

Trip Report, January 20 – March 10, 2005: The National Tuberculosis Control Program in Afghanistan

March 2005

Pedro Suarez

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Rural Expansion of Afghanistan's Community-Based Healthcare (REACH)
Management Sciences for Health
784 Memorial Drive
Cambridge, MA 02139
Telephone: (617) 250-9500
www.msh.org

**Rural Expansion of Afghanistan's Community-Based Healthcare
USAID/REACH/MSH Program.
SUMMARY**

**Dr. Pedro G. Suárez (MSH)
January 20 - March 10, 2005**

I. Background and Developments: The National Tuberculosis Program (NTP) has disseminated new guidelines (2004) for expansion of Directly Observed Therapy, Short-course (DOTS) and strengthening of the NTP. Currently, only 20% of the estimated 70,000 new TB cases/ year are detected and treated, although an estimated 87% of detected cases are successfully treated. During an August 20-September 15, 2004, consultancy, Dr. Pedro Suarez, MSH TB advisor, highlighted issues inhibiting rapid expansion of DOTS. The MOPH has considered these recommendations and made key decisions to strengthen the NTP, including revision of the job description for NTP Director and subsequent appointment of Dr. Hayat Ahmadzai to the position on February 03, 2005. WHO and the Global Fund pledged financial support to for the position and to positions the NTP Central Management Unit expects to fill by March 30, 2005.

The Global Fund has granted \$3.4 million to the MOPH as the primary recipient for institutional development and capacity building for programs in HIV, Malaria, and TB control.

The Global Fund has also announced plans to award the MOPH \$2.4 million in Round 4 funds specifically for TB control. As a pre-condition, the GF MU must develop a work plan to support TB control activities.

- II. Purpose of Trip:** Under the direction of REACH Technical Director/Deputy, Dr. Fred Hartman,
- to assist the NTP to rapidly scale-up TB case detection and treatment capacity to expand DOTS
 - to advise the GF MU in review of sub-grantee technical activities in implementation of the TB prevalence survey and the HIV seroprevalence study in TB + patients
 - to make recommendations on a work plan supporting expansion of TB control activities through Round 4 GF awards.
 - to assist the GF MU laboratory advisor in a review of policies and procedures for improving the national capacity to do sputum microscopy to improve TB diagnosis and to establish national quality assurance programs in sputum microscopy for TB.

As revised after arrival, the SOW also included participation in a March 13-19 WHO/GDF evaluation of Afghanistan's TB control program, the logistics management of TB drugs and progress to date in TB control per global targets. Assessment included a field visit to a TB control facility in Ghazni province.

USAID/Kabul did not request an arrival briefing.

III. Summary of Activities (See Annex B for background/observations/findings in each designated area of the SOW)

- 1. Assist the NTP to rapidly scale-up TB case detection and treatment capacity to expand DOTS**
- Developed and supplied intensive, personalized training in management and TB control to Dr. Ahmadzai, new NTP Director.
 - Assisted the NTP in developing a proposed Operational Plan – 2005 (See document annex) clearly oriented to expand the DOTS coverage. Organized into eleven managerial and technical components, the plan's core objectives are as follows:
 - To implement DOTS in 100% of Comprehensive Health Centers (CHCs) and selected hospitals of the 8 priority provinces

- To implement DOTS in 100 % of CHCs in 26 provinces of Afghanistan
- To improve case detection from 26% to 40%

The preliminary total budget for the Operational Plan-2005 is around USD 3 million; to achieve Operational Plan goals, 68.1% of the total budget should be oriented in three main components: TB treatment, training, and laboratory improvements.

- Participated in the February 2005 WHO/GDF evaluation of Afghanistan's TB program: Although there has been no shortage of anti-TB drugs to date, current stock of Ethambutol at the national level is low and urgent procurement of 2.5 million tablets of Ethambutol is advised. However, following this procurement, the national stock will be sufficient to treat only 15,000 patients, while case notifications are expected to increase to 30,000 patients this year due to DOTS expansion. WHO, the main funding source for TB drugs, currently has insufficient funds (approximately USD 1 million) to meet this need.

Main recommendations

- Complete approval process for Operational Plan-2005 and begin implementation.
- Given need for rapid DOTS expansion, immediately finalize MOPH national guidelines for TB control (as currently published, the guidelines identify NTP goals and structure and provide policies on components of TB control).
- Fill NTP Central Unit positions, review and reinforce NTP structure to better support DOTS expansion, and improve support to NTP to strengthen TB control as a national priority.
- To avoid duplication of effort and confusion at provincial and operational levels, clearly specify roles and responsibilities of each NTP unit, such as logistics, surveillance, training, laboratory in-charge and the National Tuberculosis Institute (NTI).
- With international technical assistance, train Central Unit and regional NTP coordinators in improved TB control management; support effort with a study tour to a TB model country.
- Coordinate with partners, particularly WHO, to immediately procure 2.5 million tablets of Ethambutol
- Apply to GDF for an emergency one-year grant for treatment of 30,000 patients before its deadline of application 11 March 2005 (completed)
- Collaborate with partners (WHO, USAID---through REACH, etc.) to organize and implement a drug supply system
- Coordinate with donors to secure funds for additional anti-tuberculous medications as DOTS expands; an estimated additional \$3,000,000 is needed for 2006-2008.
- Engage international technical support and all stakeholders, including the MoPH at regional and provincial levels, to develop a Strategic Plan for the NTP 2006-2010 before July 2005. the plan should focus on improving the quality of and expanding DOTS and will help determine the NTP budget required for future growth.
- With international technical assistance, review NTP guidelines on improving technical components of case detection, TB treatment, roles and responsibilities of the health workers and CHWs, and surveillance.
- With international technical assistance, develop technical guidelines on TB case detection; an NTP information system (operational and epidemiological); and logistic requirements for drugs and lab materials
- In collaboration with partners (GF MU; WHO; USAID, through REACH; etc.), apply Information, Education, and Communications/Behavior Change and Communications (IECC/BCC) strategies

