC survey in the rural districts of the project area including Massingir, Chicualacuala, Massangena, Chigubo, Mabalane and Guija districts in Gaza Province, Mozambique. The purpose of the survey was to assess the impact the project had during the first half of the project cycle in terms of knowledge, attitudes and practices surrounding tuberculosis among adults. Communities were chosen at random, based on the thirty-cluster methodology and analyzed accordingly. This baseline survey tool will be repeated during the Final assessment of the project.

The survey consisted of questions on socio-demographics, knowledge of TB symptoms, treatment, prevention, knowledge of TB/HIV coinfection as well as stigma. The key project indicators captured in this KPC Survey include:

- Knowledge that TB is transmitted through the air by coughing
- Knowledge that coughing longer than three weeks is a sign of TB
- Knowledge that TB is curable
- Knowledge that TB treatment is free

2. Background

Location and population

Mozambique is a coastal country in southern Africa with an estimated population in 2010 of 23.4 million[i], and 1.33 million in the southern province of Gaza.[ii] The project area includes the rural districts of Chicualacuala, Chigubo, Massangena, Massingir, Guija and Mabalane with a total population of 226,523 in 2011[iii]. In addition, the project also works with trainers and caregivers under supervision of pastors networks that work with HIV+ individuals and their families in three urban sites: Macia in Bilene District, Chokwe in Chokwe District and Guija town in Guija District with an additional population of 354,689 [iv].

Overview of general health status of population

The World Bank's Human Development Index in 2011 ranks Mozambique 184 out of 187 with a life expectancy of 50.2 years at birth.[v] In 2009, 38% of the population was urban, adult mortality rate was 493 per 100 adults 15-59 years and under-5 mortality rate was 142 per 1000 live births. Malaria caused 23% of deaths in children under five and pneumonia 16% of the deaths in this age group in 2008. The prevalence of HIV was 115 per 1000 adults 15-49 years of age.[vi] In 2010, the prevalence of tuberculosis was 491 per 100,000 population.[vii]

The burden of TB in Mozambique

According to the World Health Organization (WHO) Mozambique has the 3rd highest incidence rate of all forms of TB (544 per 100,000), the 6th highest prevalence rate of all forms of TB (491 per 100,000), and the 4th highest TB mortality rate (49 per 100,000) among the 22 high tuberculosis burden countries. Among these 22 countries that comprise over 80% of all TB cases, Mozambique has the lowest case detection rate (34%)[viii]. Despite significant government resources to fight TB, the HIV crisis undermines much progress. Among the infectious sputum smear positive (SS+) cases, the incidence was 186/100,000 in 2006[ix] and the estimated prevalence rate in 2004 was 250/100,000.[x] While Directly Observed Treatment- Short Course (DOTS) is available in every province, the coverage rate varies greatly. Overall, DOTS coverage is 70.9%,

however coverage in Gaza is only 54.1%, which is the third lowest in Mozambique.[xi] Based on a 2005 cohort, the DOTS treatment success rate was 70% for all cases, and 79% for new cases.[xii] Nationally, the DOTS case detection rate is 47%, with a treatment sucess rate of of 70% for both new and returning SS+ cases.[xiii] A national survey in 1999 stated a (Multi-Drug Resistant Tuberculosis) MDR-TB rate of 3.4%.[xiv]

The burden of TB in Gaza Province

The Provincial Annual Report 2011[xv] indicated that there was a decrease in the number of TB cases from that of 2010. The case detection rate of BK+ declined by 3% from 85% in 2010 to 82% in 2011. The province notified and reported 1874 TB BK+ cases in 2011 which was a decline from 1928 TB BK+ cases in 2010. Of the 1931 all forms of TB cases in 2011, the treatment completion rate was 0.2% (n=3) compared to the treatment completion rate of 1.0% in 2010; the cure rate was 79.1% (n=1528) which was a 1% increase from 78.0% in 2010; the deaths were 14.3% (n=276) which was a 1% increase from 13% in 2009; treatment failure rate was 2.0% (n=38) which was a 1% reduction from 3.0% in 2009; dropout rate was 3.6% (n=69) which was similar to the dropout rate of 4.0% in 2009; transfer rate was 0.9% which was an increase from 0.5% in 2009. Further, it was reported that in 2011, 99.0% of the TB cases were tested for HIV, of which 75.0% were HIV+. Of these HIV+/TB cases, 98% were started on cotrimoxazole preventive treatment but only 33.0% were on anti-retroviral treatment.

Structures for TB services

Mozambique has a total of 250 labs with smear microscopy and one National Laboratory in Maputo responsible for multi-drug resistance testing and drug sensitivity testing (DST); TB facilities include: 149 health centers with DOTS capacity, and 800 health posts with the potential for expansion of community-based DOTS.[xvi] In 2008, 88% of the National Tuberculosis Program (NTP) was funded with the government's contribution totalling 11% of the budget. The cost of the NTP per capita was $0.90.

Project Goal and Objectives

The project goal is to reduce the burden of TB, in line with the Stop TB Strategy and Mozambique National Strategic Plan. Its primary objectives are to increase the case notification rate by 50% and achieve 85% treatment success rate for CB-DOTS in project areas.

<u>Intermediate Result 1: People with TB will be empowered to seek and complete treatment with the support of their communities. (45% Effort)</u>

Strategy 1.1: Advocacy, Communication, and Social Mobilization (ACSM) (Rural Districts)

Objectives: Increase knowledge that TB is transmitted through the air by coughing from 20.7% to 60%
Increase knowledge that cough longer than three weeks is a sign of TB from 13.3% to 60%
Sustain the high percentage of respondents surveyed who know that TB is curable at 85%
Increase knowledge that TB treatment is available for free from 39.7% at baseline to 80%
Train 100% of Care Group Volunteers (CGVs) in CB-DOTS
Train 100% of functioning Village Health Committees (VHC) in TB

Strategy 1.2: Case Detection (Rural Districts)

Objectives: Increase the quarterly case notification rate (CNR) by 50% from 110 to 165
Maintain the high percentage of TB suspects examined by sputum microscopy at 80%
Increase the percentage of referrals made by volunteers (measured at the HC and at the community) from 20.6% to 60%

Strategy 1.3: Treatment Compliance (Rural Districts)

Objectives: Conduct cohort analysis of treatment outcomes for SS+ patients including:

Increase the rate of treatment success from 78.6% % to 85%
Maintain the high level of sputum smear conversion at 90%
Eighty-five percent of SS- patients will complete their full course of treatment
Increase the percentage of patients on CB-DOT from 26.4% to 60%

Strategy 1.4: Community Health Information System (C-HIS) (Rural Districts)

Objectives: Eighty percent of VHCs will have local data on TB from the previous quarter
Eighty-three percent of HCs will compile C-HIS data collected by volunteers on TB

Intermediate Result 2: Strengthen NTP Systems to improve TB service delivery and patient outcomes. (45% Effort)

Strategy 2.1: Facility Assessments (Rural Districts and Urban Centers)

Objectives: Conduct quarterly assessments of all health centers in the project area
One hundred percent of HC assessments will be conducted with participation from the District TB Supervisors or designated representative

Strategy 2.2: Diagnostic Quality (Rural Districts and Urban Centers)

Objectives: Bring the proportion of TB suspects with SS+ confirmation in line with international standards by lowering it from 44.6% to between 10% and 25%
Maintain the low proportion of major errors at less than 1%

Strategy 2.3: Access (Rural Districts)

Objectives: Less than 10% of HFs will report sputum bottle stock-outs in the previous quarter

Strategy 2.4: Referral (Rural Districts)

Objectives: Seventy-five percent of the patients referred from HPs will be recorded at health center
Eighty percent of TB+ patients will return to the HP after receiving their diagnosis

Strategy 2.5: Information Systems (Rural Districts and Urban Centers)

Objectives: Less than 5% of HCs reporting drug stock-outs of essential TB drugs for the last quarter
Less than 2% of those who start treatment will drop out (Interruption rate)

Strategy 2.6: Supervision (Rural Districts)

Objectives: Eighty-five percent of HP will be supervised by the District TB Supervisor during the previous quarter as reported in the M-DRAT
Eighty-five percent of HPs will report supervisory visits by the District TB Supervisor

Strategy 2.7: Coordination with NTP (Rural Districts and Urban Centers)

Objectives: Attend 80% of meetings to which WR is invited
Conduct six joint supervisory visits to HPs each quarter

Intermediate Result 3: Decrease the burden of HIV in people with TB and decrease the burden of TB among PLWHA. (10% Effort)

Strategy 3.1: TB and HIV Education through ACSM (Urban Centers)

Objectives: Train 60 OVC and youth volunteers in TB including stigma reduction
Train three PNs in TB including stigma reduction

Strategy 3.2: Intensified TB Case Finding among PLWHA (Urban Centers)

Objectives: Train 40 HBCAs in TB case finding, referral and stigma reduction

Strategy 3.3: Routine HIV/ TB Testing (Urban Centers and Rural Districts)

Objectives: Improve the percentage of HIV+ patients screened for TB from 46.6% to 60%
Maintain high levels of HIV testing among TB patients at 95%

Strategy 3.4: Cotrimoxazole Prevention Therapy (CPT) (Urban Centers and Rural Districts)

Objectives: Maintain high levels of CPT in HIV/TB patients at 90%

Less than 25% of HCs reporting stocks out of Cotrimoxazole in the previous quarter

Strategy 3.5: Case Management of Co-Infections (Urban Centers)

Objectives: Number of HBCAs trained on CB-DOT

3. Process and Partnership Building

World Relief, through the project supervisors in each district has built a close relationship with the district health authorities, more especially the district directors and district TB supervisors but also the lab, pharmacy and HIV staff. At the provincial level the project M&E official and the project manager has worked closely with the provincial TB supervisor and provincial director.

At the community level the program supervisors have worked closely with village leadership, pastors networks and government structures, firstly in choosing new CGVs where previous ones have died or moved away or dropped out and secondly in choosing one focal point volunteer for the village and thirdly in calling village men together to receive TB training directly from the project supervisors.
During the KPC survey the provincial TB Supervisor and all the district TB supervisors were invited to participate in the survey where feasible and practical.

4. Methods

The purpose of this midterm KPC survey is to provide evidence of the impact and progress the project has made during the first two and a half years of the 5 year project cycle compared to the baseline survey data. The KPC questionnaire used during the baseline and now during the MTE was adapted from previous surveys used in CSHGP TB projects and from the WHO recommendations for KPC surveys. Melanie Morrow and Debbie Dortzbach from World Relief and James Ricca from MCHIP reviewed the survey. The approved questionnaire was developed in English and then translated into Shangaan.

The questionnaire contains 52 questions that cover the following topics:

Questions 1-6	Socio-Demographics
Questions 7-13	Prevalence of TB symptoms
Questions 14-22	Knowledge of TB
Questions 23-34	Treatment of TB
Questions 35-36	Prevention of TB
Questions 37-43	TB Stigma
Questions 44-49	HIV Knowledge and Stigma
Questions 50-52	TB/ HIV Co-infection

Project Indicators analyzed in this survey

1. Knowledge that TB is curable: The number of those surveyed that responded that TB is curable divided by the total number of respondents in the survey.
2. Knowledge that TB treatment is free: The number of those surveyed that responded that TB treatment is free divided by the total number of respondents in the survey.
3. Knowledge of how TB is transmitted: The number of those surveyed that responded that TB is transmitted through the air by coughing divided by the total number of respondents in the survey.
4. Knowledge that long duration cough is a sign of TB: The number of those surveyed that responded

that cough longer than three weeks is a sign of TB divided by the total number of respondents.

Sampling Design

The sample size was determined using the CSTS+ KPC Module – two-stage 30 by 10 cluster sampling method. This model uses the following formula to calculate the sample size:

$$\frac{N = Z^2(1-P)P}{E^2}$$

N= Sample size; Z=1.96 (for a confidence interval of 95%); P= Known prevalence; E=% within=±0.05.

Thirty clusters were randomly selected from a list of all the villages in the project area, taking into account the differences in population size of the villages (Proportional Population Cluster Sampling method). See Annex D for the sampling framework. For each cluster, interviews were conducted with 10 households. Upon arriving in a village, the village headman was asked to identify a place considered close to the central point of the village. At the central site, a member of the survey team spun a pen. The survey team started in the direction of the pen (pointed end) to the first house. If the object pointed in the direction where there were no houses, the procedure would be repeated until there were houses in that direction.

The interview started at the nearest household and continued to the next one in the same direction until the required number of households per cluster was met. In cases where the chosen direction had less than the required sample the object would be re-spun to change direction at the farthest household and the team proceeded in that direction until the total required sample in that cluster was met.

Interviewer Recruitment

Interviewers for the Midterm KPC survey included 10 TB Dots project staff and 11 external interviewers. Of the external interviewers, 3 were men and 8 were women. All were fluent in Portuguese and Shangaan.

Interviewer and Supervisor Training

The interviewers and supervisors received 3 days of training by Director of Program Integration and the Program Manager on sampling and household selection, the importance of surveys, the difference between quantitative and qualitative data and the task of interviewers and supervisors. Time was given to practice reading of the questionnaire fluently and to code responses accurately. The survey team was divided into 6 survey groups, each group consisting of 2 interviewers and one supervisor. Two groups went to the field in one vehicle. There were 3 coordinators who coordinated the vehicles and logistics during the survey as well as checked all the survey questionnaires for possible errors before the vehicles left the villages. The practicing of the questionnaire was done by dividing them into their survey groups of 3 each. Overall supervision of the practicing groups was done by the 3 vehicle coordinators who would move from group to group to listen in. The supervisors also used the time in small groups to explain each question. The interviewers also received training on the objectives of the KPC survey and the household selection process. See Annex E for a complete listing of person/roles involved with the surveying process and Annex F for the training schedule.

Data Collection

Data collection occurred from March 19 to 22, 2012 and included 6 survey groups, each survey group consisting of 2 interviewers and one supervisor. The only major constraint was the long distances between villages and a few flat tyres. The average interview length was approximately 40 minutes. For quality control purposes, each of the 2 interviewers in a survey group was accompanied by a supervisor who

observed the interviews by alternating beteen interviewers. The supervisor also checked the questionnaires for any errors that may have occurred.

Data Analysis

The data was hand tabulated on March 13 -14th by the supervisors, coordinators and interviewers in Chokwe, Mozambique for immediate results. The data were entered into EpiInfo and make electronically available for analysis. The health advisor in the Home Office, Baltimore, checked for errors and inconsitencies and once the data were cleaned, she analyzed the data, using STATA 10.

5. Results

Project Indicators captured by Midterm KPC

Q. No.	Indicator	Baseline				Midterm				Target
		Numerator	Denominator	Percentage	95% CI	Numerator	Denominator	Percentage	95% CI	
16	Percentage of respondents that know that TB is transmitted through the air by coughing	62	300	20.7%	12.0% - 29.4%	184	300	61.3 %	55.6% - 66.9%	60%
15	Percentage of respondents that know that cough longer than three weeks is a symptom of TB	40	300	13.3%	8.9% - 17.8%	54	300	18.0%	13.8% - 22.8%	60%
	Percentage of respondents that know that coughing is a symptom of TB	187	300	66.3%	55.0% - 69.7%	200	300	66.7%	61.0% - 72.0%	
19	Percentage of respondents surveyed know that TB is curable	256	300	85.3%	80.0% - 90.7%	275	300	91.7%	87.9% - 94.5%	85%
20	Percentage of respondents surveyed know that TB treatment is available for free*	119	300	39.7%	31.2% - 48.1%	70	300	23.3%	18.7% - 28.5%	80%

* Translation in shangan: Do you pay or is it free? This is umbiguous. Also Naree (Murhi) is the term used, which implies traditional treatment which requires payment. Correction: it should be - *Do you pay for TB tablets?*

Socio-Demographic Information

Of the 300 respondents in the midterm KPC survey, 22.7% (n=68) were male and 77.3% (n=232) were female. The median age of the respondents was 33.5 years, ranging from 14 years to 74 years. The median age of respondents in the baseline KPC survey was 35.7 years (range: 18-69 years). Further, 62.7% of the 300 respondents attended school at some point in their life. Of those who attended school, 50.0% completed primary school, 12.3% completed secondary school and 0.3% completed post-secondary school. In comparison, 83.8% had completed primary school in the baseline KPC but proportion of respondents who had completed secondary school was comparable between baseline and midterm KPC surveys. On average, 8 people live in a household with a range of 1-35 persons in a household. The average number of rooms in a house is 2 with a range of 1-8 rooms. The survey indicated that the household income of 26.3% of the respondents is not enough for food. While 49.3% of respondents responded that their household income was barely enough for food and 24.3% of them reported that their household income was enough for food. These proportions are comparable with the baseline KPC survey results.

Tuberculosis Symptoms

When TB symptoms were listed, 18.7% responded that someone in their household had such symptoms in the last three months. Of these with TB symptoms, 65.5% were female and the most commonly reported symptoms included coughing with sputum (52.7%) and pain in chest (41.8%). The other symptoms reported were night sweats (32.7%), total weakness (29.1%), cough for over 3 weeks (27.3%) and weight loss (27.3%). Of those with TB symptoms 88.9% sought medical care.

Tuberculosis Knowledge

A large proportion of the respondents had heard of TB (94.7%). Those who had heard of TB were able to list symptoms of TB such as coughing (70.4%), weight loss (49.3%), coughing with sputum (27.8%) and cough with blood in sputum (25.0%). Only 19.0% stated that coughing for longer than 3 weeks was a symptom of TB. Of all 300 respondents, 66.7% stated coughing as a symptom of TB, followed by weight loss (46.7%), coughing with sputum (26.3%), and coughing with blood in sputum (23.7%). Only 18.0% mentioned that coughing for longer than 3 weeks was a symptom of TB. It must be noted that there was no prompting by the interviewer and TB symptoms were not listed. As a result most respondents stated coughing as a symptom of TB without going into details of the duration of cough.

When asked about TB transmission, of the 300 respondents, 61.3% stated that it was through the air by coughing which was much higher than baseline proportion of 20.7%. The second most common response was transmission through the death of someone (17.0%), which has decreased from the baseline level of 37.3%. The other common response was that TB is sexually transmitted (11.0%) which was comparable to baseline level of 13.3%. Only 7.7% of respondents mentioned that they did not know how TB is transmitted compared to 22.3%. Sixty six percent of the 300 respondents reported that they had received information about TB in the last 6 months. This was a substantial increase from the baseline level of 36.1%. Of those who received TB information, more than half received the information from volunteers (58.5%). The second most common source of TB information was reported to be friends/acquaintances/relatives (25.0%).

Knowledge that TB is curable continued to remain high (91.7%), which was 85.3% at baseline. Only 23.3% of respondents knew that TB medicines were free of charge. The reason for this low prevalence is discussed in the below section. When asked about where they would go for treatment if they had TB symptoms, 88.7% stated that they would go to the health center, 11.0% responded that they will go to TB hospital and only 0.7% stated that they would go a spiritual healer, which is a change since baseline, where 21.1% responded seeking a spiritual healer.

Tuberculosis Treatment

Of the 300 respondents surveyed, 41.0% would take over one hour to walk to the nearest TB testing facility; 20.3%% would have to walk 15 minutes or less, 10.7% 16 to 30 minutes, and 12.3% lived within a 30 minute to one hour walk from the nearest testing facility. Only 9.3% of respondents had a household member diagnosed with TB, with the majority (78.6%) of those cases diagnosis through a sputum test. When asked how long it took for them to receive the test results, 39.3% stated the same day and 35.7% mentioned less than one week. No one stated that they paid for the TB tests. Almost all stated that they did not pay anything to find out if they had TB (92.9%), while 7.1% responded that they did not know. On the other hand, the survey indicated that only 23.3% of the 300 respondants know that TB treatment is available for free. This seems to be a result of a poor translation of the question *"Is TB medicine free of charge?*" into the local Shangan language from English, thereby causing a misunderstanding of the question. There is a possibility that the respondents may have meant "No" to paying for TB treatment but this was captured as "No" to free TB treatment by the Shangan survey instrument. If this was the case, then 54.23% responded affirmatively that they knew that TB treatment is free.

Further, 96.4% stated that they or a household member received medication to treat TB and only one stated otherwise. When this individual was asked the reason for not receiving the TB medicine, the response was "Don't know". When asked if they had to pay anything for the TB medication, 96.3% replied that they did not have to pay but one person mentioned that they had to pay for the TB medication. Ninety two percent responded that daily intake of the TB medication was watched, which was mostly undertaken by a family member or friend or padrinho (76.0%). Moreover, 85.2% responded that the course of medication was completed as explained by the health worker. Of the two respondents who stopped taking TB medicine, one reported drug side effects as the reason for discontinuation of treatment while the second individual selected the "other" option with going into details. Of those who completed the course, 78.3% responded that they were cured.

Tuberculosis Prevention

When asked what can be done to decrease the risk of getting TB, 27.7% listed provision of good ventilation for workplace and home while 69.0% listed several other ways. The proportion of those who could not list a single way to decrease the risk of getting TB declined to 35% from a baseline level of 67.3%. When asked about ways to decrease the risk of transmitting TB, 44.3% stated adherence to treatment, 40.7% stated cover mouth when coughing, 23.7% mentioned not spitting in public places. Only 13.3% did not know a way to decrease the risk of transmission, which again was lower than the baseline level 27.3%.

Tuberculosis Stigma

Only 29.3% of those surveyed reported that they had ever had a friend, neighbor, workmate or schoolmate with TB, yet 94.0% responded that they would visit with a TB patient in their home. Among those who responded that they would not do so, fear of disease was the most common reason stated (57.1%); however this is lower than the baseline level of 77.8%. When asked if someone had TB, would they try to hide the disease from others, 72.0% stated that they would not, which is slightly higher than baseline (68.0%). Among the various reasons why people with TB would try to hide the disease from others, 26.3% reported it was because people will think they have HIV. However, 80.3% stated that they do not think it is shameful to have TB while 17% thought it was shameful. The reasons why they thought it shameful included: the perception that the person may also be HIV+ (25.5%); everybody will avoid the person with TB (23.5%); improper cleaning after death (15.7%).

HIV Knowledge and Stigma

Knowledge of HIV was almost universal at 93.0%. The most commonly listed methods of preventing HIV were condom use (75.8%), faithfulness (61.8%), avoidance of skin piercing objects (20.1%) and abstinence (12.6%). When asked about HIV transmission, 94.9% of respondents stated that it is sexually transmitted, 63.5% stated transmission occurs through sharing needles and razors, while 13.0% stated it is transmitted through blood transfusion. There was a high knowledge level for where HIV testing is available at 94.0% although 36.2% of the respondents would have to walk over one hour to arrive at the nearest testing facility. The rate of HIV testing is 60% which is higher than the baseline level of 46.5%.

TB/HIV Co-infection

More than half of respondents, 69.0% stated that they believed that someone with HIV should be tested for TB, while 74.0% responded that those with TB should be tested for HIV. When asked if someone with HIV is more likely to get TB 71.7% responded affirmatively.

6. Discussion

The main program indicators measured by the KPC are: i) knowledge that TB is transmitted through the air by coughing, ii) knowledge that cough longer than three weeks is a symptom of TB, iii) knowledge that TB is curable, iv) knowledge that TB treatment is available for free.

Sixty six percent of the 300 respondents reported that they had received information about TB in the last 6 months, which was a substantial increase from the baseline level of 36.1%. Consequently, the indicator on knowledge that TB is transmitted through the air by coughing at baseline was 20.7% (95% CI: 12.0% - 29.4%) and by midterm it had increased to 61.3% (95% CI: 55.6% - 66.9%), exceeding the target of 60%. However, the indicator on knowledge that cough longer than three weeks is a symptom of TB did not reach the target of 60% but only had a slight increase from the baseline levels of 13.3% (95% CI: 8.9% - 17.8%) to midterm level of 18.0% (95% CI: 13.8% - 22.8%). The question on this indicator was asked without any prompt for respondants' to specify the duration of cough, which may have been one of the reasons for the data showing low proportion of knowledge that cough longer than three weeks is a symptom of TB, among

respondents. This inference is supported by the higher proportion of knowledge that coughing is a symptom of TB, which was 66.7% (95% CI: 61.0% - 72.0%) among respondents at midterm. Knowledge that TB is curable continued to remain high with the midterm level of 91.7% (95% CI: 87.9% - 94.5%) from a baseline of 85.3% (95% CI: 0.0% - 90.7%). It is interesting to note that the proportion of respondents who opted to seek care from traditional healers, if they had symptoms of TB, declined (baseline at 21.1% and midterm at 0.7%). This may indicate that traditional beliefs such as TB is caused due to improper cleansing after death and that it is transmitted from a dead person is diminishing in the community. Knowledge that TB treatment is free did not reach the target of 80%. The data on this indicator is not reliable since the question when translated from English into Shangan became ambiguous and was interpreted in inconsistent ways (this question will be corrected in future KPC surveys). However, data on other relevant questions on cost for TB treatment reveal that are large majority (96.3% (95% CI: 81.0%-99.9%)) of those who underwent TB treatment, stated that they did not have to pay for it and that it was free.

Immediately following the survey, preliminary results were shared with the supervisors who then reported the information to their respective District Administrators and Health Directors/TB supervisors. Findings of the main program indicators were shared with the WR Supervisors, Gaza Provincial TB Coordinator, and USAID Mission during the incountry debriefing in Maputo, on April 27, 2012. In addition, the findings of the KPC survey will be shared with Village Health Committees and CGVs.

7. Annex

Annex A: English Survey Questionnaire

Respondent Identification		
Questionnaire Number		
Interviewer Name		
Respondent Name		
District		1=Chicualacuala, 2= Chigubo, 3= Guija, 4= Mabalane, 5= Massangena, 6=Massingir
Cluster #		
Village		
Gender		1=Male, 2=Female
Date of Interview	……../……../……	
Time interview began	AM PM	
Time interview ended	AM PM	

FOR DATA ENTRY PERSONNEL ONLY		
	Name	**Date**
Team leader review**:		
Keyed by:		

***Review for completion – all answers answered, skip patterns followed, etc.*

SECTION A: SOCIO-DEMOGRAPHICS				
Instructions: Ask the questions exactly as they are written. Do not read responses unless directed to do so. Words in *italics* are instructions for the interviewer and should not be read aloud. Follow skip patterns as directed. Write answers in the answer box unless otherwise directed.				
#	**Questions**	**Responses**	**Skip**	**Answer**
1.	How old are you?	Age..... ## Don't know..... 88 No response..... 99		
2.	Have you ever attended school?	Yes..... 1 No..... 0 → 4 Don't know..... 88 → 4 No response..... 99 → 4	3	
3.	***If yes, then ask:*** What is the highest grade or level of school you have completed?	No School..... 1 Primary..... 2 Secondary..... 3 Past Secondary ..... 4 Other..... 5		
4.	How many people live in your household?	Number..... ## Don't know..... 88 No response 99		
5.	How many rooms are in your house?	Number..... ## Don't know..... 88 No response..... 99		
6.	Is your household income usually… ***Read responses.***	Not enough for food..... 1 Barely enough for food..... 2 Enough for food..... 3 Don't know..... 88 No response..... 99		

SECTION B: TUBERCULOSIS SYMPTOMS				
#	**Questions**	**Responses**	**Skip**	**Answer**
7.	Have you or anyone in your household had any of the following symptoms in the last three months? **Read the following:** Coughing with sputum* Coughing for over 3 weeks Increasing fever for over 3 weeks Blood in sputum Pain in the chest Total weakness, inertia Weight loss Night sweats *(definition of sputum = matter coughed up and ejected from the mouth; NOT spit, NOT saliva, NOT mucus from the nose)* ***Multiple answers are possible.***	Yes..... 1 No..... 0 → 14 Don't know..... 88 → 14 No response..... 99 → 14	8	

For each person with any of the symptoms listed above, ask questions 18-23 and record the answers in the box below.				
8.	What gender was the person who had these symptoms?	Male..... 1 Female..... 2		
9.	Which symptoms did he/she have?	No..... 0 Coughing with sputum* ..... 1 Coughing for over 3 weeks..... 2 Increasing fever for over 3 wks..... 3 Blood in sputum..... 4 Pain in the chest..... 5 Total weakness, inertia..... 6 Weight loss..... 7 Night sweats..... 8 Don't Know..... 88 No response..... 99		
10.	Did this person seek medical attention for his or her symptoms?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
11.	After how long getting sick did he or she seek medical attention?	Within one week..... 1 One to two weeks..... 2 Three weeks to a month..... 3 One to two months..... 4 More than three months..... 5		
12.	Why did he/she wait to seek medical attention? ***(Answer options for Q.24 and Q.25 are the same)*** ***Do not prompt.***	Felt better..... 1 No money to see doctor..... 2 Trying home treatment..... 3 Was too far to travel..... 4 Do not trust or fear health workers..... 5 Fear of having a serious illness..... 6		
13.	If no medical attention was sought, why wasn't it? ***(Answer options for Q.24 and Q.25 are the same)*** ***Do not prompt.***	Fear of stigma against TB or HIV..... 7 Too busy..... 8 Not aware of consequences of disease..... 9 Other (specify)..... 77 Don't know..... 88 No response..... 99		

Q8. Gender	Q9. Symptoms	Q10. Treatment?	Q11. How long?	Q12. Delay?	Q13. No Tx?

SECTION C: TUBERCULOSIS KNOWLEDGE				
#	**Questions**	**Responses**	**Skip**	**Answer**
14.	Have you heard of the disease called Tuberculosis or TB?	Yes..... 1 No..... 0 → 22 Don't know..... 88 → 22 No response..... 99 → 22	15	
15.	What symptoms can show that a person has TB? ***Multiple answers allowed.*** ***Do not prompt.***	Coughing..... 1 Fever..... 2 Coughing with sputum..... 3 Coughing for longer than 3 weeks.. 4 Cough with blood in sputum..... 5 Loss of appetite..... 6 Pain in the chest..... 7 Total weakness, inertia..... 8 Weight loss..... 9 Swollen glands..... 10 Night sweats..... 11 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
16.	How is TB transmitted? ***Multiple answers are possible.*** ***Do not prompt.*** ***Be sure to write any locally held or traditional beliefs.***	Through the air by coughing..... 1 Through blood..... 2 Through handshake..... 3 Sexually transmitted..... 4 Sharing food with infected person... 5 You're born with it..... 6 Through kiss..... 7 After getting cold..... 8 From mosquito bite..... 9 Through the death of someone..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
17.	Have you received any information about TB in the last 6 months?	Yes..... 1 No..... 0 → 19 Don't know..... 88 → 19 No response..... 99 → 19	18	

18.	***If yes, ask:*** From which sources did you receive information about TB in the last 6 months? ***Don't prompt.***	Friends, acquaintances, relatives… 1 Doctors or nurses…… 2 Other medical workers…… 3 Booklets, leaflets…… 4 Radios/TV/ Newspapers…… 5 Volunteers…… 6 Health department…… 7 Pastor…… 8 Other (specify)…… 77 _____ Don't know…… 88 No response…… 99		
19.	In your opinion, is TB curable?	Yes…… 1 No…… 0 Don't know…… 88 No response…… 99		
20.	Is TB medicine free of charge?	Yes…… 1 No…… 0 Don't know…… 88 No response…… 99		
21.	If you had TB symptoms where would you go to get care? ***Multiple answers are possible.***	Health center…… 1 Socorrista…… 2 TB Hospital (Carmelo)…… 3 Traditional doctor…… 4 Pharmacy…… 5 Spiritual healer…… 6 Other (specify)…… 77 _____ Don't know…… 88 No response…… 99		
22.	How long would it take you to walk to _____ from here? ***Fill in the blank with the nearest TB testing facility to this village.***	0-15 minutes…… 1 16-30 minutes…… 2 31 minutes to one hour…… 3 More than one hour…… 4 Don't know…… 88 No response…… 99		

SECTION D: TUBERCULOSIS TREATMENT				
#	**Questions**	**Responses**	**Skip**	**Answer**
23.	Have you or any of your household members been told by a health care worker that they have TB in the last year?	Yes…… 1 No…… 0 → 34 Don't know…… 88 → 34 No response…… 99 → 34	24	
24.	***If yes, then ask:*** What test did health care workers do to find that you or your household member was diagnosed with TB?	Sputum test…… 1 X-ray test…… 2 Other (specify)…… 77 _____ Don't know…… 88 No response…… 99		
25.	How long did it take before you or your	Same day…… 1		

	household member got the test results?	Less than one week..... 2 About one week..... 3 2-3 weeks..... 4 A month or more..... 5 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
26.	Did you or your household member pay anything to find out you had TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
27.	Did you or your household member receive medication to treat TB?	Yes..... 1 → 29 No..... 2 28 Don't know..... 88 → 34 No response..... 99 → 34		
28.	***If no, then ask:*** Why did you or your household member not receive drugs?	Drugs were not available..... 1 Drugs were too expensive..... 2 Drugs were not offered..... 3 Did not return to pick them up..... 4 Did not want to take drugs..... 5 Feel better..... 6 Don't believe it is necessary..... 7 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99	→ 35	
29.	***If yes, then ask:*** Did you or your household member pay anything for TB medicines?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
30.	Did anyone watch you or your household member take the medication daily?	Yes..... 1 31 No..... 0 → 32 Don't know..... 88 → 32 No response..... 99 → 32		
31.	***If yes, then ask:*** Who watched you or your household member take the medication?	Health clinic worker..... 1 Socorrista..... 2 Padrinho..... 3 Family or friend (informally, without documenting it)..... 4 Don't know..... 88 No response..... 99		
32.	Did you or your household member complete the course of medication as explained by the health worker?	Yes..... 1 → 34 No (Stopped) ..... 0 33 Still taking medication..... 3 → 35 Don't know..... 88 → 34 No response..... 99 → 34		

33.	***If no, then ask:*** Why did you or your household member stop taking the TB medicine? **Multiple answers are possible**	Feel better……..…… 1 Don't have money…… 2 Drug side effects…… 3 TB drugs are not available…..…… 4 Health facility is too far……. 5 They move to a different place…… 6 They don't believe it's necessary… 7 Difficult to swallow so many pills… 8 Other (specify)…… 77 _____ Don't know…… 88 No response……..…… 99		
34.	What was the outcome of the treatment?	Cured…….. 1 Not cured……. 2 Haven't finished treatment…… 3 Died…… 4 Don't know…… 88 No response……..…… 99		

SECTION D: TUBERCULOSIS PREVENTION				
#	**Questions**	**Responses**	**Skip**	**Answer**
35.	What can you do to decrease the risk of getting of TB? ***Do not prompt.*** ***Multiple answers are possible.***	Wear a mask when contacting patients with TB……..…… 1 Provide good ventilation for workplace & home…… 2 Annual medical examination……. 3 Prevent HIV……. 4 Good nutrition……. 5 Other (specify)…… 77 _____ Don't know…… 88 No response……..…… 99		
36.	What can people with TB do to decrease the risk of transmitting TB? ***Do not prompt.*** ***Multiple answers are possible.***	Adhere to treatment…… 1 Seek medical care if have symptoms…… 2 Cover mouth when coughing……. 3 Have good ventilation in home…… 4 Not spit in public places……. 5 Avoid delay in TB treatment…… 6 Other (specify)……. 77 _____ Don't know…… 88 No response……. 99		

SECTION E: TUBERCULOSIS STIGMA				
#	**Questions**	**Responses**	**Skip**	**Answer**
37.	Have you ever had a friend, neighbor, workmate, or schoolmate with TB?	Yes…… 1 No…… 0 Don't know…… 88 No response……..…… 99		

38.	Would you visit someone with TB in their home?	Yes No Don't know No response	1 0 88 99	→40 39 →40 →40	
39.	***If no, ask:*** Why would you not visit someone with TB in their home?	Fear of disease Other (specify) _____ Don't know No response	1 77 88 99		
40.	If someone has TB, would they try to hide the disease from others?	Yes No Don't know No response	1 0 88 99	41 →42 →42 →42	
41.	***If yes, ask:*** Why would people with TB try to hide the disease from others? ***Multiple answers are possible.***	Because they will lose job Because they will lose friends Because people will avoid them Because no-one will marry them Because people will think they have HIV Other (specify) _____ Don't know No response	1 2 3 4 5 77 88 99		
42.	Do you think it is shameful to have TB?	Yes No Don't know No response	1 0 88 99	43 →44 →44 →44	
43.	***If yes, ask:*** Why do you think it is shameful to have TB? ***Multiple answers are possible.***	This is a disease of unfaithful people Because the person with TB can lose job Because everybody will avoid person with TB Because it means the person is or may be HIV+ Improper cleansing after death Other (specify) _____ Don't know No response	1 2 3 4 5 77 88 99		

SECTION F: HIV KNOWLEDGE, STIGMA, ETC.					
#	**Questions**	**Responses**		**Skip**	**Answer**
44.	Have you heard about the disease called HIV or AIDS?	Yes No Don't know No response	1 0 88 99	45 → End 45 45	
45.	How can you protect yourself from getting HIV?	Abstinence Faithfulness Condom use	1 2 3		

	Multiple answers are possible. ***Do not prompt.***	Avoid skin piercing objects..... 4 Prompt STI treatment..... 5 Being attended to by a trained service provider during pregnancy and delivery..... 6 Infant feeding options..... 7 Use of ART..... 8 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
46.	How is HIV transmitted? ***Multiple answers are possible.*** ***Do not prompt.***	Through the air when coughing..... 1 Through a handshake ..... 2 Sexually transmitted..... 3 Sharing food with infected person... 4 Through blood transfusion..... 5 Through kiss..... 6 Sharing needles/razors..... 7 From mother to child during pregnancy..... 8 Breastfeeding..... 9 Witchcraft..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
47.	Do you know where you can get tested for HIV?	Yes (specify)..... 1 _____ No..... 0 → 49 Don't know..... 88 → 49 No response..... 99 → 49	48	
48.	***If yes, ask:*** How long would it take you to walk to the nearest HIV testing centre from here?	0-15 minutes..... 1 16-30 minutes..... 2 31 minutes to one hour..... 3 More than one hour..... 4 Don't know..... 88 No response..... 99		
49.	I don't want to know the result, but have you ever had an HIV test?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION G: TB-HIV CO-INFECTION				
#	**Questions**	**Responses**	**Skip**	**Answer**
50.	Do you think that someone with HIV should be tested for TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
51.	Do you think that someone with TB should be tested for HIV?	Yes..... 1 No..... 0 Don't know..... 88		

		No response..... 99		
52.	Are you more likely to get TB if you have HIV?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

Thank you. This is the end of the survey. We appreciate you taking the time to respond to our questions. Do you have any questions for me at this time?

INTERVIEWER COMMENTS:
Please record any comments or observations that you feel that are necessary to understand the circumstances in which you conducted this interview:

_____

_____

_____

Time interview Ended _____ (Please also record this time on Page 1)

SUPERVISOR (Questionnaire reviewed) _____ (initial here)

Date _____ Time _____

Annex B: Shangaan Survey Questionnaire

Identificacao de respondente		
Numero ya Questionario		
Vito ra muvutisi		
Vito ra muhlamuli		
Distrito		1=Chicualacuala, 2= Chigubo, 3= Guija, 4= Mabalane, 5= Massangena, 6=Massingir
Grupo #		
Aldeia		
Genero		1=wanuna, 2=wansati
Siku ra swivutiso	……../……../……	
Nkama wo sungula swivutiso	Mixo Madyambu	
Nkama wo heta swivutiso	Mixo Madyambu	

Ntsena ntlawa lowu nga ta endla processamento ya madados eka computador		
	Vito	Siku
Murhangeri wa ntlawa la kambisisaka**:		
La processaraka:		

***Vonelela leswaku tinhlamulo ti tsaliwile kwatsi – Swivutiso hinkwaswo, ni leswaku hinkwako lomu ku fanelaka ku tlula swi landziwile, ni swinwana.*

Seccao A: Matshamelo

Swileleto: Endla swivutiso tani hilaha swi nga tsaliwa ha kona. U nga hlayi tinhlamulo handle ka loko swi kombela. *Marito lawa ma tsaliweke hi xitalic swileleto* swa muvutisi kutani a ma hlayiweli muvutisiwa. Lomu swikombelaka ku tlula landza tani hi leswi kombelisaka xiswona. Tsala tinhlamulo eka xibokisana lexi nyikiweke kumbe lomu swi fanelaka.