2. Technical assistance to the CCM and Global Fund Management Unit (GF MU)

Under the program grant "Scaling up Afghanistan's Response to Tuberculosis Control," Afghanistan CMM has received USD 2.3 million for Round 4 activities to make DOTS available in

90% of districts covered by BPHS, ensure quality DOTS, prevent MDR-TB, and improve access to TB early diagnosis and effective treatment.

- Assisted GF MU in developing and reviewing work plan for Round 4; technical activities are reasonable and adequate to achieving objectives and to supporting NTP in critical components such as training. Approved by CMM, the work plan is now under process in GF headquarters in Geneva.

In initial implementation of the 3.4 million Global Fund grant, an RFP was issued for a prevalence survey of TB in Afghanistan and an HIV seroprevalence study in TB + patients.

- With committee, evaluated three prevalence survey proposals: 1) IRC, in collaboration with John Hopkins University; 2) HNI, in collocation with London School of Hygiene and Tropical Medicine; and 3) an Afghan NGO. Two applicants were considered to study HIV seroprevalence in TB SS+ patients: IRC/JHU and HNI/LSTMH. The IRC/JHU proposals were selected.

Main recommendations

- Focus GF MU Round 4 budget on reinforcing the NTP and improving DOTS expansion.
 - GF MU should coordinate TB activities in Round 2 and Round 4 with the NTP.
 - IRC/JHU should coordinate all operations research activities with the NTP, and the NTP should provide technical support to IRC/JHU.
 - The GF MU technical team should fully support NTP to reinforce the management capacity and quality assurance of the laboratory component.
- 3. Work with the new GF MU laboratory advisor to review policies and procedures for improving the national capacity to do sputum microscopy to improve TB diagnosis, and to establish a national quality assurance program in sputum microscopy for TB**
- Worked with the TB Lab advisor of the GF MU, the MoPH NTP Manager, and JICA to develop a proposal to implement QA and Basic Bio-safety in the TB laboratory network in Afghanistan (see Annex C).

Main recommendations

Given lab network operational conditions (see Annex C), steps to organize a functional TB laboratory network and implement the QA for TB Labs are as follows:

- Organize and establish a technical team in the National Reference Laboratory (NRL) of the NTP
- Specify roles and responsibilities of the NRL in the NTP
- Conduct training in TB Lab Management and QA for technical team of the National Reference Laboratory of the NTP
- Implement a quick laboratory assessment, as organized by GF MU and NTP, of eight priority Afghan provinces that support TB, malaria and HIV control. (See document annex)
- Implement a quick assessment of basic laboratory equipment (as organized by GF MU and NTP) that supports TB, Malaria and HIV control in Afghanistan. (See document annex)
- Implement “Quality Assessment for TB Sputum Smear Microscopy in Afghanistan,” a study organized by JICA and NTP.
- Implement QA focused on External Quality Assurance. Approve the proposed official guidelines for EQA; coordinate the JICA proposal with the GF MU work plan for implementation. For implementation, coordinate JICA proposal with the GF MU work plan. Use a modified Lot Quality Assurance System (LQAS) sample for blind rechecking periphery to center.

- Implement the “Manual for direct sputum smear microscopy,” a proposal by JICA and the NTP to develop a manual applicable to any laboratory in the country
- Implement the basic SOPs for Bio-safety in the TB Labs that process sputum smear microscopy, as developed by GF MU and NTP. (See Annex C)

4. An exit briefing with the CCM, including a representative from USAID, was held on March 09, 2005

Annex A

Proposal to organize and implement an IEC/BCC strategy for TB control in Afghanistan; Proposed technical approach for IEC for case detection

I. Findings

1. Due to constrained technical capacity, limited financial resources, low priority afforded to IEC/BCC, and the need to improve the expansion of DOTS, the NTP has requested technical assistance for development of an IEC/BCC strategy for TB control.
2. Health workers using limited printed materials of varying quality, such as flipcharts produced for Medair, ACD NGOs and local facilities, have been the predominant IEC/BCC channel for informing target audiences (health providers and beneficiaries). No TB control radio spots, newspaper articles, nor materials for the CHWs were found .
3. The NTP Operational Plan-2005 includes implementing basic IEC activities into health facilities with DOTS.
4. GF MU has budgeted for a consultancy in the 2nd semester of 2005 to prepare a COMBI plan of action; however, the NTP needs to implement basic IEC activities to improve the expansion of DOTS.
5. USAID/REACH has the technical capability to assist in the development and implementation of an IEC/BCC strategy for the NTP to be focused on the 13 provinces supported USAID funds.