#	Swivutiso	Nhlamulo		Yana	Nhlamulo
1	Xana u na malembe mangani yaku velekiwa	Ntanga ……	#		
		A nga tivi ……	#		
		A nga hlamulanga ……	88		
			99		
2	Xana u vile na wona nkateko wo nghena xikola	Ina ……	1	3	
		E-e……	0	~~4~~ →	
		A nga tivi ……	8	~~4~~ →	
		A nga hlamulanga ……	8	4	
			9	→	

			9		
3	Xana u dyondze ku fika eka ntlawa muni exikolweni?	A nga fundhanga …………………….. Primaria………………………………….. Secundaria ……………………………… Nivel superior …………………………… Swinwana…………………………………..	1 2 3 4 5		
4	Xana I vanhu vangani va hanyaka lana ndyangwini	Nhlayo ………………………………………. A nga tivi…………………………………….. A nga hlamulanga ……………………..	# # 8 8 9 9		
5	Yindlu ya wena yini ma quarto ma ngani?	Rinwe …………………………………………….. Mambirhi………………………………………. Manharhu …………………………………….. Mune ni ku tlula ………………………….. A nga tivi……………………………………. A nga hlamulanga ……………………	1 2 3 4 8 8 9 9		
6	Ka leswi u swi tirhaka swa ringana ku hlayisa ndyangu wa wena? *Hlaya tinhlamulo*	A wu ringani ka swakudya ………… Wu ringana katsongo swakudya … Wu ringana swakudya …………….. A nga tivi……………………………………. A nga hlamulanga ……………………	1 2 3 8 8 9 9		

Seccao B: Swikombiso swa Ndere					
#	Swivutiso	Tinhlamulo		Yana	tinhla mulo
7	Eka tinwheti tinharhu leti nga hundza, wena kumbe unwe wa ndyangu wa wena a vile ni swikombiso leswi landzelaka? Hlaya leswi landzelaka: Mukhuhlwana lowu nga ni xikholhola* Ku khohlolela ku tlula mavhiki manharhu Ku hisa miri ku tlula mavhiki manharhu Ngati ka xikhohlola Ku vava ka xifuva Ku karhala, u nga tsakeli swakudya Ku ondza Ku badlha ni vusiku *(Nhlamuselo ya xikhohlola =swi huma ka xifuva, A HI marhi, A HI marhimila*	Ina……………………………………………. E-e……………………………………………. A nga tivi ………………………………. A nga hlamulanga …………………..	1 0 8 8 9 9	8 14 → 14 → 14 →	

	ya tinhopfu) *Tinhlamulo ti nga tlula yinwe.*			
Eka unwana ni unwana loyi a nga ni swikombiso leswi nga tsaliwa ehenhla, endla swivutiso 8-13 u tsala tinhlamulo eka swibokisana lana hansi.				
8	A nga va munhu wa ndyani loyi a nga va ni swikombiso leswi?	Wa nuna..... 1 Wansati 2		

9	Xana a nga va swikombiso muni leswi va nga ve na swona? *Tinhlamulo ti nga tlula yinwe*	E-e..... 0 Mukhuhlwana wa xikhohlola * ... 1 Mukhuhlwana wo tlula mavhiki manharhu ..... 2 Hisa miri kutlula mavhiki manharhu ..... 3 Ngati eka xikhohlola ..... 4 Vavisa xifuva ..... 5 Ku karhala, u nga tsakeli kudya.. 6 Ku ondza ..... 7 Badlha nivusiku ..... 8 Swinwane..... ..... 7 A nga tivi..... 7 A nga hlamulanga 8 8 9 9		
10	Xana munhu loyi a tsame a lavetela ku laphiwa a xibedlela loko a vone swikombiso leswi?	Ina ..... 1 E-e ..... 0 A nga tivi..... 8 A nga hlamulanga 8 9 9	11 ~~13~~ → ~~13~~ → 13 →	
11	Xana munhu loyi a lavetele ku pfuniwa exibelhela endzaku ka nkarhi muni na a sungule ku vabya?	Endzeni ka vhiki..... 1 Linwe kumbe mavhiki mambire..... 2 Mavhiki manharhu ku fika nweti..... 3 Nweti kumbe tinweti timbiri..... 4 Kutlula tinweti tinharhu..... 5		
12	Hikwalaho ka yini a munhu loyi a hlwelile ku laphiwa a xibehlela? *(Mavonela ya tinhlamulo ta xiv.12 ni 13 ta fana)* *U nga khutazi tinhlamulo.*	A titwile na antswa..... 1 Ku pfumala a male yo ya ka dokodela..... 2 Ku ringeta ku laphiwa a kaya..... 3 A m'pfuka wu lehile..... 4 Ku kala ku tshemba kumbe ku		

13	Xana loko munhu loyi a nga lavetelanga ku pfuniwa exibedlela, a nga va a li hi mhaka muni? *(Tinhlamulo ta xiv.12 ni 13 ta fana)* *U nga khutazi tinhlamulo.*	chava va tirhi va xibedhlela…… 5 Ku chava kuva ni mavabyi yo tika 6 Ku va ni tingana ta ku txepetiwa hikwalaho ka TB kumbe HIV…… 7 Ku pfumala a nkama…… 8 Ku chava leswi swi taka ndzaku ka mavabyi lawa…… 9 Swinwana(hlamusela)…… 7 A nga tivi…… 7 A nga hlamulanga …… 8 8 9 9		

Q8. Wanuna/wansati	Q9. swikombiso	Q10. Kulaphiwa/	Q11.nkarhi wo laphiwa ?	Q12. Ku hlwela?	Q13. A kuna tratamento? Tx

Seccao C: Vutivi hi tlhelo la ndere				
#	Swivutiso	Tinhlamulo	Yana	tinhlamulo
14	Xana u tshama u twa hi ta ndere?	Ina …… 1 E-e …… 0 A nga tivi…… 8 A nga hlamulanga …… 8 9 9	15 ~~23~~ → ~~23~~ → 23 →	

15	Xana hi swihi swikombiso leswi nga kombaka leswaku munhu a ni ndere? *Tinhlamulo to tlula yinwe.* *U nga khutazi tinhlamulo.*	Ku khohlola……..…… 1 Ku hisa miri……... 2 Mukhuhlwana wa xikhohlola..… 3 ku khohlola ku tlula mavhiki manharhu……... 4 Ngati eka xikhohlola …… 5 ku kala ku navela swakudla…… 6 ku vava ka xifuva…… 7 Ku hela ntamu,u nga tsakeli kudya 8 Ku ondza…… 9 Timbhiapho eka nhamu ….…. 1 Ku badhla nivusiku…….…… 0 Swinwana(hlamusela)…….…… 1 A nga tivi …….…… 1 Anga hlamulanga ……. 7 7 8 8 9 9		
16	A ndere yi tlulela hi ndlela yihi? *Tinhlamulo to tlula yinwe.* *U nga khutazi tinhlamulo* *Tsala swinwana ni swinwana leswi vanhu va khomelelaka ka swona ni leswi hi ntumbuluko va pfumelaka ka swona.*	Hi moya loko munhu a khohlola…… 1 Hi ngati…… 2 Hi ku khomana mavoko…… 3 Hi ndlela ya masangu……..... 4 Ku dya swinwe ni loyi a vabyaka…. 5 Ku velekiwa na wona …… 6 Hi ku tswontswana ……..…… 7 Ndzaku ka ku ngheniwa hi xirhami…….. 8 Hi ku lumiwa hi nsuna…….. 9 Hi ku fa ka unwe wa ndyangu … 1 Swinwana(hlamusela)…….…… 0 A nga tivi …… 7 A nga hlamulanga ……. 7 8 8 9 9		
17	Xana u tshame u twa mahungu hi tlelo la ndere eka 6 wa tinwheti leti nga hundza?	Ina…… 1 E-e ……..…… 0 A nga tivi …… 8 A nga hlamulanga ……. 8 9 9	18 ~~19~~ → ~~19~~ → 19 →	

18	*Loko a ku ina, vutisa:* Xana u ma twe kwihi mahungu ya mavabyi ya ndere eka tinwheti ta 6 leti nga hundza? *U nga khutazi tinhlamulo*	Vanghana, vanhu, maxaka …… 1 Dokodela kumbe Enfermeira…….…… 2 Vanwana vatirhi va xibelhela…... 3 Folheto, panfletos ……..…… 4 Radio/TV/ma jornal ….…… 5 Ka vavoluntaria…..…… 6 Ndzawulo ya vudaho …… 7 Mufundise .....…….. 8 Vanwana, (Hlamusela) ..…… 77 _____ A nga tivi ……..…… 88 A nga hlamulanga.....…… 99		
19	Hi mavonele ya wena, yi nga va ndere yi laphiwa?	Ina …… 1 E-e ..…… 0 A nga tivi…..…… 88 A nga hlamulanga .....…… 99		
20	Mirhi ya ndere ya hakeliwa kumbe mahala?	Ina …… 1 E-e …… 0 A nga tivi …… 88 A nga hlamulanga ….…… 99		
21	Loko u vile ni swikombiso swa ndere a wu ta ya laphiwa kwihi *Tinhamulo to tlula yinwe.*	Centro de Saude…… Socorrista…… 1 Carmelo…… 2 Nyanga…… 3 Farmacia…… 4 Profeta/Mazioni(prophet or Zionist) 5 Vanwana (hlamusela)_____ 6 A nga tivi ……. 77 A nga hlamulanga……. 88 99		
22	Xana I nga va nkarhi muni u nga tekaka hi ku famba hi minenge u ya C.S ya le kusuhi leyi kambelaka ndere? _____? *Tsala eka ndhawu leyi nga siyiwa vito la xibelhela xa le kusuhi xa ku kambela ndere*	0-15 wa timeneti…… 1 16-30 wa timeneti…… 2 31wa timeneti ku fika awara…… 3 Ku tlula awara…… 4 A nga tivi …… 88 A nga hlamulanga ….…… 99		

Seccao D: Malaphele ya ndere

#	Swivutiso	Tinhlamulo		Yana	tinhla mulo
23	Xana wena kumbe unwe wa ndyangu wa wena mi nga va mi hlamuseliwile hi mutirhi wa xibelhela leswaku mi ni ndere eka lembe leri nga hundza?	Ina	1	24	
		E-e	0	~~35~~ →	
		A nga tivi	8	~~35~~ →	
		A nga hlamulanga	8	35	
			9	→	
			9		
24	*Loko a ku ina, vutisa vutisa:* Xana i swikambelo muni leswi va xibelhela va swi endleke leswaku va tsumbula leswaku vanhu lava va na ndere	Ku kambela xikhohlola.....	1		
		Mufoto wa xifuva	2		
		Swinwana (hlamusela).....	3		
		A nga tivi.....	4		
		A nga hlamulanga	5		
25	Swi nga va swi teke nkarhi muni ku kuma a nhlamulo ya swikambelo swa wena kumbe vanwana va ndyangu wa wena?	Siku lolelo.....	1		
		Hansi ka vhiki.....	2		
		Swi tekile vhiki.....	3		
		2-3 wa mavhiki.....	4		
		Nweti kumbe ku tlula.....	5		
		Swinwana (hlamusela).....	7		
		A nga tivi	7		
		Anga hlamulanga	8		
			8		
			9		
			9		
26	Xana wena kumbe va ndyangu wa wena mu hakele nchumu ku kambeliwa ndere?	Ina	1		
		E-e	0		
		A nga tivi	3		
		A nga hlamulanga	4		
27	Xana wena kumbe va ndyangu wa wena mu nyikiwile murhi wa ndere?	Ina	1	29	
		E-e	2	~~28~~ →	
		A nga tivi	8	~~35~~ →	
		A nga hlamulanga	8	35	
			9	→	
			9		
28	Loko a ku e-e, vutisa Hikwalaho ka yini wena kumbe vandyangu wa wena va nga nyikiwanga mirhi?	A ku nga na mirhi	1	)	
		A wu durha	2	)	
		Mirhi a yi nyikeliwile	3	)	
		A ni vuyanga ni teka	4	)	
		A ni nga swi lavi ku teka mirhi.....	5	)	
		A swi antswa.....	6	)	
		A ni kholwanga leswaku a swi laveka	7	) 35	
		Swinwana (tsala) _____	7	)	
		A nga tivi	7	)	
		A nga hlamulanga	8	)	
			8	)	
			9	)	
			9	)	

29	*Loko a ku ina, vutisa:* Xana wena kumbe va dyangu wa wena mu hakele nchumu ku kuma a murhi?	Ina ..... 1 E-e ..... 0 A nga tivi ..... 8 A nga hlamulanga 8 9 9		
30	Xana ku nga va ni loyi a ku vonelelaka wena kumbe va ndyangu wa wena loko mi phuza murhi?	Ina ..... 1 E-e ..... 0 A nga tivi ..... 8 A nga hlamulanga 8 9 9	31 ~~32~~ → ~~32~~ → 32 →	
31	*Loko a ku ina, vutisa:* I mani loyi a ku voneleleka kumbe a vonelela va ndyangu loko va phuza murhi?	Mutirhi wa xibelhela ..... 1 Socorrista..... 2 Padrinho..... 3 Va ndyangu / Munghana..... 4 Voluntaria(Volunteer)..... 5 A nga tivi ..... 8 A nga hlamulanga 8 9 9		
32	Xana wena kumbe va ndyangu wa wena mi phuze murhi nkarhi wo ringana tani hi leswi mi nga hlamuselisiwa swona hi vatirhi va xibelhela?	Ina ..... 1 E-e (hi tsemerisile) ..... 0 A ha phuza murhi ..... 3 A nga tivi ..... 8 A nga hlamulanga 8 9 9	~~34~~ → 33 ~~35~~ → ~~34~~ → 34 →	
33	*Loko a ku e-e, vutisa:* Hikwalawo ka yini wena kumbe va ndyangu wa wena mi nyimile ku phuza murhi wa ndere? Tinhlamulo ti nga tlula yinwe	Ku twa ku antswa ..... 1 A hi na male ..... 2 Murhi wa hi vabyisa ..... 3 Mirhi ya ndere a yi kumeki ..... 4 Xibedlhela xi le kule swinene ..... 5 Va rhurha va ya eka tindhawu tinwana ..... 6 A va kholwi leswaku swa laveka 7 Swa karhata ku n'wa makinina yo tala ..... 8 Swinwana (Hlamusela..... 7 7 _____ A nga tivi..... A nga hlamulanga 8 8 9		

			9		
34	Yi ve yihi mihandzu/nhlamulo yaku laphiwa?	Ni hanyile…….. A ni hanyanga…….. Ani se heta ku laphiwa…… A file…… A nga tivi …… A nga hlamulanga …….	1 2 3 4 5 6		

Seccao E: Ku vikela ndere				
#	Swivutiso	Tinhlamulo	Yana	tinhlamulo
35	U nga endla yini ku hunguta nghozi ya kuva u khomiwa hi ndere? *U nga khutazi tinhlamulo.* *Tinhlamulo ti nga tlula yinwe.*	Pfala tinhopfu hi mascara loko u hlangana ni va ndere ……..…… Ku hungisa moya wa kahle etindhaweni ta ntirho hambi kaya.. Kambeliwa lembe ni lembe hi dokodela …….. Vikela HIV …….. Kuva ni madyele ya kwatsi …….. Swinwana (hlamusela …… _____ A nga tivi…… A nga hlamulanga …….	1 2 3 4 5 7 7 8 8 9 9		
36	Xana vanhu va nga ni ndere va nga endla yini ku hunguta nghozi ya ku tluleta vanwani mavabyi? *U nga khutazi tinhlamulo.* *Tinhlamulo ti nga tlula yinwe.*	Va fanele va laphiwa …… Loko va ni swikombiso va lavetela ku pfuniwa hi va dokodela…… Pfala nomo loko u khohlola …….. Yindlu yi fanela yi hunga moya…. U nga tshwuteli marhi eka tindhawu ku famba-fambaka vanhu ……..…….. Vikela ku hlwela ku sungula ku laphisa ndere ……..…… Swinwana (hlamusela)…… _____ A nga tivi …… A nga hlamulanga …….	1 2 3 4 5 6 7 7 8 8 9 9		

Seccao F: Ku txepetiwa hikwalaho ka ndere				
#	Swivutiso	Tinhlamulo	Yana	tinhlamulo

37	Xana u tshame u ni munghana, muyakelani, mutirhisani, kumbe munhu mi dyondzaka swinwe loyi a nga ve ni ndere?	Ina ..... 1 E-e ..... 2 A nga tivi ..... 3 A nga hlamulanga 4		
38	Xana munhu loyi a nga ni ndere u nga mu pfuxela ekaya ka yena?	Ina ..... 1 E-e ..... 0 A nga tivi ..... 8 A nga hlamulanga 8 9 9	~~40~~ → 39 ~~40~~ → 40 →	
39	*Loko a ku e-e, vutisa:* Hikwalaho ka yini a wu nga mu pfuxeli munhu loyi a nga ni ndere ekaya ka yena?	Tshava mavabyi ..... 1 Swinwana (hlamusela)..... 7 7 _____ A nga tivi ..... A nga hlamulanga 8 8 9 9		
40	Loko munhu a ni ndere, va nga ringeta ku fihlela mavabyi vanwana?	Ina ..... 1 E-e ..... 0 A nga tivi ..... 8 A nga hlamulanga 8 9 9	41 ~~42~~ → ~~42~~ → 42 →	
41	*Loko a ku ina, vutisa:* Xana hikwalaho ka yini vanhu va ndere va nga fihlela vanwana mavabyi? *Tinhlamulo ti nga tlula yinwe.*	Va nga heleliwa hi ntirho..... 1 Va nga luza vanghana ..... 2 Vanhu va nga va papalata ..... 3 A nga kona loyi a nga mu chadaka 4 Vanhu va nga ehleketa leswaku va ni HIV/SIDA..... 5 Swinwana (hlamusela)..... 7 7 _____ A nga tivi ..... A nga hlamulanga 8 8 9 9		
42	Xana u ehleketa leswaku swini tingana ku va ni ndere?	Ina..... 1 E-E ..... 0 Anga tivi ..... 8 A nga hlamulanga 8 9 9	43 ~~44~~ → ~~44~~ → 44 →	

43	*Loko a ku ina, vutisa:* Hi kwalaho ka yini u ehleketa leswaku swi ni tingana? *Tinhlamulo ti nga tlula yinwe.*	Mavabyi ya lava nga tshembekangiki ..... 1 Hikuva muvabyi a nga heleliwa hi ntirho ..... 2 Hinkwavo vanhu vata nwi nyenya muvabyi wa ndere ..... 3 Hileswaku va nga mu pimisela SIDA ..... 4 Va nga va va nga txinganga kwatsi ndzhaka … 5 Swinwana (hlamusela)..... 7 _____ 7 A nga tivi..... 8 A nga hlamulanga 8 9 9		

Seccao G: Vutivi hi tlelo la HIV, Ku txepetiwa, ni swinwanac.				
#	Swivutiso	Tinhlamulo	Yana	tinhlamulo
44	U tsame u twa hi ta HIV kumbe SIDA?	Ina..... 1 E-e ..... 0 A nga tivi ..... 8 A nga hlamulanga 8 9 9	45 → End 45 45	
45	Unga ti vikelisa ku yini leswaku u nga kumi HIV? *Tinhlamulo ti nga tlula yinwe.* *U nga khutazi.*	Fularhela masangu ..... 1 Ku tshembeka..... 2 Tirhisa xitlhango ..... 3 Vikela switirho leswi tsemaka mirhi 4 Hatla ku laphisa mavabyi ya masangu ..... 5 Loko u na khwiri laphiwa u tlhela u velekisiwa hi munhu loyi a nga dyondzisiwa ..... 6 U nga hlawula tindlela ta ku hambana-hambana ta madyisela ya nwana ..... 7 Ku phuza murhi wa Anti-retroviral 8 Swinwana (hlamusela)..... 7 7 _____ A nga tivi ..... 8 A nga hlamulanga 8 9 9		
46	Xana munhu a yi kumisa ku yini HIV? *Tinhlamulo ti nga tlula yinwe.*	Hi moya loko va khohlola ..... 1 Hi ku qhevulana ..... 2 Hi masangu..... 3 Ku dya swinwe ni munhu loyi a		

	U nga khutazi.	nga ni xitsongua-tsonguana ..... 4 Ku cheliwa ngati ..... 5 Hi ku tswontswana ma kiss..... 6 Ku tirhiselana tinayithi/swisinguana ..... 7 Mamana a nga tluleta nwana loko a ni khwirhi ..... 8 Hi ku yanwisa ..... 9 Hi vuloyi ..... 10 Swinwana (hlamusela)..... 97 _____ 77 A nga tivi..... 88 A nga hlamulanga 99		
47	Wa swi tiva leswaku u nga kambeliwa kwini a HIV?	Ina (hlamusela)..... 1 E-e..... 0 → 48 A nga tivi ..... 88 → A nina hlamulo..... 99 → 49 49 49		
48	*Loko a ku ina, vutisa:* I nkama muni u nga tekaka ku famba hi minenge u ya fika eka ndhawu ya le kusuhi lana u nga kambeliwaka kona?	0-15 minutos..... 1 16-30 minutos..... 2 31 minutos ku fika awara ..... 3 Kutlula awara ..... 4 A nga tivi ..... 88 A nga hlamulanga 99		
49	A ni naveli ku tiva nhlamulo ya wena ya xikambelo xa HIV, xana u tshame u endla xikambelo xexo ke?	Ina..... 1 E-e ..... 0 Anga tivi ..... 88 A A nga hlamulanga 99		

Seccao H: Ku fambelana ka TB ni HIV (Co-Infection)				
#	Swivutiso	Tinhlamulo	Yana	tinhlamulo
50	Xana u ehleketa leswaku munhu a nga ni HIV a a fanela a kambeliwa ndere?	Ina..... 1 E-e ..... 0 Anga tivi ..... 88 A nga hlamulanga 99		
51	Xana u ehleketa leswaku munhu loyi a nga ni ndere a a fanele ku kambeliwa HIV?	Ina ..... 1 E-e ..... 0 A nga tivi 88		

		A nga hlamulanga 8 9 9		
52	Swi nga ku olovela ku kuma ndere loko u ni HIV?	Ina..... 1 E-e..... 0 A nga tivi..... 8 A nga hlamulanga 8 9 9		

Ha khensa. Loku I ku hela ka swivutiso. Hi khensa nkama lowu u tinyikeke ku hlamula swivutiso leswi. Xana u nga va ni xivutiso u lavaka ku endla sweswi?

Comentarios da entrevistadora:
Tsala swinwana ni swinwana kumbe ma observacao, leswi u twaka leswaku swa laveka ku va hi twisisa leswi humeleleke loko u li karhi u endla swivutiso leswi:

_____

_____

_____

_____

_____

_____

Nkarhi wo heta swivutiso _____ (Tsala nkarhi lowu ni le ka pagina 1)

SUPERVISOR (la endlaka revisao ya questionario) _____ (Assinatura)

Siku _____ Nkama _____

Annex C: Midterm KPC Raw Data Tables

Gender

	Frequency	Percent	95% CI
Male	68	22.7	18.1 - 27.8
Female	232	77.3	72.2 - 81.9
Total	300	100	

Q1. Age

Age Range	Frequency	Percent	95% CI
>=10 - <=19	12	4.0	2.1 - 6.9
>=20 - <=29	100	33.3	28.0 - 39.0
>=30 - <=39	74	24.7	19.9 - 29.9
>=40 - <=49	38	12.7	9.1 - 17.0
>=50 - <=59	26	8.7	5.7 - 12.4
>=60	14	4.7	2.6 - 7.7
Don't know	36	12.0	8.5 – 16.2
Total	300	100	

Median= 33.5 years; Mean=34.8 years; SE=12.4; Range: 14 - 74

Q2. Have you ever attended school?

	Frequency	Percent	95% CI
No	112	37.3	31.8 – 43.1
Yes	188	62.7	56.9 – 68.2
Unknown	0	0	0.0 – 1.2
Total	300	100	

Q3. What is the highest grade or level of school you have completed?

	Frequency	Percent	95% CI
No school	112	37.3	31.8 – 43.1
Primary school	150	50.0	44.2 – 55.8
Secondary school	37	12.3	8.8 – 16.6
Post-secondary school	1	0.3	0.0 – 1.8
Total	300	100	

Q4. How many people live in your household?

	Frequency	Percent	95% CI
1	4	1.3	0.4 – 3.4
2	19	6.3	3.9 – 9.7
3	26	8.7	5.7 – 12.4
4	25	8.3	5.5 – 12.1
5	32	10.7	7.4 – 14.7
6	36	12.0	8.5 – 16.2
7	31	10.3	7.1 – 14.3
8	31	10.3	7.1 – 14.3
9	22	7.3	4.7 – 10.9
10	18	6.0	3.6 – 9.3
11	9	3.0	1.4 - 5.6
12	9	3.0	1.4 – 5.6
13	10	3.3	1.6 – 6.0
14	3	1.0	0.2 – 2.9
15	9	3.0	1.4 – 5.6
16	6	2.0	0.7 – 4.3
17	1	0.3	0.0 – 1.8
19	3	1.0	0.2 – 2.9
20	1	0.3	0.0 – 1.8
22	1	0.3	0.0 – 1.8
23	1	0.3	0.0 - 1.8
25	2	0.7	0.1 – 2.4
35	1	0.3	0.0 – 1.8
Total	300	100	

Mean=7.6; SE=4.5; Range: 1 - 35

Q5. How many rooms are in your house?

	Frequency	Percent	95% CI
1	184	61.33	55.6 – 66.9
2	64	21.33	16.8 – 26.4
3	38	12.67	9.1 – 17.0
4	12	4.00	2.1 – 6.9
7	1	0.33	0.0 – 1.8
8	1	0.33	0.0 – 1.8
Total	300	100.00	

Mean = 1.6; SE = 0.98; Range = 1-8

Q6. Is your household income usually...

	Frequency	Percent	95% CI
Not enough for food	79	26.33	21.4 – 31.7
Barely enough for food	148	49.33	43.5 – 55.1
Enough for food	73	24.33	19.6 – 29.6
Don't know	0	0	0.0 – 1.2
Total	300	100	

Q7. Have you or anyone in your household had any of the following symptoms in the last three months?

	Frequency	Percent	95% CI
No	243	81.00	76.1 – 85.3
Yes	56	18.67	14.4 – 23.5
Don't know	1	0.33	0.0 – 1.8
Total	300	100	

Q8A. What gender was the person who had these symptoms?

	Frequency	Percent	95% CI
Male	19	34.55	22.2-48.6
Female	36	65.45	51.4-77.8
Total	55	100	

Q9. Which symptoms did he/she have?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
None	0	0	0.0-6.5	300	100.00	98.8-100.0
Coughing with sputum	29	52.73	38.8-66.3	271	90.33	86.4-93.4
Cough for over 3 wks	15	27.27	16.1-41.0	285	95.00	91.9-97.2
Increasing fever for over 3 wks	10	18.18	9.1-30.9	290	96.67	94.8-98.8
Blood in sputum	8	14.55	6.5-26.7	292	97.33	88.7-95.1
Pain in chest	23	41.82	28.7-55.9	277	92.33	91.5-96.9
Total weakness	16	29.09	17.6-42.9	284	94.67	91.9-97.2
Weight loss	15	27.27	16.1-41.0	285	95.00	90.7-96.4
Night sweats	18	32.73	20.7-46.7	282	94.00	98.2-100.0
Don't know	1	1.82	0.0-9.7	299	99.67	98.8-100.0
No response	0	0	0.0-6.5	300	100.00	

Q10. Did this person seek medical attention for his or her symptoms?

	Frequency	Percent	95% CI
No	6	11.11	4.1-22.2
Yes	48	88.89	75.5-94.7
Total	54	100.00	

Q11. If yes, how long after getting sick did he/she seek medical attention?

	Frequency	Percent	95% CI
Within one week	24	48.98	34.4-63.7
One to two weeks	11	22.45	11.8-36.6
Three weeks to one month	6	12.24	4.6-24.8
One to two months	6	12.24	4.6-24.8
More than three months	2	4.08	0.5-14.0
Total	49	100.00	

Q12. Why did he/she wait to seek medical attention?

	Frequency	Percent	95% CI
Felt Better	13	27.66	15.6-42.6
No money	6	12.77	4.8-25.7
Trying home treatment	4	8.51	2.4-20.4
Was too far to travel	0	0	0.0-7.5
Do not trust or fear health workers	0	0	0.0-7.5
Fear of having a serious illness	0	0	0.0-7.5
Fear of stigma against TB or HIV	0	0	0.0-7.5
Too busy	0	0	0.0-7.5
Not aware of consequences	1	2.13	0.1-11.3
Other	23	48.94	34.1-63.9
Don’t know	0	0	0.0-7.5
No response	0	0	0.0-7.5
Total	47	100.00	

Q13. If no medical treatment was sought, why?

	Frequency	Percent	95% CI
Felt Better	8	21.62	9.8-38.2
No money	3	8.11	1.7-21.9
Trying home treatment	2	5.41	0.7-18.2
Was too far to travel	2	5.41	0.7-18.2
Do not trust or fear health workers	0	0	0.0-9.5
Fear of having a serious illness	0	0	0.0-9.5
Fear of stigma against TB or HIV	0	0	0.0-9.5
Too busy	1	2.70	0.1-14.2
Not aware of consequences	1	2.70	0.1-14.2

Other	18	48.65	31.9-65.6
Don't know	2	5.41	0.7-18.2
No response	0	0	0.0-9.5
Total	37	100.00	

Q14. Have you ever heard of the disease called TB?

	Frequency	Percent	95% CI
No	16	5.33	3.1 – 8.5
Yes	284	94.67	91.5 – 96.9
Don't know	0	0	0.0 – 1.2
Total	300	100	

Q15. What symptoms can show that a person has TB? (Based on those who had heard of TB)

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Coughing	200	70.42	64.7-75.7	84	29.58	24.3-35.3
Fever	52	18.31	14.0-23.3	232	81.69	76.7-86.0
Coughing with Sputum	79	27.82	22.7-33.4	205	72.18	66.6-77.3
Coughing for longer than 3 weeks	54	19.01	14.6-24.1	230	80.99	75.9-85.4
Cough with blood in sputum	71	25.00	20.1-30.5	213	75.00	69.5-79.9
Loss of appetite	13	4.58	2.5-7.7	271	95.42	92.3-97.5
Pain in the chest	56	19.72	15.6-25.2	228	80.28	75.2-84.7
Total weakness (inertia)	57	20.07	15.6-25.2	227	79.93	74.8-84.4
Weight loss	140	49.30	43.3-55.3	144	50.70	44.7-56.7
Swollen glands	2	0.70	0.1-2.5	282	99.30	97.5-99.9
Night Sweats	24	8.45	5.5-12.3	260	91.55	87.7-94.5
Other	28	9.86	6.7-13.9	256	90.14	86.1-93.3
Don't know	10	3.52	1.7-6.4	274	96.48	93.6-98.3
No response	0	0	0.0-1.2	284	100	98.7-1.0

Q15. What symptoms can show that a person has TB? (Based on all respondents)

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Coughing	200	66.67	61.0-72.0	100	33.33	28.0-39.0
Fever	52	17.33	13.2-22.1	248	82.67	77.9-86.8
Coughing with Sputum	79	26.33	21.4-31.7	221	73.67	68.3-78.6
Coughing for longer than 3 weeks	54	18.00	13.8-22.8	246	82.00	77.2-86.2
Cough with blood in sputum	71	23.67	19.0-28.9	229	76.33	71.1-81.0
Loss of appetite	13	4.33	2.3-7.3	287	95.67	92.7-97.7
Pain in the chest	56	18.67	14.4-23.5	244	81.33	76.5-85.6

Total weakness (inertia)	57	19.00	14.7-23.9	243	81.00	76.1-85.3
Weight loss	140	46.67	40.9-52.5	160	53.33	47.5-59.1
Swollen glands	2	0.67	0.1-2.4	298	99.33	97.6-99.9
Night Sweats	24	8.00	5.2-11.7	276	92.00	88.3-94.8
Other	28	9.33	6.3-13.2	272	90.67	86.8-93.7
Don't know	10	3.33	1.6-6.0	290	96.67	94.0-98.4
No response	0	0	0.0-1.2	300	100.00	98.8-1.0

Q16. How is TB transmitted? (More than one answer allowed) Of those who heard of TB:

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Through the air by coughing	184	64.79	58.9-70.3	100	35.21	29.7-41.1
Through blood	12	4.23	2.2-7.3	272	95.77	92.7-97.8
Though a handshake	3	1.06	0.2-3.1	281	98.94	96.9-99.8
Sexually transmitted	33	11.62	8.1-15.9	251	88.38	84.1-91.9
Sharing food with infected person	29	10.21	6.9-14.3	255	89.79	85.7-93.1
You are born with it	5	1.76	0.6-4.1	279	98.24	95.9-99.4
Through a kiss	4	1.41	0.4-3.6	280	98.59	96.4-99.6
After getting a cold	2	0.70	0.1-2.5	282	99.30	97.5-99.9
From mosquito bite	0	0	0.0-1.2	284	100.00	98.7-1.0
Through the death of someone	51	17.96	13.7-22.9	233	82.04	77.1-86.3
Other	33	11.62	8.1-15.9	251	88.38	84.1-91.9
Don't know	23	8.10	5.2-11.9	261	91.90	99.1-94.8
No response	0	0	0.0-1.2	284	100.00	98.7-1.0

Q16. How is TB transmitted? (More than one answer allowed) Of all survey respondents:

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Through the air by coughing	184	61.33	55.6-66.9	116	38.67	33.1-44.4
Through blood	12	4.00	2.1-6.9	288	96.00	93.1-97.9
Though a handshake	3	1.00	0.2-2.9	297	99.00	97.1-99.8
Sexually transmitted	33	11.00	7.7-15.1	267	89.00	84.9-92.3
Sharing food with infected person	29	9.67	6.6-13.6	271	90.33	86.4-93.4
You are born with it	5	1.67	0.5-3.8	295	98.33	96.2-99.5
Through a kiss	4	1.33	0.4-3.4	296	98.67	96.6-99.6
After getting a cold	2	0.67	0.1-2.4	298	99.33	97.6-99.9
From mosquito bite	0	0	0.0-1.2	300	100.00	98.8-1.0

Through the death of someone	51	17.00	12.9-21.7	249	83.00	78.3-87.1
Other	33	11.00	7.7-15.1	267	89.00	84.9-92.3
Don't know	23	7.67	4.9-11.3	277	92.33	88.7-95.1
No response	0	0	0.0-1.2	300	100.00	98.8-1.0

Q17. Have you received any information about TB in the last 6 months?

	Frequency	Percent	95% CI
No	95	33.45	28.0-39.3
Yes	188	66.20	60.4-71.7
Don't know	1	66.20	0.0-1.9
No response	0	0	0.0-1.2
Total	284	100.00	

Q18. If yes, from which sources did you receive information?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Friends, acquaintances, or relatives	47	25.00	19.0-31.8	141	75.00	68.2-81.0
Doctors or nurses	30	15.96	11.0-22.0	158	84.04	78.0-89.0
Other medical workers	26	13.83	9.2-19.6	162	86.17	80.4-90.8
Booklet, leaflets	0	0	0.0-1.9	188	100.00	98.1-1.0
Radios/ TV/ Newspapers	15	7.98	4.5-12.8	173	92.02	87.2-95.5
Volunteers	110	58.51	51.1-65.6	78	41.49	34.4-48.9
Health Department	6	3.19	1.2-6.8	182	96.81	93.2-98.8
Pastor	3	1.60	0.3-4.6	185	98.40	95.4-99.7
Other	7	3.72	1.5-7.5	181	96.28	92.5-98.5
Don't know	2	1.06	0.1-3.8	186	98.94	96.2-99.9
No response	0	0	0.0-1.2	188	100.00	98.1-1.0

Q19. In your opinion, is TB curable? (Including all survey respondents)

	Frequency	Percent	95% CI
Yes	275	91.67	87.9-94.5
No	4	1.33	0.4-3.4
NA (Skip)	17	5.67	3.3-8.9
Don't Know	4	1.33	0.4-3.4
Total	300		

Q19. In your opinion, is TB curable? (Of those who had heard of TB)

	Frequency	Percent	95% CI
No	4	1.41	0.4-3.6
Yes	275	96.83	94.1-98.5

NA (Skip)	1	0.35	0.0-1.9
Don't know	4	1.41	0.4-3.6
No response	0	0	0.0-1.2
Total	284	100.00	

Q20. Is TB medicine free of charge? (Including all survey respondents)

	Frequency	Percent	95% CI
Yes	70	23.33	18.7-28.5
No	154	51.33	45.5-57.1
NA (Skip)	16	5.33	3.1-8.5
Don't know	60	20.00	15.6-25.0
Total	300	100.00	

Q20. Is TB medicine free of charge? (Of those who had heard of TB)

	Frequency	Percent	95% CI
No	154	54.23	48.2-60.1
Yes	70	24.65	19.7-30.1
Don't know	60	21.13	16.5-26.3
No response	0	0	0.0-1.2
Total	284	100.00	

Q21. If you had TB symptoms where would you go to get care? (Including all survey respondents)

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Health Center	266	88.67	84.5-92.0	34	11.33	8.0-15.5
Socorrista	0	0	0.0-1.2	300	100.00	98.8-1.0
TB Hospital (Carmelo)	33	11.00	7.7-15.1	267	89.00	84.9-92.3
Traditional Doctor	7	2.33	0.9-4.7	293	97.67	95.3-99.1
Pharmacy	0	0	0.0-1.2	300	100.00	98.8-1.0
Spiritual Healer/ Prophet or Zionist	2	0.67	0.1-2.4	298	99.33	97.6-99.9
Other	3	1.00	0.2-2.9	297	99.00	97.1-99.8
Don't know	2	0.67	0.1-2.4	298	99.33	97.6-99.9
No response	0	0	0.0-1.2	300	100.00	98.8-1.0

Q22. How long would it take you to walk to (the nearest TB testing facility) from here?

	Frequency	Percent	95% CI
0-15 minutes	61	20.33	15.9-25.3
16-30 minutes	32	10.67	7.4-14.7
31 minutes to one hour	37	12.33	8.8-16.6
More than one hour	123	41.00	35.4-46.8

Don't know	31	10.33	7.1-14.3
No Response	16	5.33	3.1-8.5
Total	300	100.00	

Q23. Have you or any of your household members been told by a health care worker that they have TB in the last year?

	Frequency	Percent	95% CI
No	270	90.00	86.0-93.2
Yes	28	9.33	6.3-13.2
Don't know	2	0.67	0.1-2.4
Total	300	100.00	

Q24. If yes, what test did health center workers do to find that you or your household member was diagnosed with TB?

	Frequency	Percent	95% CI
Sputum test	22	78.57	59.0-91.7
X-ray	6	21.43	8.3-41.0
Other	0	0	0.0-1.2
Don't know	0	0	0.0-1.2
No response	0	0	0.0-1.2
Total	28	100	

Q25. How long did it take before you or your household member got the test results?

	Frequency	Percent	95% CI
Same day	11	39.29	21.5-59.4
Less than one week	10	35.71	18.6-55.9
About one week	2	7.14	0.9-23.5
2-3 weeks	2	7.14	0.9-23.5
A month or more	3	10.71	2.3-28.2
Other	0	0	0.0-1.2
Don't know	3	10.71	2.3-28.2
No response	0	0	0.0-1.2
Total	28	100	

Q26. Did you or your household member pay anything to find out you had TB?

	Frequency	Percent	95% CI
No	26	92.86	76.5-99.1
Yes	0	0	0.0-1.2
Don't know	2	7.14	0.9-23.5
Total	28	100.00	

Q27. Did you or your household member receive medication to treat TB?

	Frequency	Percent	95% CI
Yes	27	96.43	81.7-99.9
No	1	3.57	0.1-18.3
Don't know	0	0	0.0-1.2
Total	28	100.00	

Q28. If no, why did you or your household member not receive drugs?

	Frequency	Percent	95% CI
Drugs not available	0	0	0.0-1.2
No	0	0	0.0-1.2
Don't know	1	100.00	2.5-100
Total	1	100.00	

Q29. If yes to #27, did you or your household member pay anything for the TB medication?

	Frequency	Percent	95% CI
No	26	96.30	81.0-99.9
Yes	1	3.70	0.1-19.0
Don't know	0	0	0.0-1.2
Total	27	100.00	

Q30. Did anyone watch you or your household member take the medication daily?

	Frequency	Percent	95% CI
No	2	7.41	0.9-24.3
Yes	25	92.59	75.5-99.1
Total	27	100.00	

Q31. If yes, who watched you or your household member take the medication?

	Frequency	Percent	95% CI
Health clinic worker	2	8.00	1.0-26.0
Socorrista	0	0	0.0-13.7
Padrinho	7	28.00	12.1-49.4
Family or friend	12	48.00	27.8-68.7
Volunteer	4	16.00	4.5-36.1
Don't know	0	0	0.0-13.7
No response	0	0	0.0-13.7
Total	25	100.00	

Q32. Did you or your household member complete the course of medication as explained by the health worker?

	Frequency	Percent	95% CI
No	2	7.41	0.9-24.3

Yes	23	85.19	66.3-95.8
Still taking medication	2	7.41	0.9-24.3
Don't know	0	0	0.0-12.7
Total	27	100	

Q33. Why did you or your household member stop taking the TB medicine?

	Frequency	Percent	95% CI
Feel better	0	0	0.0-84.2
Don't have money	0	0	0.0-84.2
Drug side effects	1	50	1.3-98.7
TB drugs are not available	0	0	0.0-1.2
Health facility is too far	0	0	0.0-1.2
Moved to a different place	0	0	0.0-1.2
Don't believe it is necessary	0	0	0.0-1.2
Difficult to swallow so many pills	0	0	0.0-1.2
Other	1	50	1.3-98.7
Don't know	0	0	0.0-1.2
No response	0	0	0.0-1.2
Total	2	100	

Q34. If course completed, what was the outcome of the treatment?

	Frequency	Percent	95% CI
Cured	18	78.26	56.3-92.5
Not cured	0	0	0.0-14.8
Haven't finished treatment	3	13.04	2.8-33.6
Died	2	8.70	1.1-28.0
Don't know	0	0	0.0-14.8
No response	0	0	0.0-1.2
Total	23	100.00	

Q35. What can you do to decrease the risk of getting TB?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Wear a mask when contacting patients with TB	28	9.33	6.3-13.2	272	90.67	86.8-93.7
Provide good ventilation for workplace and home	83	27.67	22.7-33.1	217	72.33	66.9-77.3
Annual medical examination	29	9.67	6.6-13.6	271	90.33	86.4-93.4
Prevent HIV	11	3.67	1.8-6.5	289	96.33	93.5-98.2
Good nutrition	16	5.33	3.1-8.5	284	94.67	91.5-96.9
Other	68	22.67	18.1-27.8	232	77.33	72.2-81.9

Don't know	105	35.00	29.6-40.7	195	65.00	59.3-70.4
No response	1	0.33	0.0-1.8	299	99.67	98.2-100.0

Q36. What can people with TB do to decrease the risk of transmitting TB?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Adhere to treatment	133	44.33	38.6-50.2	167	55.67	49.8-61.4
Seek medical care if have symptoms	56	18.67	14.4-23.5	244	81.33	76.5-86.6
Cover mouth when coughing	122	40.67	35.1-46.5	178	59.33	53.5-64.9
Have good ventilation in home	26	8.67	5.7-12.4	274	91.33	87.6-94.3
Not spit in public places	71	23.67	19.0-28.9	229	76.33	71.1-81.0
Avoid delay in TB treatment	11	3.67	1.8-6.5	289	96.33	93.5-98.2
Other	47	15.67	11.7-20.3	253	84.33	79.7-88.3
Don't know	40	13.33	9.7-17.7	260	86.67	82.3-90.3
No response	0	0	0.0-1.2	300	100.00	98.8-100.0

Q37. Have you ever had a friend, neighbor, workmate, or schoolmate with TB?

	Frequency	Percent	95% CI
Yes	88	29.33	24.2-34.8
No	209	69.67	64.1-74.8
Don't know	3	1.00	0.2-2.9
No response	0	0	0.0-1.2
Total	300	100.00	

Q38. Would you visit someone with TB in their home?

	Frequency	Percent	95% CI
No	14	4.67	2.6-7.7
Yes	282	94.00	90.7-96.4
Don't know	0	0	0.0-1.2
No response	0	0	0.0-1.2
Total	300	100.00	

Q39. If no, why would you not visit someone with TB in their home?

	Frequency	Percent	95% CI
Fear of disease	8	57.14	28.9-82.3
Other	2	14.29	1.8-42.8
NA (Skip)	3	21.43	4.7-50.8
Don't know	1	7.14	0.2-33.9
No response	0	0	0.0-1.2
Total	14	100.00	

Q40. If someone has TB, would they try to hide the disease from others?

	Frequency	Percent	95% CI
No	216	72.00	66.6-77.0
Yes	76	25.33	20.5-30.7
Don't know	8	2.67	1.2-5.2
No response	0	0	0.0-1.2
Total	300	100.00	

Q41. If yes, why would people with TB try to hide the disease from others?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Because they will lose job	0	0	0.0-4.7	76	100.00	95.3-100
Because they will lose friends	15	19.74	11.5-30.5	61	80.26	69.5-88.5
Because people will avoid them	15	19.74	11.5-30.5	61	80.26	69.5-88.5
Because no one will marry them	1	1.32	0.0-7.1	75	98.68	92.9-100.0
Because people will think they have HIV	20	26.32	16.9-37.7	56	73.68	62.3-83.1
Other	29	38.16	27.2-50.0	47	61.84	50.0-72.8
Don't know	13	17.11	9.4-27.5	63	82.89	72.5-90.6
No response	0	0	0.0-4.7	0	0	0.0-4.7

Q42. Do you think it is shameful to have TB?

	Frequency	Percent	95% CI
No	241	80.33	75.4-84.7
Yes	51	17.00	12.9-21.7
Don't know	7	2.33	0.9-4.7
No response	1	0.33	0.0-1.8
Total	300	100.00	

Q43. If yes, why do you think it is shameful to have TB?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
This is a disease of unfaithful people	0	0	0.0-7.0	51	100.00	93.0-100.0
Because the person with TB can lose their job	0	0	0.0-7.0	51	100.00	93.0-100.0
Because everybody will avoid the person with TB	12	23.53	12.8-37.5	39	76.47	62.5-87.2
Because it means the person is	13	25.49	14.3-39.6	38	74.51	60.4-85.7

or may be HIV+						
Improper cleansing after death	8	15.69	7.0-28.6	43	84.31	71.4-93.0
Other	7	13.73	5.7-26.3	44	86.27	73.7-94.3
Don't know	8	15.69	7.0-28.6	43	84.31	71.4-93.0
No response	1	1.96	0.0-10.4	50	98.04	89.6-100.0

Q44. Have you heard about the disease called HIV or AIDS?

	Frequency	Percent	95% CI
No	21	7.00	4.4-10.5
Yes	279	93.00	89.5-95.6
Total	300	100.00	

Q45. If yes, how can you protect yourself from getting HIV?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Abstinence	37	12.63	9.5-17.8	256	87.37	80.8-89.1
Faithfulness	181	61.77	59.0-70.5	112	38.23	31.8-43.1
Condom use	222	75.77	74.4-84.1	71	24.23	19.0-28.9
Avoid skin piercing objects	59	20.14	16.5-26.4	234	79.86	72.9-82.6
Prompt STI treatment	24	8.19	5.6-12.5	269	91.81	85.7-92.9
Being attended to be a trained service provider during pregnancy and delivery	1	0.34	0.0-2.0	292	99.66	94.8-98.8
Infant feeding options	1	0.34	0.0-2.0	292	99.66	94.8-98.8
Use of ART	8	2.73	1.2-5.6	285	97.27	91.9-97.2
Other	10	3.41	1.7-6.5	283	96.59	91.1-96.7
Don't know	10	3.41	1.7-6.5	283	96.59	91.1-96.7
No response	0	0	0.0-1.3	293	100.00	95.3-99.1

Q46. How is HIV transmitted?

	Yes			No		
	Frequency	Percent	95% CI	Frequency	Percent	95% CI
Through the air when coughing	2	0.68	0.1-2.4	291	99.32	94.4-98.6
Through a handshake	4	1.37	0.4-3.4	289	98.63	93.5-98.2
Sexually transmitted	278	94.88	89.1-95.3	15	5.12	2.8-8.1
Sharing food with infected person	9	3.07	1.4-5.6	284	96.93	91.5-96.9
Through blood transfusion	38	12.97	9.1-17.0	255	87.03	80.4-88.8
Through kiss	3	1.02	0.2-2.9	290	98.98	94.0-98.4
Sharing needles/razors	186	63.48	56.2-67.5	107	36.52	30.2-41.4
From mother to child	6	2.05	0.7-4.3	287	97.95	92.7-97.7

during pregnancy						
Breastfeeding	3	1.02	0.2-2.9	290	98.98	94.0-98.4
Witchcraft	0	0	0.0-1.2	293	100.00	95.3-99.1
Other	18	6.14	3.6-9.3	275	93.86	87.9-94.5
Don't know	4	1.37	0.4-3.4	289	98.63	95.3-99.1
No response	0	0	0.0-1.2	293	100.00	0.7-4.3

Q47. Do you know where you can get tested for HIV?

	Frequency	Percent	95% CI
No	6	2.00	0.7-4.3
Yes	282	94.00	90.7-96.4
NA (Skip)	6	2.00	0.7-4.3
Don't know	6	2.00	0.7-4.3
Total	300	100.00	22.9-33.6

Q48. If yes, how long would it take you to walk to the nearest HIV testing center from here?

	Frequency	Percent	95% CI
0-15 minutes	79	28.01	22.9-33.6
16-30 minutes	40	14.18	10.3-18.8
31 min – 1 hour	40	14.18	10.3-18.8
More than 1 hour	102	36.17	30.6-42.1
NA (Skip)	1	0.35	0.0-2.0
Don't know	88	7.09	25.8-37.0
No response	0	0	0.0-1.2
Total	282	100.00	

Q49. I don't want to know the result, but have you ever had an HIV test?

	Frequency	Percent	95% CI
No	113	37.67	32.2-43.4
Yes	180	60.00	54.2-65.6
Don't know	6	2.00	0.7-4.3
No response	1	0.33	0.0-1.8
Total	300	100.00	

Q50. Do you think that someone with HIV should be tested for TB?

	Frequency	Percent	95% CI
No	46	15.33	11.4-19.9
Yes	207	69.00	63.4-74.2
NA (Skip)	6	2.00	0.7-4.3
Don't know	41	13.67	10.0-18.1
No response	0	0	0.0-1.2
Total	300	100.00	

Q51. Do you think that someone with TB should be tested for HIV?

	Frequency	Percent	95% CI
No	43	14.33	10.6-18.8
Yes	222	74.00	68.6-78.9
NA (skip)	6	2.00	0.7-4.3
Don't know	29	9.67	10.0-18.1
No response	0	0	0.0-1.2
Total	300	100.00	

Q52. Are you more likely to get TB if you have HIV?

	Frequency	Percent	95% CI
No	46	15.33	11.4-19.9
Yes	215	71.67	66.2-76.7
NA (Skip)	6	2.00	0.7-4.3
Don't know	33	11.00	7.7-15.1
No response	0	0	0.0-1.2
Total	300	100.00	

Annex D: Sampling Framework

KPC Cluster sampling for TB Dots MTE - March'12				
Village Population size			**Sampling Interval 6790**	**Random Number 2833**
	Population	**Accumulated**	**Cluster identification**	**Group/cluster number**
Massangena				
Bocoda	6481	6481	2833	**1**
Mabondzo	2264	8745		
Chicumbo	954	9699	9623	**2**
Cufamune	1819	11518		
Chizumbane	604	12122		
Chigamane	356	12478		
Mucambene	2124	14603		
Nhamadgio	324	14927		
Siqueto	719	15646		
Matchave	471	16116		
Mutcheli	293	16409		
Socote	604	17013	16413	**3**
Mavue	1361	18374		
Chimbandze	407	18781		
Matambuje	331	19112		
Muzamane	954	20066		
Mapanhe	770	20835		
Chicualacuala				
Chicualacuala-Sede	5889	26725	23203	**4**
Chassanga	502	27227		
Mugugugo	363	27590		
3 de Fevereiro	515	28105		
Mahatlane	808	28913		
Chitlavanine	280	29192		
Malongueta	458	29650		
Malambane	293	29943		
Muzila	458	30401	29993	**5**

Chale	407	30808		
Mapai-sede	7301	38109	36783	**6**
Regua	522	38631		
Litlatla	1622	40252		
Hoxa-ribye	655	40908		
Chicualac. "B"	413	41321		
Madulo	331	41652		
Chidulo	890	42542		
Ligome	604	43146		
Mepuzi	948	44094	43573	**7**
Mukhatxuane	725	44819		
Chilemane	642	45461		
Vuyela	509	45970		
Nghala	464	46434		
Muzamane	369	46803		
Chissapa	382	47185		
Maphuvule	445	47630		
Ndombe	496	48126		
Mafassitela	598	48724		
Chigubo				
Ndindiza	1558	50282		
Nongote	878	51160	50363	**8**
Keke	1596	52756		
Nhanale	1526	54283		
Nhamazane	1743	56025		
Cubo	1444	57469	57153	**9**
Chipimbe	871	58340		
Zinhane	1113	59453		
Machaila	1240	60693		
Mapungane	999	61692		
Hariane	401	62093		
Hokwane	623	62716		
Hlecane	572	63288		
Guija				
Guija-Sede	5561	68849	63943	**10**
Songuene	227	69076		
Sifo	8839	77915	70733 +77523	**11 + 12**

Acordo de Luzaka	16695	94610	84313 + 91103	**13 + 14**
Chibabel	15052	109662	97893 + 104683	**15 + 16**
Chichongolo	1465	111127		
Mbala-Vala	686	111813	111473	**17**
Gumbane	1467	113280		
Maimane	691	113971		
Nalaze	1647	115618		
Pandzane	695	116314		
Chimbembe	2192	118506	118263	**18**
Dzindzine	1036	119542		
Pumbe	933	120474		
Pelane	4079	124553		
Ndonga	8247	132800	125053 + 131843	**19 + 20**
Chinhacanine	7090	139890	138633	**21**
Mubanguene	6186	146076	145423	**22**
Nhatine	1915	147992		
Tomanine	926	148918		
7 Abril	3177	152095		
Chivonguene	1111	153206	152213	**23**
Mabalane				
Pfukwe	3266	156472		
Covela	403	156875		
Tsocate	1330	158205		
Chinhequete	1411	159616	159003	**24**
Machava	550	160166		
Munginge	1062	161228		
Mabalane-Sede	4031	165259		
Matidze	930	166189	165793	**25**
Chipswane	914	167103		
Mabomo	1109	168211		
Hoyo-Hoyo	1972	170183		
Combomune-Estacao	4246	174429	172583	**26**
Combomune-Rio	912	175341		
Nhone	304	175645		
Macaral	424	176069		
Jasse	411	176480		

Gerez	694	177175		
Massingir				
Tihovene	5253	182428	179373	**27**
Canhane	1247	183675		
Cubo	1628	185303		
Mahlaule	496	185799		
Makhavene	617	186416	186163	**28**
Chibotane	1323	187739		
Madingane	674	188413		
Chinhangane	1266	189679		
Marrenguele	318	189997		
Banga	1005	191001		
Chitar	617	191618		
Zulo	623	192242		
Macaringue	2525	194767	192953	**29**
Tchaque	1514	196280		
Timhondzweni	617	196897		
Mucatine	1876	198773		
Nheleti	636	199409		
Decad da Vitoria	515	199924	199743	**30**
Ringane	197	200122		
Makwaxane	611	200732		
Nkuzi	712	201445		
Munhamane	655	202100		
Chipandzo	229	202329		
Makhongele	725	203054		
Manhica	655	**203709**		
	203,709 ÷ 30 = 6,790			

Annex E: Survey Team

ORGANIZERS:

PIETER ERNST
Director, Program Integration

ADOLFO CAMBULE
Project Manager, *Vurhonga* CB-DOTS

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RUTE CHONGO
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CARMELIA MACHAVA
MELITA MAPSANGANHE
ROSITA CHONGO
LIGIA LANGA
INTERVIEWERS
ODETE NHANGUMBE
RUTE CHAUQUE
MARIA LOUISA
CARLITA COSSA
CACILDA MAPILELE
BARCELINA BENZANE
PAULA CHAUQUE
IZAK VILANCULOS
MELITA MABUNDA
ISABEL BILA
BONIFACIO SITOE
JOSE CHIRINDZA

Annex F: Training and Survey Schedule with Project Resources Required

Training Schedule

March 12, 2012	External interviewer recruitment
March 13, 2012	Introduction and background of project to interviewers Importance of an evaluation Responsibilities of an interviewer Responsibilities of a supervisor
March 14 –15, 2012	Explanation of KPC questionnaire, question by question Practice reading the questionnaire
March 16, 2012	Division in 6 teams for field testing
March 19 - 22, 2012	Conduct survey
March 23 - 24, 2012	Manual tabulation of survey results

KPC Survey Schedule: March 19 – 22, 2012

Day 1	**19 March'12**				**Cluster no and village**	**Cluster no and village**
Group	**Vehicle**	**Coordinator**	**Supervisors**	**Interviewers**	**Morning**	**Afternoon**
1	Mli 43 62 (Mawai)	Delfina Maluleke	Rute Chongo	Paula Chauque	1 Bocoda	3 Socoti
				Rute Chilaule		
			Melita Mapsanganhe	Carlita Cossa	2 Chicumbo	3 Socoti
				Maria Louisa		
2	MLX 77 59 (Machava)	Celina Chongo	Carmelia Machava	Izak Vilanculos	20 Chicualacuala	22 Mapai
				Odete Nhangumbe		
			Maria Marcela	Barcelina Benzane	21 Muzila	22 Mapai
				Isabel Bila		
3	MMF 38 26 (Muiambo)	Clara Javana	Rosita Chongo	Melita Mabunda	24 Combomune	25 Matidze
				Bonifacio Sitoe		
			Ligia Langa	Cacilda Mapilele	24 Combomune	26 Chinhequeti
				Jose Chirindza		
Day 2	**20 March'12**					
1	Mli 43 62 (Mawai)	Delfina Maluleke	Rute Chongo	Paula Chauque	4 Cubo	
				Rute Chilaule		
			Melita Mapsanganhe	Carlita Cossa		5 Nongoti
				Maria Louisa		
2	MLX 77 59 (Machava)	Celina Chongo	Carmelia Machava	Izak Vilanculos	23 Mpuze	6 Guija sede
				Odete Nhangumbe		
			Maria Marcela	Barcelina Benzane	23 Mpuze	6 Guija sede
				Isabel Bila		

3	MMF 38 26 (Muiambo)	Clara Javana	Rosita Chongo	Melita Mabunda	14 Donga (B2)	17 Chinhacanine
				Bonifacio Sitoe		
			Ligia Langa	Cacilda Mapilele	15 Donga (B4)	18 Mubanguene
				Jose Chirindza		
Day 3	**21 March'12**					
1	Mli 43 62 (Mawai)	Delfina Maluleke	Rute Chongo	Paula Chauque	27 Massingir	29 DecadaVitoria
				Rute Chilaule		
			Melita Mapsanganhe	Carlita Cossa	28 Macavene	30 Macaringue
				Maria Louisa		
2	MLX 77 59 (Machava)	Celina Chongo	Carmelia Machava	Izak Vilanculos	7 Sifo (B1)	9 Acordo (B1)
				Odete Nhangumbe		
			Maria Marcela	Barcelina Benzane	8 Sifo (B3)	10 Acordo (B4)
				Isabel Bila		
3	MMF 38 26 (Muiambo)	Clara Javana	Rosita Chongo	Melita Mabunda	16 Chimbembe	13 Mbalavala
				Bonifacio Sitoe		
			Ligia Langa	Cacilda Mapilele	16 Chimbembe	13 Mbalavala
				Jose Chirindza		
Day 4	**22 March'12**					
1	Mli 43 62 (Mawai)	Delfina Maluleke	Rute Chongo	Paula Chauque	11 Chibabel (B2)	
				Rute Chilaule		
			Melita Mapsanganhe	Carlita Cossa	11 Chibabel (B2)	
				Maria Louisa		
2	MLX 77 59 (Machava)	Celina Chongo	Carmelia Machava	Izak Vilanculos	12 Chibabel (B1)	
				Odete Nhangumbe		
			Maria Marcela	Barcelina Benzane	12 Chibabel (B1)	
				Isabel Bila		
3	MMF 38 26 (Muiambo)	Clara Javana	Rosita Chongo	Melita Mabunda	19 Chivonguene	
				Bonifacio Sitoe		
			Ligia Langa	Cacilda Mapilele	19 Chivonguene	
				Jose Chirindza		

Project Resources Required

Expense	Approximate cost (USD)
Salaries (Staff and external interviewers)	$3,600
Administrative costs (including photocopies)	$500
Transportation/ gasoline	$1,700
Meals and Lodging	$300
Total	$6,100

J.7 Annex 7: CHW Training Matrix

CHW Training Matrix in entire project area

Type of CHW	Official Government CHW or Grantee Developed Cadre	Paid or Volunteer	Number Trained Over Life of Project	Focus of Training
Care Group Volunteers	Grantee Developed Cadre	Volunteer	17172	TB signs and symptoms to detect TB suspects, etiology and mode of transmission, referral system, treatment follow-up.
Community leaders and other men	Official Government	Volunteer	10414	TB signs and symtoms, etiology and mode of transmission
Community women	Neither	Volunteer	17874	TB signs and symtoms, etiology and mode of transmission
Church leaders	Neither	Volunteer	1493	TB signs and symtoms, etiology and mode of transmission
Prison inmates	Neither	Volunteer	210	TB signs and symtoms, etiology and mode of transmission
Village Health Committee members	Official Government CHW	Volunteer	224	TB signs and symtoms, etiology and mode of transmission
Traditional healers	Neither	Volunteer	990	TB signs and symtoms, etiology and mode of transmission
Focal Point volunteers	Official Government CHW	Volunteer	185	TB signs and symptoms to detect TB suspects, etiology and mode of transmission, referral system, treatment follow-up, maintenance of village TB register, monitor sputum bottle supply.
Youth volunteers	Grantee Developed Cadre	Volunteer	367	TB signs and symtoms, etiology and mode of transmission
TB DOTS Care Group Supervisors	Grantee Developed Cadre	Paid	10	TB signs and symtoms, etiology and mode of transmission, referral system, treatment follow-up, maintenance of community TB data, supervision of CGVs and FPVs.
Laboratory technicians	Official Government CHW	Paid	8	Laboratory techniques in tuberculosis
Peripheral nurses	Official Government CHW	Paid	35	CB-DOTS and slide fixing

CHW Training Matrix by District

Type of CHW	**Guija**	**Massingir**	**Mabalane**	**Chigubo**	**Chicualacuala**	**Massangena**	**Total**
Care Group Volunteers	5238	1803	3864	3863	1288	1116	17172
Community leaders & other men	3517	1442	2692	609	1129	1025	10414
Community women	3224	3515	5407	1155	3606	967	17874
Church leaders	343	314	358	134	239	105	1493
Village Health Committees	76	31	57	13	25	22	224
Traditional Healer	228	208	238	89	158	69	990
Focal Point Volunteers	36	29	38	23	30	29	185
TB DOTS Supervisors	2	2	2	1	2	1	10
Laboratory Technicians	2	2	2	1	0	1	8
Peripheral Nurses	7	8	7	5	5	3	35

J.8 Annex 8: Evaluation Team Members and their Titles

Name	Title	Organization
Henk Eggens, MD, MPH	MTE Team Leader	Consultant, KNCV Tuberculosis Foundation, Netherlands
Monisha E. Jayakumar BDS, MPH, PhD	Health Advisor	World Relief, Baltimore
Pieter Ernst, MD	Director of Program Integration, World Relief Mozambique	World Relief, Mozambique
Adolfo E. Cambule, MD	TB-DOTS Manager World Relief Mozambique	World Relief, Mozambique
Alfredo MacArthur, MD, MSc	USAID Mozambique Officer TB& AIDS	USAID Mozambique Mission
Nicídia Pereira	Provincial Tuberculosis Control Supervisor	MISAU, Gaza province, Mozambique

J.9 Annex 9: Evaluation Assessment Methodology

J.9.1 Evaluation team scope of work, including timeline of activities

J.9.1.1 *Purpose of the MTE*

The Vurhonga Community-Based DOTS project has completed two years of implementation and this year, FY 2012, has been designated for the execution of the midterm evaluation of the project. The purpose of the midterm evaluation (MTE) according to the Detailed Implementation Plan (DIP) is to: "Evaluate the process of project implementation as planned in the Detailed Implementation Plan (DIP) with the purpose of making suggestions for adjustments needed in order to improve the quality and effectiveness of the program to achieve results or deal with contextual situations that have changed since the DIP was developed."

J.9.1.2 *MTE objectives*

The objectives of the MTE according to the Child Survival and Health Grants Program (CSHGP) are to:

- Assess progress in implementing the early phases of the DIP including preparation and structuring tasks (i.e. capacity building);
- Assess progress towards achievement of objectives or yearly benchmarks;
- Assess if interventions are sufficient to reach desired outcomes;
- Identify barriers/challenges to achievement of objectives;
- Identify key factors that contributed to what seems to be working well or to what is not working well regarding some or all aspects of the program to inform project actions; and
- Provide recommended actions to guide the project staff through the last half of the project.

J.9.1.3 *MTE Scope*

The evaluation is conducted by the evaluation team, headed by the Lead Evaluator, assigned by USAID. The team is comprised of staff from World Relief's home office and Mozambique office, Ministry of Health of Mozambique and other relevant partners.
The most recent guidelines for MTE developed by USAID were used[5].

[5] These were found in the document, "GUIDELINES FOR MID-TERM EVALUATION CHILD SURVIVAL AND HEALTH GRANTS PROGRAM USAID/GH/HIDN/NUT_April 2012" assessed on the USAID internet site on May 22, 2012.

J.9.1.4 *MTE timeline:*

The below table shows the timeline of main MTE activities as implemented.

Date	Activity	Location
January 2012	Selection of LE; definition of date field trip	Mozambique, USA & The Netherlands
March 2012	Preparations of field trip	Mozambique, USA & The Netherlands
April 16th , 2012	MTE team briefing agenda: 1. Introductions 2. Scope of work 3. Questionnaires discussed	Chókwè, Gaza province, Mozambique
April 17th	1. Focus Group Discussion with 10 (female) WR supervisors 2. Pre-MTE preparation: review of evaluation instruments, logistics	Chókwè
April 18th & April 19th	Project site-visits; MTE team divided up into two sub-teams	Team 1: Chicualacuala (18th) and Mabalane (on the 19th) Team 2: Chigubo (18th) and Guija (on the 19th)
April 20th	Review of field experiences guided by DIP	Chókwè WR office
April 21th and April 22th	Weekend	
April 23rd	Field visit: both teams	Massingire district: Villages (3) and Health Center (1)
April 24th – April 25th, 2012	Review distribution of tasks MTE members; synthesis of data from all MTE sites; KPC data processing and analysis. Report writing	Chókwè
April 26th, 2012	Province debriefing and presentation	Chókwè
April 27th, 2012	In-country debriefing and presentation USAID office	Maputo
May 14th, 2012	WR sent Lead Evaluator (LE) final KPC report	
May 15th , 2012	LE sent first draft of report sections to WR	
May 25th, 2012	LE sent second draft of report sections to WR	
June 1st, 2012	WR sent first draft of report sections incorporated in compiled MTE report to LE	
June 5th, 2012	WR sent clean draft of MTE report to LE	
June 20-21st , 2012	Editting and formatting of MTE report	
June 22nd , 2012	Final report submission to USAID	

J.9.1.5 *Brief descriptions of information gathering methodologies*

In the months before the field visit the Grantee, the Field Team and the appointed LE exchanged mails, documents and ideas. There was a clear advantage in having five weeks available for the field trip preparation by the three stakeholders. Project documents were shared in time.
Before the field visit, questionnaires for the Focus Group Discussion (FGD) and Key Informant Interviews (KII) were developed by the LE, shared, discussed and translated.
Two field teams were created, composed of a balanced mix of expertise and functions.

Team 1	Team 2
MJ, World Relief Health Advisor (USA)	HE, Lead Evaluator (The Netherlands)
PE, Director of Program Integration, World Relief (Mozambique)	AC, TB-DOTS Manager World Relief (Mozambique)
NP, Provincial Tuberculosis Control Supervisor (Gaza, Mozambique)	AM, USAID Mozambique Officer TB& AIDS
Supervisors for the districts visited (Melita, Odete, Marcela)	Supervisors for the districts visited (Celina, Clara)
	(translator Shangaan-Portuguese and vivo)

During the field mission, FGDs were held with the project supervisors and also with several Care Group Volunteers (CGV) in their villages. In each district, the health center was visited, the district TB supervisor interviewed. In each district, a focus group discussion was held with the CGV, accompanied usually by the village leadership (president of the village or substitute). Discussions were noted down by participants and used in review sessions of MTE progress.

In the health centers, KIIs were held with the district tuberculosis supervisor, and where available, the clinician and the lab technician.
District tuberculosis registers were seen extensively, health facility ledgers, HIV and laboratory registers, and patient records were also seen and discussed.

J.9.2 Data collection instruments, including interview guides, data extraction guides, and questionnaires used

During the field visit of the MTE use was made by the teams of questionnaires for Key Informant Interviews (KII) and key questions for Focus Group Discussions (FGD). In practice during the interviews and the FGDs more questions on a variety of subjects were touched upon. Also, fixed data collection instruments were nbot used to inspect registers, forms and ledgers in the health centers and the villages. The KPC followed a fixed set of questions, developed and used during the project inception.

J.9.3 Key Informant interviews (KII)

J.9.3.1 *KII1: Questions for health center staff*

1 What difference do you see in tuberculosis case detection using care group volunteers?
2 What difference in adherence do you see using *padrinhos*?
3 What difference in contact tracing did you notice?
4 What difference is there in sputum collection methods?
5 What difference in supervision has taken place?
6 What is the current practice in:
   A. Screening for tuberculosis in HIV-positive clients?
   B. Screening for HIV in tuberculosis cases?
   C. Provision of CPT in HIV/tuberculosis cases?
7 Are there any signs of reduced stigma among patients?

J.9.3.2 *KII2: Questions for district TB supervisor/district medical officer*

1 What effects do you see in employing the care groups?
2 What effects do you see of the village health committees?
3 How useful is the community health information system for tuberculosis control activities?
4 What is your opinion on the district rapid assessment tool (DRAT)?
5 What are the advantages of the World Relief approach?
6 What are the challenges in the World Relief approach?

J.9.4 Focus Group Discussions

J.9.4.1 *Leading Questions: With care group volunteers and village health committees*

1 What positive changes in tuberculosis case finding and adherence have occurred since you started your activities?
2 What difficulties did you face in finding tuberculosis suspects?
3 What difficulties did you face in ensuring patients to complete their tuberculosis treatment?

4 What solutions do you see to solve these problems?

J.9.4.2 *Leading Questions: Focus group discussion 2: patients on DOTS (not implemented)*

1 What assistance did you get from care groups?
2 What assistance did you get from your *padrinho*?
3 What are the problems in completing treatment?
4 What solutions do you see to solve these problems?

J.9.5 Names of places visited

Date	Activities	Participants	Location
18-apr	Field visit	Team 1: PE, MJ, MISAU prov supervisor Nicidia Pereira, WR supervisors Celina	Chicualacuala, District Health Center, Litlatla village.
	Field visit	Team 2: HE, AC, AM, WR supervisors Melita	Chigubo, Ngongote village
19-apr	Field visit	Team 1: PE, MJ, MISAU prov supervisor Nicidia, WR supervisor Clara	Mabalane, Combomune village, District Health Center, Decada da Vitoria village
	Field visit	Team 2: HE, AC, AM, WR supervisors Odete, Marcela	Guija, Tomanine village
23-apr	Field visit: two teams	all	Massingire, Estaleiro 6 Bairro, Mucatine village

J.9.6 Documents reviewed

DPS Gaza: Relatório Anual 2011 das actividades do PNCT (2011 Annual NTP Report)
Edward,A. et al, Examining the evidence of under-five mortality reduction in a community-based program in Gaza, Mozambique, Trans.Roy.Soc.Trop.Med.Hyg.(2007)
CORE Group, The Expansion of Community-Based Tuberculosis Programming: Critical Program Design Issues for New Partners. 2008, CORE Group
USAID Mozambique tuberculosis profile, 2009. Source: www.usaid.gov
WHO, Global tuberculosis control: WHO report 2011.
WHO, Country cooperation strategy 2009–2013 Mozambique; 2009, WHO
World Relief, Scope of Work Midterm Evaluation Vurhonga TB_World Relief_Final_2012.1.13
World Relief, TB 1st REVISED Annual Report_FY2010_Final_Oct31.2011
World Relief, TB 2nd Annual Report_FY2011_Final_Oct31.2011
World Relief, Trip Report_Mozambique_MJ_final_2012,
World Relief, Vurhonga TB Final DIP, 2009
Advocacy, communication and social mobilization (ACSM) for tuberculosis control: a handbook for country programmes. WHO 2007

J.10 Annex 10: List of Persons Interviewed and Contacted during the MTE

Team 1

Date	District	Location type	Data collection method	Members present	Title
4/18/2012	Chicualacuala	Chicualacuala District Health Center	Interview	Marcelo de Almada	Chief Medical Officer
				Antonio Manhica	District TB Supervisor
				Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Celina Shongo	Supervisor, WR, Mozambique
				Ruth Shongo	Supervisor, WR, Mozambique
4/18/2012	Chicualacuala	Litlatla Village	Focus Group	Antonio Manhica	District TB Supervisor
				Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Celina Shongo	Supervisor, WR, Mozambique
				Virjulo Alvaro	Village Nurse
				Anna Zolvir	Focal Point Volunteer
				Rosal Jonivurel	CGV
				Alese Chuzae	CGV
				Anna Siband	CGV
				Esther Seband	CGV
				Martha Jephata	CGV
				Synora Chivambu	CGV
				Nomiya Monjan	CGV
				Esther Chitango	CGV
				Synora Sumbani	CGV
				Armelia Simbandu	CGV
				Brasena Matwasa	CGV
				Ezabel Chukae	CGV
				Vangalina Makuvellae	CGV
				Snetha Chukae	CGV
4/19/2012	Mabalane	Combomune Village	Focus Group	Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Ruth Chowkae	Supervisor, WR, Mozambique
				Ruth Shongo	Supervisor, WR, Mozambique
				Celina Shongo	Supervisor, WR, Mozambique
				Clara Javana	Supervisor, WR, Mozambique
				Phillip Sinturam	TB Supervisor of Health Post
				Alfeo Chowkaw	Focal Point Volunteer
				Celina Seoso	CGV
				Fatima Chowkae	CGV
				Salimina Chowkae	CGV
				Masea Chowkae	CGV
				Flora Chowkae	CGV
				Belia Malulakae	CGV
				Ida Chowkae	CGV
				Sarah Chowkae	CGV
				Melina Mangan	CGV
				Sarah Chowkae (2nd)	CGV
				Leonaore Machalle	CGV
				Alisa Chowkae	CGV
				Ramaka Chowkae	CGV
				Ramaka Chowkae (2nd)	CGV
				Delphina Kosa	CGV
4/19/2012	Mabalane	Combomune Village	Interview	Alfeo Johan Maynongo	TB patient who completed treatment
				Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Ruth Chowkae	Supervisor, WR, Mozambique
				Ruth Shongo	Supervisor, WR, Mozambique
				Celina Shongo	Supervisor, WR, Mozambique
				Clara Javana	Supervisor, WR, Mozambique
				Phillip Sinturam	TB Supervisor of Health Post
				Alfeo Chowkaw	Focal Point Volunteer
4/19/2012	Mabalane	Mabalane District Health Center	Interview	Kastigu Louis	Mabalane District TB Supervisor
				Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Ruth Chowkae	Supervisor, WR, Mozambique
				Ruth Shongo	Supervisor, WR, Mozambique
				Celina Shongo	Supervisor, WR, Mozambique
				Clara Javana	Supervisor, WR, Mozambique
4/19/2012	Mabalane	Decada da Vitoria Village	Focus Group	Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Carmela Machava	Supervisor, WR, Mozambique
				Maria Mashavu	Focal Point Volunteer
				Jethrud Lindowae	CGV
				Lina Nyathae	
				Molly Mongue	
				Angelica Mobonda	
				Lina Shyvambu	
				Adela Mongue	
4/19/2012	Mabalane	Decada da Vitoria Village	Interview	Paulina Phaylle	TB patient on treatment
				Ncidia Pereira	Gaza Provincial Coordinator
				Monisha Jayakumar	Health Advisor, World Relief, USA
				Pieter Ernst	Director of Program Integration – World Relief, Mozambique
				Arminda Watt	TBCARE Coordinator, WR, Mozambique
				Ruth Chowkae	Supervisor, WR, Mozambique
				Ruth Shongo	Supervisor, WR, Mozambique
				Celina Shongo	Supervisor, WR, Mozambique
				Clara Javana	Supervisor, WR, Mozambique

Team 2

District: Chigubo

WR Supervisor: Melita Mapswanganhe
District Health Director: Julinho Luis Chilaule
District TB Supervisor: Jose Zuze
Village visited: Nongote
Village leader: Salomão Sitoi

District: Massingir

WR supervisor: Delfina Maluleque
Clinical Director: Dora Adelino Artur
District TB Supervisor: Olindo Oliveira
Village visited: Estaleiro 6 Bairro
Village secretary: Vasco Mate

District: Guija

WR supervisor: Odete Nhangumbe & Maria Marcela
District Health Director: Antonio Domingos
District TB Supervisor: Claudio Baera
Village visited: Tomanine 6 Bairro
Village Secretary: Sebastião Macamo

J.11 Annex 11: Project Data Form

Child Survival and Health Grants Program Project Summary

Jun-21-2012

World Relief Corporation (Mozambique)

General Project Information

Cooperative Agreement Number:	GHN-A-00-09-00017
WRC Headquarters Technical Backstop:	Dr. Monisha Jayakumar
WRC Headquarters Technical Backstop Backup:	Melanie Morrow
Field Program Manager:	Dr. Adolfo Cambule
Midterm Evaluator:	
Final Evaluator:	
Headquarter Financial Contact:	Melanie Morrow
Project Dates:	9/30/2009 - 9/29/2014 (FY2009)
Project Type:	TB Control
USAID Mission Contact:	Maria da Conceicao Rodrigues
Project Web Site:	

Field Program Manager

Name:	Dr. Adolfo Cambule
Address:	
	Mozambique
Phone:	
Fax:	
E-mail:	acambule@gmail.com
Skype Name:	

Alternate Field Contact

Name:	Dr. Pieter Ernst
Address:	RUA DOM JOAO III, No. 90, Summershield
	RUA DOM JOAO III, No. 90, Summershield
	Maputo Mozambique
Phone:	+258-82-316-4220
Fax:	
E-mail:	pernst@wr.org
Skype Name:	

Grant Funding Information

USAID Funding: $1,500,000 **PVO Match:** $500,000

General Project Description

World Relief, a 2009 Tuberculosis (TB) category grantee, is implementing the *Vurhonga Community Based DOTS Project* in six under-served, rural districts and three urban areas in Gaza Province, Mozambique. All nine target areas have pre-existing World Relief volunteer structures in place. The project goal is to reduce the TB burden per the National Strategic Plan and the World Health Organization's STOP TB Strategy, and the primary objectives are to increase the case notification rate by 50% and to achieve 85% treatment success rate in project areas fully implementing Community-Based Directly Observed Treatment Short-Course (CB-DOTS).

Project strategies are to: (1) Empower people with TB to seek and complete treatment, with the support of communities; (2) Strengthen National Tuberculosis Program (NTP) Systems to improve service delivery and patients' outcomes; and (3) Decrease the burden of HIV in people with TB and decrease the burden of TB among people living with HIV/AIDS (PLWHA).

Project Location

Latitude: -18.57	**Longitude:** 34.67
Project Location Types:	Rural Urban Peri-urban
Levels of Intervention:	District Hospital Health Center Health Post Level Home Community Other: Provincial NTP
Province(s):	Gaza Province
District(s):	Chicualacuala, Chigubo, Guija, Mabalane, Massangena, Massingir, Chokwe (Chokwe Town only), and Bilene (Macia Town only) Districts
Sub-District(s):	--

Operations Research Information

There is no Operations Research (OR) component for this Project.

Partners

Mozambique Ministry of Health (NTP at Province, District and Local levels) (Collaborating Partner)	$0
Carmelo Hospital (Collaborating Partner)	$0
Various local community-based organizations including Village Health Committees, Pastors' Networks and churches (Collaborating Partner)	$0
Family Health International (TB-CAP) (Collaborating Partner)	$0

Strategies

Social and Behavioral Change	Community Mobilization

Strategies:	Group interventions Interpersonal Communication Mass media and small media
Health Services Access Strategies:	Addressing social barriers (i.e. gender, socio-cultural, etc) Implementation in a geographic area that the government has identified as poor and underserved
Health Systems Strengthening:	Conducting capacity assessment of local partners Supportive Supervision Developing/Helping to develop job aids Providing feedback on health worker performance Referral-counterreferral system development for CHWs Community role in supervision of CHWs Community role in recruitment of CHWs Review of clinical records (for quality assessment/feedback) Coordinating existing HMIS with community level data Community input on quality improvement
Strategies for Enabling Environment:	Stakeholder engagement and policy dialogue (local/state or national) Advocacy for policy change or resource mobilization Building capacity of communities/CBOs to advocate to leaders for health
Tools/Methodologies:	Community-based Monitoring of Vital Events TB Cohort Analysis (if applicable)

Capacity Building

Local Partners:	Traditional Healers Dist. Health System Health Facility Staff Health CBOs Other CBOs Government sanctioned CHWs Non-government sanctioned CHWs Faith-Based Organizations (FBOs)

Interventions & Components

Tuberculosis (100%)

- Microscopy
- Monitoring/Supervision Surveillance
- Community IEC
- Linkages with HIV services
- Community based care/DOT
- Pediatric TB
- MDR TB

IMCI Integration

CHW Training
HF Training

Operational Plan Indicators

Number of People Trained in DOTS (TB Projects Only)			
Gender	**Year**	**Target**	**Actual**
Female	2010	3969	

Female	2010		4192
Male	2010		2517
Male	2010	89	
Female	2011	3600	
Female	2011		15036
Male	2011		9130
Male	2011	200	
Female	2012	3600	
Male	2012	200	
Female	2013	0	
Male	2013	0	

Locations & Sub-Areas

Total Population: 581,212

Target Beneficiaries

Mozambique - WRC - FY2009

Number of Suspected TB Cases	4,795
Beneficiaries Total	4,795

Rapid Catch Indicators: DIP Submission

Sample Type: 30 Cluster

Indicator	Numerator	Denominator	Percentage	Confidence Interval
Percentage of new smear positive cases who were successfully treated	**44**	**56**	**78.6%**	**25.6**

Rapid Catch Indicators: Mid-term

Rapid Catch Indicators: Final Evaluation

Rapid Catch Indicator Comments

Please note that the TB Treatment Success Rate was measured using a modified District Rapid Assessment Tool for TB applied to all rural health centers in the project area. It was not based on a sample, 30-cluster or otherwise. Thus the automatic calculation for the confidence interval is irrelevant.

J.12 Annex 12: Suggested terminology

Table 4

World Relief terminology		WHO terminology *)	Current Mozambican NTP terms:**)
In English	In Portuguese		
Cure rate	Curado (C)	Cured (1)	Curado (C)
Treatment completed	Tratamento Completo (TC)	Completed treatment (2)	Tratamento Completo (TC)
Treatment success	Sucesso do tratamento	Successfully treated (1+2)	Sucesso
Treatment failure	Falha do tratamento (POS)	Failed	Positivo (POS)
Interruption rate	Interrupção (AB)	Defaulted	Abandono (AB)
Mortality rate	Mortalidade (OB)	Died	Óbito (OB)
Transfer rate	Transferido (T)	Not evaluated ***)	Transferido (T)

*) Source: Global tuberculosis control: WHO report 2011
**) Source: District TB register NTP
***) in use since WHO Global Tuberculosis Report 2010

Definitions of treatment outcomes for patients treated for drug-susceptible TB used for reporting at global level
(Source: Global tuberculosis control: WHO report 2011)

Cured: A patient who was initially smear-positive and who was smear-negative in the last month of treatment and on at least one previous occasion.

Completed treatment: A patient who completed treatment but did not meet the criteria for cure or failure. This definition applies to pulmonary smear-positive and smear-negative patients and to patients with extrapulmonary disease.

Successfully treated: A patient who was cured or who completed treatment.

Died: A patient who died from any cause during treatment.

Failed: A patient who was initially smear-positive and who remained smear-positive at month 5 or later during treatment.

Defaulted: A patient whose treatment was interrupted for 2 consecutive months or more.

Not evaluated: A patient whose treatment outcome is not known.

J.13 Annex 13: Indicator definitions

M&E Indicator Definitions

Strategy	Location	Indicator	Numerator	Denominator	Comments
IR1: Empower people with TB to seek and complete treatment, with the support of their communities (45% effort)					
S.1.1: ACSM	RD	Percentage of respondents surveyed know that TB is transmitted through the air by coughing	Number of respondents that stated that TB is transmitted through the air by coughing	Total number of survey respondents*	
		Percentage of respondents surveyed know that cough longer than three weeks is a sign of TB	Number of respondents that stated that cough longer than three weeks is a symptom of TB	Total number of survey respondents*	
		Percentage of respondents surveyed know that TB is curable	Number of respondents that stated that they believed TB is curable	Total number of survey respondents*	
		Percentage of respondents surveyed know that TB treatment is free	Number of respondents that stated that TB treatment is free	Total number of survey respondents*	
		Percentage of volunteers trained	Number of volunteers who received training on TB	Total number of volunteers	
		Percentage of VHCs trained	Number of VHCs trained on TB	Total number of functioning VHCs	
S.1.2: Case Detection	RD	Case Notification Rate	Number of new SS+ pulmonary TB cases reported x 100,000	Total population in a specified area	
		Percentage of TB suspects examined by sputum microscopy	Number of TB suspects examined by sputum microscopy	Total number of TB suspects	
		Percentage of referrals received from volunteers	Number of TB suspects referred by the community as reported by the HC	Total number of TB suspects received at the HC	
		Percentage of referrals made by volunteers	Number of TB suspects referred by the community as reported by the community	Total number of TB suspects received at the HC	The above indicator is sufficient to monitor referrals and hence this may be dropped.
S.1.3: Treatment Compliance	RD	Cohort analysis for treatment outcomes of SS+ patients			
		Treatment success (recommended to change terminology to Successfully treated)	Number of new SS+ pulmonary TB cases registered in a specified period that were cured plus the number that	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology

			completed treatment		
		Cure rate (recommended to change terminology to Cured)	Number of SS+ patients who were SS- at the final (5th month) sputum test	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology
		Treatment completed (recommended to change terminology to Completed treatment)	Number of patients who did not return for the final sputum test, but did complete the entire course of medication	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology
		Treatment failure (recommended to change terminology to Failed)	Number of patients whose final sputum test was SS+ even though they completed the full course of treatment	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology
S.1.3, 2.5		Interruption rate (recommended to change terminology to Defaulted)	Number of patients who stopped the treatment for two months or more	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology
		Mortality rate (recommended to change terminology to Died)	Number of patients who died while on TB treatment	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology
		Transfer rate (recommended to change terminology to Not evaluated)	Number of patients who transferred to another health facility during the course of treatment	Total number of SS+ pulmonary TB cases registered in the same period	Adhere to WHO terminology
		Percentage of SS- TB patients completing treatment	Number of SS- TB patients that successfully completed the full course of medication	Number of SS- TB patients registered in the same period	
		Percentage of patients on CB-DOT	Number of patients on CB-DOT	Total number of TB patients (SS+ and SS-)	
		Sputum smear conversion	Number of SS+ patients who converted to SS- after the intensive phase of treatment	Total number of SS+ patients pre-treatment	
S.1.4: C-HIS	RD	Percentage of functioning VHCs with local data on TB in the previous quarter	Number of functioning VHCs with data on TB in the previous quarter	Total number of functioning VHCs	
		Percentage of HCs that compile C-HIS data collected by volunteers on TB	Number of HCs that compile C-HIS data collected by the volunteers on TB	Total number of HCs	
IR2: Strengthen National Tuberculosis Program (NTP) Systems to improve TB service delivery and patient outcomes (45% effort)					

S.2.1: Assessment	RD & UC	Percentage of health center assessments conducted quarterly	Total number of HC assessments conducted each quarter	Total number of HCs	
		100% of health center assessments will be conducted with participation from the District TB Coordinators or designated representative	Total number of HC assessments conducted with participation from the District TB Coordinator or designated representative	Total number of HCs	
S.2.2: Diagnostic Quality	RD & UC	Proportion of major errors	Number of errors, reporting (+) as (-) or vice versa	Total number of sputum smears reviewed	
		Proportion of TB suspects with SS+ confirmation (WHO)	Number of TB suspects that are SS+	Total number of TB suspects	
S.2.3: Access	RD	Percentage of health facilities reporting sputum bottle stock outs in the previous quarter	Number of HFs reporting stock outs of sputum bottles in the previous quarter	Total number of HFs	
S.2.4: Referral	RD	Percentage of referred patients from the community recorded at the health center level	Number of patients referred from the community who are recorded at the HC	Total number of patients referred from the community	This checks the work of the HCs which should not be WR's responsibility. Hence may be dropped.
		Percentage of TB+ patients that returned to the community	Number of TB+ patients that returned to the community after diagnosis	Total number of SS+ TB patients diagnosed	This is ambiguous and may be modified as: Percentage of TB+ patients that returned to the community; denominator - # of TB suspects referred by CGV and diagnosed with TB. Numerator - # of referred TB cases returned to community to start on CB-DOTS and observed by a padrinho
S.2.5: Info Systems	RD & UC	Percentage of HC reporting drug stock outs in the last quarter	Number of HC reporting drug stock out of essential TB medications in the last quarter	Total number of HCs	
S.2.6: Supervision	RD	Percentage of HPs supervised by the District TB Coordinator during the previous quarter	Number of HPs who received a supervisory visit by the District TB Coordinator during the previous quarter as reported by the District TB Coordinator	Total number of HPs	

		Percentage of HPs reporting supervisory visits by the District TB Coordinator	Number of HPs who report having received a supervisory visit by the District TB Coordinator during the previous quarter	Total number of HPs	This should not be WR's responsibility and may be dropped.
S.2.7: Coordination	RD & UC	Percentage of meetings attended with MISAU and TB partners	Number of meetings with NTP, MISAU and other partners attended	Total number of meetings invited to by the NTP, MISAU and other partners	
		Number of joint supervisory visits to the HP	Number of supervisory visits to the HP that were conducted with the District TB Coordinator and project staff	N/A	
IR3: Integrate TB/HIV activities to address high co-infection rates (10% effort)					
S.3.1: TB and HIV Education	UC	Number of OVC and youth volunteers trained	Total number of OVC and youth volunteers trained	N/A	
		Number of Pastors' Networks trained	Total number of Pastors' Networks trained	N/A	
S.3.2: Case Finding in PLWHA	UC	Number of HBCAs trained	Total number of HBCAs trained	N/A	
S.3.3: HIV/TB Testing	RD & UC	Percentage of HIV+ patients screened for TB	Number of HIV+ patients screened for TB	Total number of HIV+ patients examined	
		Maintain high levels of HIV testing among TB patients	Number of TB patients with known HIV status	Total number of TB patients (SS+ and SS-)	
		Percentage of TB patients who are also HIV+	Number of TB/HIV+ patients	Total number of TB patients (SS+ and SS-)	
S.3.4: CPT	RD & UC	Proportion of TB/HIV patients on CPT	Number of TB/HIV patients who have received at least one dose of CPT during treatment for TB	Total number of TB/HIV patients (SS+ and SS-)	
		Percentage of HCs reporting stock outs of Cotrimoxazole in the last quarter	Number of HC reporting stock outs of Cotrimoxazole in the previous quarter	Total number of HCs	
S.3.5: CB-DOT	UC	Number of HBCAs trained on CB-DOT	Total number of HBCAs trained on CB-DOT	N/A	
*Note: respondents who stated they had ever heard of TB were not asked follow-up TB questions, but are included in the denominator.					

J.14 Annex 14: Key Strategies and Activities: details

J.14.1 Intermediate Result 1: Empower people with TB to seek and complete treatment with the support of their communities. (45% Effort)

J.14.1.1 ***Strategy 1.1: Advocacy, Communication, and Social Mobilization (ACSM) (Rural Districts)***

- Address traditional beliefs that inhibit case detection and treatment seeking
- Reduce stigma associated with TB and address barriers to treatment seeking

Objectives:

- Increase knowledge that TB is transmitted through the air by coughing from 20.7% to 60%
- Increase knowledge that cough longer than three weeks is a sign of TB from 13.3% to 60%
- Sustain the high percentage of respondents surveyed who know that TB is curable at 85%
- Increase knowledge that TB treatment is available for free from 39.7% at baseline to 80%
- Train 100% of CGVs in CB-DOTS
- Train 100% of functioning Village Health Committees (VHC) in TB

***Key Activities*:** *Social mobilization* involving the entire community is essential to overcoming the prevailing belief in rural villages that TB is of supernatural origin and treatable by traditional healers. Project supervisors rotate visit villages in their responsibility every week. Education topics include TB transmission, signs and symptoms, treatment options and transmission methods. Infection control practices are also an important education component. World Relief has developed a community-based curriculum, "Hope at Home," that includes specific activities community members can do to prevent infection and the spread of TB (for example, safe coughing techniques, safe disposal of sputum, home ventilation) which serves as a template for this training. Care Group Volunteers (CGV) also focus on stigma reduction and overcoming barriers for treatment seeking. As a group and under the direction of project staff, they create community specific initiatives for reducing stigma and overcoming barriers. In addition to giving educational lessons about TB, the project supervisors review a health topic from previous child survival projects during each rotation (twice per year) in a given village to enhance sustainability and support continued positive behavior change. See Figure 3 on organizational chart of Care Group Model.

Role of Key Partners: World Relief has a long history of community health work in this area and will train and interact with existing local structures and people in the community most able to sway popular understanding and opinion (e.g. CGs, VHCs, religious leaders and traditional healers).

J.14.1.2 ***Strategy 1.2: Case Detection (Rural Districts)***

- Conduct case detection via Care Group Volunteers (CGVs)

Objectives:

- Increase the quarterly case notification rate (CNR) by 50% from 110 to 165
- Maintain the high percentage of TB suspects examined by sputum microscopy at 80%
- Increase the percentage of referrals made by CGVs from 20.6% to 60%

Key Activities: Local authorities, VHCs, APEs (Community Health Workers in Mozambique), CGs and religious leaders (including those who function as traditional healers) are trained as trainers on the signs and symptoms of TB, how it is transmitted, and ways to prevent infection. They understand that the project is not operating independently but is part of the National Strategic Plan for tuberculosis control, and learn where to go for free screening, treatment and follow-up. They discuss perceptions of stigma and the importance of supporting family and community members to seek testing and adhere to treatment. CGVs, with the endorsement of village leaders, help to link health facilities to the

households in the community. Each CGV is responsible for visiting her group of neighboring families to be sure that every household is counseled about TB and that suspected cases report to the nearest health facility. For activities related to increasing sputum microscopy, please see Strategy 2.2. For a description of the flow of referrals and for individual roles within the structure, please refer to Annex 16: Referral flowchart.

Role of Key Partners: As with Strategy 1.1, the project will continue to work closely with influential local leaders and local organizations and will continue the partnership with APEs and the Provincial and District Ministry of Health to foster referrals and encourage sputum testing.

J.14.1.3 *Strategy 1.3: Treatment Compliance (Rural Districts)*

- Improve treatment success through the training and use of treatment observers (*padrinhos*) in the community

Objectives:

Conduct cohort analysis of treatment outcomes for SS+ patients including:

- Increase the rate of treatment success from 78.6% to 85%
- Maintain the high level of sputum smear conversion at 90%
- Eighty-five percent of SS- patients will complete treatment
- Increase the percentage of patients on CB-DOT from 26.4% to 60%

Key Activities: Testing for and treatment of TB requires considerable effort on the part of the patient. As the potential to default on treatment extends over six months or longer, the role of the CGV is critical. The CGV works with the patient to find a suitable *padrinho* to observe and record treatment. The CGV also gets called upon over the course of treatment should the patient not return to the health facility on schedule for drugs each month or for follow-up sputum testing at months three and five. Throughout the process, they also provide social support to the patients and *padrinho*s. WR continues to advocate for timely culture testing for all potential MDR-TB cases as defined by the NTP. As the number of referrals and subsequent burden on the health centers increase, communication and coordination with the community is important in order to maintain high rates of treatment success.

Role of Key Partners: District HC records are utilized for data collection on treatment outcomes, thereby not duplicating existing systems. The project works closely with the District TB Coordinators and the Provincial TB Manager, who was present during the BL HFA survey. Further, additional outcome and referral data are collected at the village level by the Lead TB volunteer. This information is then shared with village leaders, VHCs and it is communicated back to the MISAU as well.

J.14.1.4 *Strategy 1.4: Community Health Information System (Rural Districts)*

- Integrate TB surveillance into the Community Health Information System (C-HIS) reported on to VHCs, HP and MISAU

Objectives:

- Eighty percent of VHCs will have local data on TB from the previous quarter
- Eighty-three percent of HCs will compile C-HIS data collected by CGVs on TB

Key Activities: WR's census-based CG program, with its innovative C-HIS, tracks births, deaths and pregnancies at the village level and reports this data to village leadership through the VHCs and to the MISAU through APEs and HP nurses. C-HIS data has alerted the District Health Department (DDS) of trends in health indicators, and helped to facilitate appropriate action at the district level.

This existing C-HIS system is expanded upon to include data on TB referrals, diagnoses and treatment outcomes. Data from each are aggregated at village level by the Lead TB volunteer (either the APE, HP nurse, or Focal Point Volunteer depending on the village situation), presented to the VHC and

relayed to the MISAU through the existing hierarchy. Collection of information on cases and their follow-up by the APE to the VHC provides an additional level of community awareness regarding TB and increases the community's accountability to the patients. To enhance community accountability, VHCs (including village leaders, religious leaders and traditional healers) are trained to support and reinforce CGs and APEs through additional supervision of TB detection, surveillance, case follow-up, and data review. In addition, C-HIS data are used by CGs and VHC to identify priorities and address problems such as detection and treatment barriers, and measure progress towards project objectives. Information collected by the C-HIS are then compared to the HC statistics and discussed at quarterly provincial meetings.

Role of Key Partners: As stated above, the process of collecting, analyzing and distributing the C-HIS data is a collaborative effort involving the CGV, VHCs and the MISAU.

J.14.2 **Intermediate Result 2: Strengthen NTP Systems to improve TB service delivery and patient outcomes. (45% Effort)**

J.14.2.1 ***Strategy 2.1: Facility Assessments (Rural Districts and Urban Centers)***

- Conduct accurate assessments of TB activities at health facilities
- Increase participation of district MISAU staff in facility assessments

Objectives:

- Conduct quarterly assessments of all health centers in the project area
- One hundred percent of health center assessments will be conducted with participation from the District TB Supervisors or designated representative

Key Activities: The DRAT tool was modified by WR to account for the local context and project indicators. It was presented to MISAU leaders and Provincial TB staff for their review and further adaptation. This modified DRAT (M-DRAT) is used each quarter to track cohorts of TB patients as they move through the referral, diagnosis and treatment processes. The results from each M-DRAT are collated and analyzed by project staff, including cross-referencing it to data collected at the village level. Such results are presented to each HC, District TB Supervisors and routinely to the Provincial MISAU. Data are presented to the community through CGs and VHCs.

Role of Key Partners: The M-DRAT are utilized jointly by project staff and the appropriate District TB Supervisor. The Provincial TB Coordinator participated in the BL assessment and MTE.

J.14.2.2 ***Strategy 2.2: Diagnostic Quality (Rural Districts and Urban Centers)***

- Facilitate training district lab technicians on sputum smear microscopy to improve diagnostic quality
- Advocate for continuous, external, and random quality assurance testing of sputum slides

Objectives:

- Bring the proportion of TB suspects with SS+ confirmation in line with international standards by lowering it from 44.6% to between 10% and 25%
- Maintain low proportion of major errors reported through external review at less than 1%

***Key Activities*:** Using MISAU trainers, recommended to the project by Family Health International (FHI) the lead organization in Mozambique for the Tuberculosis Control Assistance Program (TB-CAP), the project facilitated training and refresher training of district lab technicians to promote accurate laboratory assessments during years one and three. Trainings included microscope

maintenance, slide preparation and reading, and quality control. Another key component of these trainings is appropriate infection and environmental controls in line with international standards to prevent the spread of TB to staff, patients and the community. The project also advocates for appropriate quality protocols including the routine quality reviews for slide reading accuracy and the random selection of such slides. The primary advocacy tool is the M-DRAT itself which continuously raises the issue of the quality review at the district level and provides evidence of current practices to the provincial level during routine reporting.

Role of key partners: While funding and logistical supports are provided by the project, the instruction is led by qualified MISAU TB trainers, Carmelo Hospital and Rural Hospital. FHI (TB-CAP) has had extensive experience providing such trainings in the region and has assisted in referring appropriate trainers with whom they have had good success.

J.14.2.3 ***Strategy 2.3: Access (Rural Districts)***

- Improve access by facilitating community level barrier analysis and local problem-solving
- Improve access to diagnostic services at peripheral HFs by assisting community sputum collection

Objectives:

- Less than 10% of HFs will report sputum bottle stock-outs in the previous quarter

Key activity: It is best for the patient to be examined and tested at the HF, to start treatment for those who are TB+, to explore other causes for those who are TB-, and for universal HIV testing for all those suspected of TB. Therefore, the project uses community structures and resources to make visiting the HC a priority among those with TB symptoms. If a referred patient is unable to travel to the HC for testing, the CGV brings this to the attention of the VHC to address as a community and if any local assistance may be provided. This is important as TB testing and treatment is not only in the interest of the patient, but can prevent the spread of disease across the community. In unusual situations, remote testing may be required. Therefore, the project helps to monitor and track the inventory of sputum collection bottles at the HC and HP level and help supply sputum bottles when there is a shortage at the provincial and district levels. In addition, both Project Supervisors and District TB Supervisors help to ensure transport of such sputum collection bottles during routine supervision visits via motorbikes provided by the project.

Role of key partners: VHCs and local religious organizations play a critical role in identifying those in need of assistance and arriving at creative local solutions to individual situations. They also play a key role in creating an environment of community responsibility. Community level sputum collection is a component within the current NTP. However, they report having difficulty with the inventory and supply of sputum collection bottles. WR, through its census based volunteer structure assists the NTP in monitoring the supply of sputum bottles at the HC and HP levels and provides occasional supply to prevent stock outs.

J.14.2.4 ***Strategy 2.4: Referral (Rural Districts)***

- Improve referral and counter-referral between facilities and the community network of CGVs and treatment observers.

Objectives:

- 75% of the patients referred from the community will be recorded at health center
- 80% of TB+ patients will return to the community after receiving their diagnosis

Key activities: Working with VHCs, CGVs, and MISAU staff the project expands on the current referral and counter-referral system to ensure accurate tracking and reporting. CGVs record information on each individual referred and follow-up with them to ensure testing. After returning from testing, the CGV goes with the patient to the nearest HP. The APE/HP nurse, the CGV and the patient decide collectively who will be the *"padrinho"* (treatment supporter) and records the information. The CGV along with the APE train the *padrinho* on TB treatment, the importance of adherence and possible negative reactions. The APE then gives the medicine on a weekly or every other week basis to the *padrinho*. Data collection on referrals is collated in each village by the Lead TB Volunteer and shared with local leadership, the project and the MISAU.
Role of key partners: Data collection on referrals continues to be monitored at the HC level according to the MISAU system; community level data collection complies with MISAU definitions and forms and fully integrates the APE or HP nurse.

J.14.2.5 ***Strategy 2.5: Information Systems (Rural Districts and Urban Centers)***

- Strengthen the flow of information between district and provincial structures, to improve drug supply and data management.

Objectives:

- Less than 17% of HCs reporting drug stock-outs of essential TB drugs for the last quarter
- Less than 5% of those who start treatment will drop out (Interruption rate)

Key Activities: The Project M&E Manager works with the District TB Supervisors to improve record-keeping, trains them how to make data based decisions and how to accurately predict drug needs. Helping the MISAU staff manager with their data to avoid treatment interruption is a significant part of the M&E Manager's role. Presentation and discussion of the frequency of stock outs is a key factor discussed at monthly district meetings and at quarterly meetings with provincial leaders. WR actively participates in problem solving to assist in implementing changes set forth by the NTP.

J.14.2.6 ***Strategy 2.6: Supervision (Rural Districts)***

- Enhance supervision of peripheral health facilities engaged in TB control through provision of motorbikes to MISAU supervisors and modeling of supportive supervision.

Objectives:

- 85% of HPs will be visited by the District TB Supervisor during the previous quarter as reported in the M-DRAT
- 85% of HPs will report supervisory visits by the District TB Supervisor

Key Activities: The project works with the health centers to provide or repair motorbikes for TB Coordinators to use for supervision as requested by the MISAU. WR models supportive supervision techniques to the District TB Supervisor during co-supervisory visits to HPs, VHCs and Care Groups.

J.14.2.7 ***Strategy 2.7: Coordination with NTP (Rural Districts and Urban Centers)***

- Collaborate with the NTP, TB-CARE and other partners to ensure complementary and comprehensive implementation of the National Strategic Plan for TB Control

Objectives:

- Attend 80% of meetings to which WR is invited
- Conduct six joint supervisory visits to HPs each quarter

Key Activities: Attend scheduled coordination meetings with partners and integrate supervisory visits with the District and Provincial MISAU, and FHI. Scheduled meetings include: monthly meetings with the MISAU and Project Supervisors at the district level to provide feedback, plan for upcoming activities and share data collection and survey results (if applicable); quarterly meetings with the Provincial TB Coordinator and other provincial TB staff to provide feedback, compare statistics, discuss project and MISAU objectives and possible improvements; bi-annual meetings with all the District TB Supervisors to review data from the previous six months and track progress over time. The project and staff participate in other meetings as determined by the NTP, MISAU, or other partners.
Role of key partners: At the onset of WR's TB project, the only other NGO implementing TB activities in Gaza Province was FHI (TB-CAP). WR is partnering with FHI as a sub-grantee under TB-CARE in WR's urban project areas.

J.14.3 Intermediate Result 3: Decrease the burden of HIV in people with TB and decrease the burden of TB among PLWHA. (10% Effort)

J.14.3.1 *Strategy 3.1: TB and HIV Education through ACSM (Urban Centers)*

- Utilize existing WR HIV/AIDS programming to change beliefs and perceptions surrounding TB and HIV in the community through established church and peer social networks for advocacy

Objectives:

- Train 60 OVC and youth volunteers in TB, including in stigma reduction
- Train three Pastors' Networks in TB, including in stigma reduction

Key Activities: *ACSM* strategies in the urban areas of Chokwe, Macia and Guija are being implemented through the volunteer structures developed under WR's HIV activities. Annual training in TB referral and stigma reduction are provided to OVC volunteers and youth mobilization teams who incorporate TB messages into current HIV outreach activities. This broad team of volunteers work in their communities for stigma reduction surrounding TB and HIV and increased awareness about TB, its signs and symptoms, and the fact that TB is curable and treatment is free.
Role of Key Partners: The project works closely with existing PNs, some of which are in the process of becoming locally registered CBOs. WR has received additional funding through a sub-grant from FHI's TB-CARE project.

J.14.3.2 *Strategy 3.2: Intensified TB Case Finding among PLWHA (Urban Centers)*

- Utilize existing WR HBCAs to identify potential TB cases among their HIV+ clients

Objectives:

- Train 40 HBCAs in TB case finding, referral and stigma reduction

Current Status: WR's HIV/AIDS programming also included HBCAs. These specialized volunteers provide social and medical care to their HIV+ clients. HBCAs have established relationships with their clients, and they have a close knowledge of their situation, family structure and beliefs. In addition to the close relationship with their clients, they hold a position of respect and authority on health. Under the MISAU approved curriculum, they receive a limited amount of information about TB identification and referral and they transfer this knowledge to their clients and families.
Key Activities: WR work with the HBCAs by providing ongoing and enhanced education surrounding TB including how to identify and refer TB, stigma reduction and treatment compliance. These volunteers, through their unique relationship with PLWHA provide intensified TB case finding. They also contribute to S.3.1 by providing continuous education to their clients and families regarding both

HIV and TB. WR supports these volunteers through supervision, training and by providing small incentives to encourage them to continue caring for their individual patients.
Role of Key Partners: Local churches and HCs provide integral support to the HBCAs to ensure that they are well supported and that referrals are adequately documented.

J.14.3.3 ***Strategy 3.3: Routine HIV/ TB Testing (Urban Centers and Rural Districts)***

- Improve TB screening among HIV+ patients
- Maintain high levels of HIV testing among TB patients

Objectives:

- Improve the percentage of HIV+ patients screened for TB from 46.6% to 60%
- Maintain high levels of HIV testing among TB patients at 95%[xvii]

Key Activities: WR works to improve actual rates of TB screening and appropriate documentation through interaction with the NTP. The project also conducts IEC with HIV+ patients encouraging them to go to the health center to seek treatment and community education through HBCAs as well as community wide education regarding HIV co-infection and the need for testing through CGVs.

J.14.3.4 ***Strategy 3.4: Cotrimoxazole Prevention Therapy (CPT) (Urban Centers and Rural Districts)***

- Prevention of opportunistic infections with CPT in HIV/TB patients
- Track HC inventory of Cotrimoxazole to assist with preventing drug stock outs

Objectives:

- Maintain high levels of CPT in HIV/TB patients at 90%
- Less than 25% of HCs reporting stocks out of Cotrimoxazole in the previous quarter

***Current Status*:** The proportion of HIV/TB patients that receive at least one dose of CPT is 99.7%. This rate is similar to the 2009 findings for Gaza (98.7%[xviii]) and is in line with national policy.
Key activities: Opportunistic infections are particularly dangerous for TB/HIV patients. WR works with other NGOs, including local NGOs and community groups to advocate for continued CPT availability among this high risk group. Given the BL findings demonstrating difficulties the drug supply chain, WR monitors CPT inventory and assist the NTP with stock out prevention methods as implemented.
Role of key partners: As treatment regimens and medications are determined by the MISAU, WR supports the activities of the NTP, District and Provincial MISAU.

J.14.3.5 ***Strategy 3.5: Case Management of Co-Infections (Urban Centers)***

- Train HBCAs in CB-DOT to improve treatment success

Objectives:

- Number of HBCAs trained on CB-DOT

Key activities: In order to improve compliance with the medication regimen and improve treatment success, HBCAs help to implement CB-DOT. With their knowledge of TB, their clients and their circumstances, HBCAs help their clients and HC staff choose an appropriate *padrinho*, train the *padrinho* (including on how to complete the forms) and provide oversight. The HBCAs also represent a link between the health center, the client and the *padrinho* to answer questions and offer support.
Role of key partners: WR has routine contact with the MISAU and HFs in the urban areas through the M&E Manager and project supervisors to encourage communication and participation with the HBCAs on CB-DOTS when a current HIV+ patient is diagnosed with TB.

J.15 Annex 15: Mozambique page WHO global tuberculosis report 2011

MOZAMBIQUE

POPULATION 2010 (MILLIONS)	23

ESTIMATES OF BURDEN 2010[a]	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	11 (7–17)	49 (30–74)
Prevalence (incl HIV)	110 (54–200)	491 (233–844)
Incidence (incl HIV)	130 (87–170)	544 (374–746)
Incidence (HIV-positive)	77 (53–110)	330 (228–449)
Case detection, all forms (%)	34 (25–50)	

CASE NOTIFICATIONS 2010

New cases		(%)	Retreatment cases		(%)
Smear-positive	20 097	(48)	Relapse	1 432	(35)
Smear-negative	16 408	(39)	Treatment after failure	234	(6)
Smear unknown	0	(0)	Treatment after default	235	(6)
Extrapulmonary	5 621	(13)	Other	2 147	(53)
Other	0	(0)			
Total new	42 126		Total retreatment	4 048	
Total < 15 years					

Total new and relapse	43 558	(94% of total)
Total cases notified	46 174	

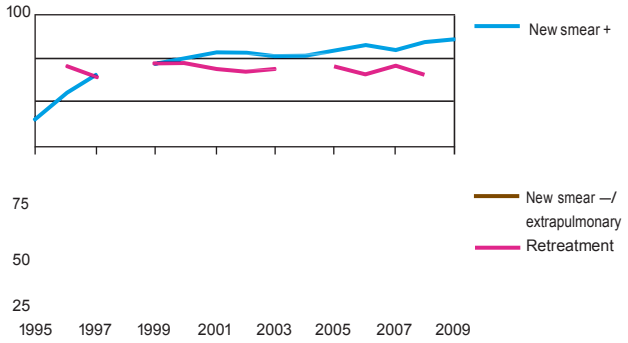
DRUG REGIMENS

Rifampicin used throughout treatment	Yes
% of patients treated with fixed-dose combinations (FDCs)	95
Paediatric formulations procured	Yes

TREATMENT SUCCESS RATE 2009 (%)

New smear-positive	85
New smear-negative/extrapulmonary	
Retreatment	

TREATMENT SUCCESS RATE (%)

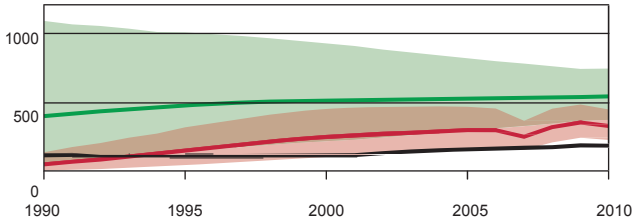


MDR-TB, ESTIMATES AMONG NOTIFIED CASES[a]

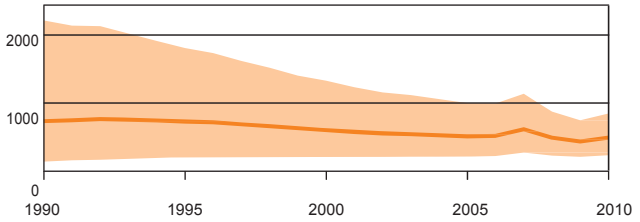
% of new TB cases with MDR-TB	3.5 (2.2–4.8)
% of retreatment TB cases with MDR-TB	11 (0.0–25)
Estimated MDR-TB cases among new pulmonary TB cases notified in 2010	1 300 (800–1 800)
Estimated MDR-TB cases among retreated pulmonary TB cases notified in 2010	450 (0–1 000)

MDR-TB REPORTED CASES 2010	New	Retreatment	Total
Cases tested for MDR-TB	80	251	365
% of notified tested for MDR-TB	<1	6	<1
Confirmed cases of MDR-TB	18	130	165

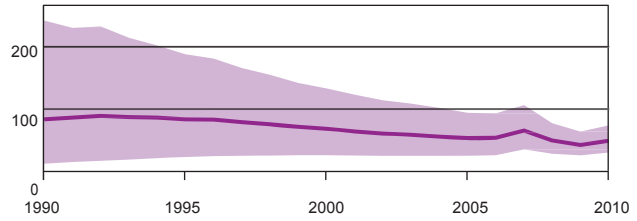
INCIDENCE (HIV+TB red), notifications (black)
(rates per 100 000 population)



PREVALENCE
(rate per 100 000 population)



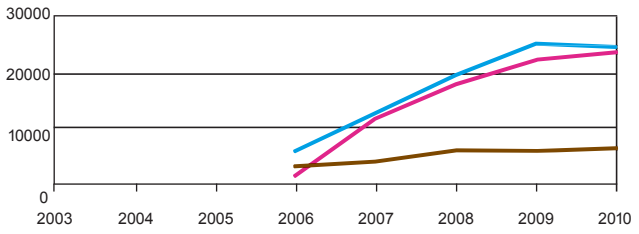
MORTALITY EXCLUDING HIV
(rate per 100 000 population)



TB/HIV 2010

TB patients with known HIV status	40 554
% of TB patients with known HIV status	88
TB patients that are HIV-positive	24 574
% of tested TB patients that are HIV-positive	61
% HIV-positive TB patients started on CPT	97
% HIV-positive TB patients started on ART	25
HIV-positive people screened for TB	433
HIV-positive people provided with IPT	8 904

CPT (pink) and ART (brown) for HIV-positive TB patients (blue)



FINANCING	2011	2012
Total budget (US$ millions)	34	39
Available funding (US$ millions)	24	24
% of budget funded	71	62
% available funding from domestic sources	11	11

MDR-TB patients started treatment	87

LABORATORIES	2009	2010	2011
Smear (per 100 000 population)	1.9	1.9	1.8
Culture (per 5 million population)	0.2	0.4	0.6
DST (per 5 million population)	0.2	0.4	0.6

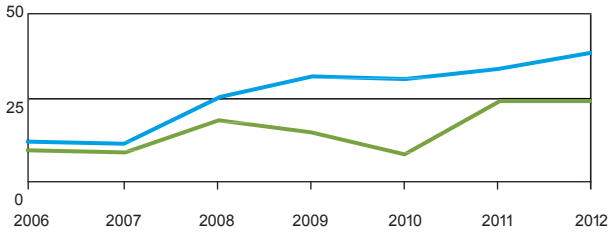
Second-line DST available	Outside country
National Reference Laboratory	Yes

[a] Ranges represent uncertainty intervals.

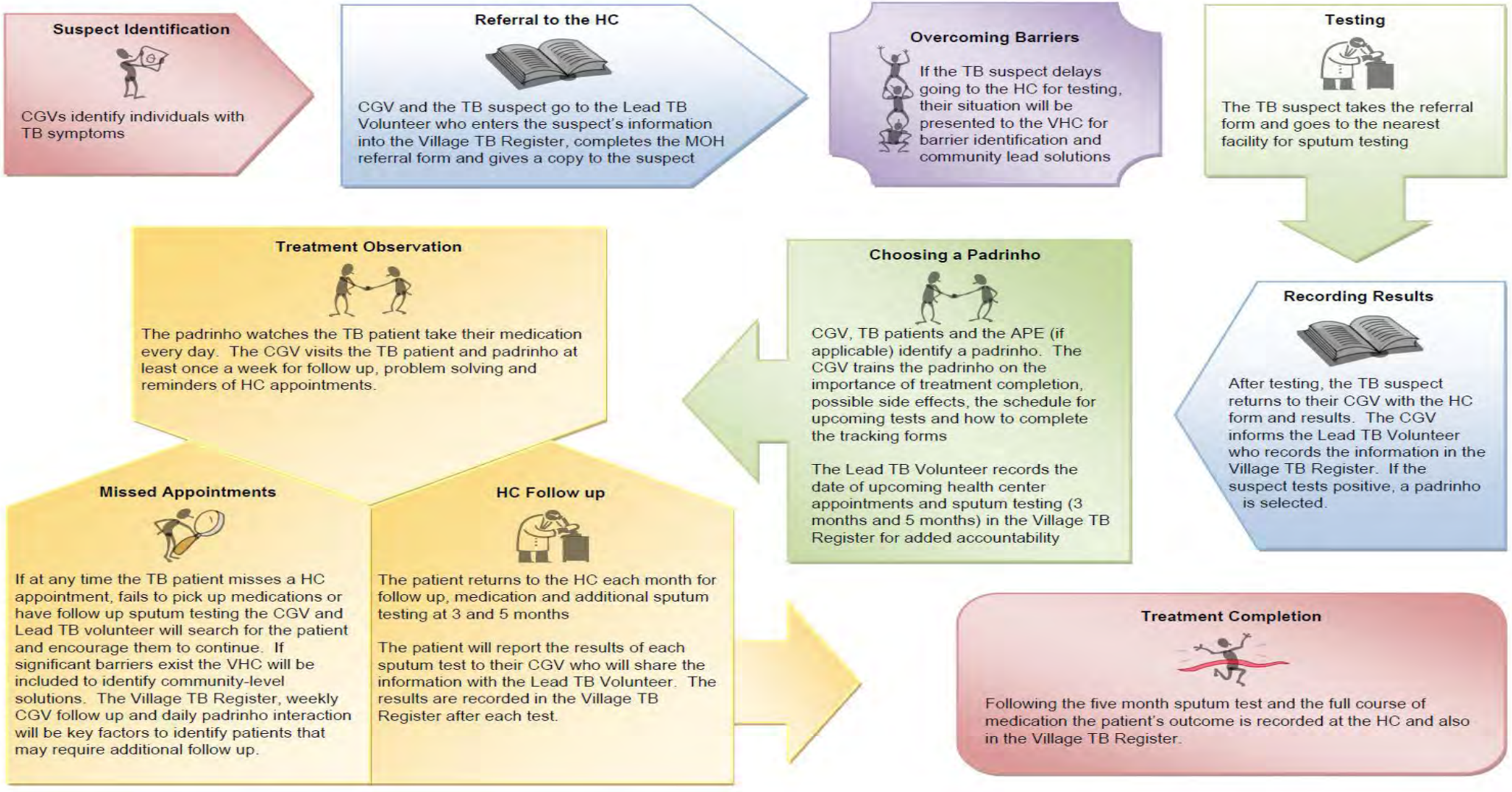
Data can be downloaded from www.who.int/tb/data

% available funding from Global Fund	0	12

NTP Budget (blue) and available funding (green) (US$ millions)



J.16 Annex 16: Referral flowchart



J.17 Annex 17: M&E Table

Strategy	Location	Indicator	Source/ Measurement	Frequency	Baseline	Q4 Oct-Dec 2010	Q1 Jan-Mar 2011	Q2 Apr-Jun 2011	Q3 Jul-Sep 2011	Q4 Oct-Dec 2011	ME	EOP Target
IR1: Empower people with TB to seek and complete treatment, with the support of their communities (45% effort)												
S.1.1: ACSM	RD	Percentage of respondents surveyed know that TB is transmitted through the air by coughing	KAP Survey Project Records	BL, ME, FE	20.7%	N/A	N/A	N/A	N/A	N/A	61.3%	60%
		Percentage of respondents surveyed know that cough longer than three weeks is a symptom of TB	KAP Survey Project Records	BL, ME, FE	13.3%	N/A	N/A	N/A	N/A	N/A	18.0%	60%
		Percentage of respondents that know that coughing is a symptom of TB	KAP Survey Project Records	BL, ME, FE	66.3%	N/A	N/A	N/A	N/A	N/A	66.7%	
		Percentage of respondents surveyed know that TB is curable	KAP Survey Project Records	BL, ME, FE	85.3%	N/A	N/A	N/A	N/A	N/A	91.7%	85%
		Percentage of respondents surveyed know that TB treatment is free	KAP Survey Project Records	BL, ME, FE	39.7%	N/A	N/A	N/A	N/A	N/A	23.3%	80%
		Percentage of volunteers trained	Project Records	Quarterly	0%	45.1%	60.9%	77.2%	81.0%	100%	N/A	100%
		Percentage of functioning VHCs trained	Project Records	Quarterly	N/A	5.7%	10.7%	25.7%	51.4%	100%	N/A	100%
S.1.2: Case Detection	RD	Case Notification Rate (per 100,000 population)	M-DRAT	Quarterly	128.3	139.5	93.6	120.1	93.6	107.7	N/A	165.0
		Percentage of TB suspects examined by sputum microscopy	M-DRAT	Quarterly	80.9%	93.4%	92.3%	95.2%	95.7%	81.8%	N/A	80%
		Percentage of referrals received from volunteers	M-DRAT	Quarterly	20.6%	14%	6.0%	10.3%	13.5%	14.7%	N/A	60%
S.1.3:	RD	Cohort analysis for treatment outcomes of SS+ TB patients										

Treatment Compliance		Treatment success	M-DRAT	Quarterly	78.6%	88.2%	80.9%	81.6%	75.6%	77.7%	N/A	85%
		Cure rate	M-DRAT	Quarterly	71.4%	83.8%	78.7%	81.6%	75.6%	75.5%	N/A	-
		Treatment completed	M-DRAT	Quarterly	7.1%	4.4%	2.2%	0.0%	0.0%	2.1%	N/A	-
		Treatment failure	M-DRAT	Quarterly	1.8%	4.4%	2.2%	3.9%	1.2%	1.1%	N/A	-
		Interruption rate	M-DRAT	Quarterly	3.6%	1.5%	6.7%	0.0%	3.7%	3.2%	N/A	<2%
		Deaths	M-DRAT	Quarterly	10.7%	5.9%	10.1%	11.8%	17.1%	17.0%	N/A	<7%
		Transfer rate	M-DRAT	Quarterly	5.4%	0.0%	0.0%	1.3%	0.0%	1.1%	N/A	-
		Percentage of SS- patients successfully completing treatment	M-DRAT	Quarterly	54.5%	70.6%	68.8%	92.7%	79.5%	70.5%	N/A	85%
		Percentage of patients on CB-DOT	M-DRAT	Quarterly	0.0%	4.4%	3.4%	2.6%	8.5%	16.0%	N/A	60%
		Sputum smear conversion	M-DRAT	Quarterly	86.6%	86.1%	74.0%	77.6%	79.7%	76.6%	N/A	90%
S.1.4: C-HIS	RD	Percentage of functioning VHCs with local data on TB in the previous quarter	Project Records	Quarterly	N/A	62.5%	57.1%	90.4%	47.2%	100.0%	N/A	80%
		Percentage of HCs that compile C-HIS data collected by volunteers on TB	Project Records	Quarterly	Year 2	100%	100%	100%	100%	100%	N/A	83%
IR2: Strengthen National Tuberculosis Program (NTP) Systems to improve TB service delivery and patient outcomes (45% effort)												
S.2.1: Assessment	RD & UC	Percentage of health center assessments conducted quarterly	M-DRAT	Quarterly	100%	100.0%	100.0%	100.0%	100.0%	100.0%	N/A	100%
		100% of health center assessments will be conducted with participation from the District TB Coordinators or designated representative	M-DRAT	Quarterly	1005	100.0%	100.0%	100.0%	100.0%	100.0%	N/A	100%
S.2.2: Diagnostic Quality	RD & UC	Proportion of major errors	M-DRAT	Quarterly	0.0%	0.3%	0.0%	0.0%	0.6%	0.0%	N/A	<1%
S.2.3: Access	RD	Percentage of HFs reporting sputum bottle stock outs in the previous quarter	Project Records	Quarterly	25%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	<10%

Strategy	Location	Indicator	Source/ Measure-ment	Fre-quency	Base-line	Q4 Oct-Dec 2010	Q1 Jan-Mar 2011	Q2 Apr-Jun 2011	Q3 Jul-Sep 2011	Q4 Oct-Dec 2011	ME	EOP Target
S.2.5: Info Systems	RD & UC	Percentage of HC reporting TB drug stock outs in the last quarter	M-DRAT	Quarterly	87.5%	62.5%	87.5%	62.5%	37.5%	62.5%	N/A	<5%
S.2.6: Supervision	RD	Percentage of HPs supervised by the District TB Coordinator during the previous quarter	M-DRAT	Quarterly	83.3%	83.3%	100.0%	83.3%	66.7%	50.0%	N/A	85%
		Percentage of HPs reporting supervisory visits by the District TB Coordinator	Project Records	Quarterly	Year 2	^	^	^	^	^	N/A	85%
S.2.7: Coordination	RD & UC	Percentage of meetings attended with MISAU & TB Partners	Project Records	Quarterly	100%	100%	100%	100%	100%	100%	N/A	80%
		Number of joint supervisory visits to the HP	Project Records	Quarterly	N/A	0	2	3	6	6	N/A	6
IR3: Integrate TB/HIV activities to address high co-infection rates (10% effort)												
S.3.1: TB and HIV Education	UC	Number of OVC and youth volunteers trained	Project Records	Quarterly	0	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	N/A	60
		Number of Pastors' Networks trained	Project Records	Quarterly	0	38	26	19	20	Target achieved in Q4, 2010	N/A	3
S.3.2: Case Finding in PLWHA	UC	Number of HBCAs trained	Project Records	Quarterly	0	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	N/A	40

Strategy	Loca-tion	Indicator	Source/ Measure-ment	Fre-quency	Base-line	Q4 Oct-Dec 2010	Q1 Jan-Mar 2011	Q2 Apr-Jun 2011	Q3 Jul-Sep 2011	Q4 Oct-Dec 2011	ME	EOP Target
S.3.3: HIV/TB Testing	RD & UC	Percentage of HIV+ patients screened for TB	M-DRAT	Quarterly	44.8%	74.5%	87.7%	62.8%	87.3%	71.8%	N/A	60%
		Maintain high levels of HIV testing among TB patients	M-DRAT	Quarterly	97.8%	96.0%	99.6%	99.5%	100.0%	100.0%	N/A	95%
		Percentage of patients with TB who are also HIV+	M-DRAT	Quarterly	70.2%	55.3%	78.1%	83.3%	73.9%	58.7%	N/A	N/A
S.3.4: CPT	RD & UC	Proportion of TB/HIV+ patients on CPT*	M-DRAT	Quarterly	99.2%	99.6%	98.6%	101.3%	94.0%	98.8%	N/A	90%
		Percentage of HCs reporting stock outs of Cotrimoxazole in the last quarter	M-DRAT	Quarterly	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	<25%
S.3.5: CB-DOT	UC	Number of HBCAs trained on CB-DOT	Project Records	Quarterly	0	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	Target achieved in Q3, 2010	N/A	40

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