II. Recommendations

1. To implement an IEC/BCC strategy for TB control, regular coordination is needed between the NTP and stakeholders (USAID, through REACH; WHO; GF MU; W; and EC). According to NTP, there is no IEC expertise.
2. Key stakeholders (NTP; USAID, through REACH; WHO; GF MU) should participate in developing an IEC/BCC strategy for TB that is grounded in an overall strategy to close the major gaps in DOTS coverage. This means developing and implementing IEC/BCC in the provinces in which these organizations are working and, potentially, in priority zones which may be selected for intensified interventions. Such a strategy will serve to guide stakeholders in developing their long- and short-term workplans.
3. NTP should coordinate the national IEC/BCC strategy and its implementation.
4. The IEC/BCC strategy should focus primarily on health facilities and CHWs.
5. Detailed definitions of primary and secondary audiences, Knowledge Attitude Practice (KAP) targets, objectives, messages, and indicators will be needed for case detection (see annex A) and case treatment. Target audiences will include

attendees at health facilities, TB patients and their families, health providers, and CHWs.

6. The mission recommends the following materials be available at the facility level: 1) a set of flipcharts (attached, movable counseling cards) for nursing personnel to use in counseling TB patients when they begin treatment (see model); 2) one cloth flipchart for health providers and CHWs to use in educating attendees at the health facilities or the population at large about TB (cloth flipcharts will be adaptation of card flipcharts); 3) large wall posters using the same illustrations and messages as the cloth flipcharts to reinforce their impact; 4) small wall posters for distribution to families; 5) a large wall poster to inform patients about the free diagnosis and treatment of TB; 6) flowcharts for the health facility on case detection, case treatment, and quality control in the lab; 7) pamphlets for TB patients and their families.
7. The content of materials for patients and providers, including CHWs, should be based on formative research exploring the organizational culture of the health facilities; societal characteristics (e.g., high levels of illiteracy, low status of women); clients' cultural and linguistic patterns; and their understanding of TB transmission and compliance with drug use. Message consistency is crucial. Key messages may include "Supervised treatment equals care" and "TB diagnosis and treatment are free."
8. Sixty-eight percent of TB cases are among people aged 15 to 44, with a peak among the 25-34 year cohort; moreover, an unusual predominance of TB in women persists. In 2003, 68% of positive sputum smear cases were women. The data suggests that women in the 15-44 year age group are the key target audience for an IEC/BCC strategy.
9. A workshop for provincial level TB program staff should be held to ensure adequate use of the IEC/BCC methodology.
10. The CHWs should be supplied durable materials, receive training in their appropriate use, and be monitored.
11. IEC/BCC activities, coverage, and effectiveness should be monitored, as should outcome indicators, such as the percent improvement in case detection and case treatment.

III. Proposed Next Steps

The USAID-funded REACH Program has the technical capability to assist in the development and implementation of an IEC/BCC strategy for the NTP focused in the 13 provinces supported USAID funds. The following activities should be undertaken:

1. Conduct a literature review on IEC/BCC for TB control in Afghanistan.
2. Conduct formative research on TB, including patients' and health providers' perceptions and knowledge about TB, its transmission, and treatment.
3. Develop an IEC/BCC strategic framework for TB control, including indicators.

4. To update partners and finalize strategy, present research findings and the IEC/BCC strategic framework at a TB stakeholder meeting focused on NTP, WHO and GF MU. to update partners and finalize strategy.
5. Define channels for communication and audience segmentation.
6. Develop behavioral change objectives for each target audience.
7. Develop, pretest, and refine messages and graphics with consideration for local audiences.
8. Produce materials.
9. Organize and conduct a training of trainers workshop on IEC/BCC for TB.
10. Distribute materials through respective channels (USAID funded REACH projects, NTP).
11. Monitor and evaluate distribution and use of materials
12. Hold a stakeholder meeting every three months to monitor progress and results in implementation of IEC/BCC.
13. After one year, document and publish results and lessons learned.

IV. Timetable

Activities to implement an IEC/BCC strategy	International TA required	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006
1. Organize start-up meeting NTP and stakeholders	✓	X				
2. Conduct a literature review	✓		X			
3. Conduct formative research on TB	✓		X			
4. Develop the IEC/BCC strategic framework for TB	✓		X			
5. Organize meeting of NTP and stakeholders to update partners and finalize strategy	✓		X			
6. Define channels for communication and audience segmentation	✓		X			
7. Develop behavioral change objectives for each target audience	✓		X			
8. Develop, pretest, and refine	✓		X			

messages and graphics with consideration for local audiences						
9. Produce materials.	✓		X	X	X	X
10. Organize and conduct a training of trainers workshop on IEC/BCC for TB.	✓			X		
11. Distribute materials through respective channels (e.g., USAID-funded REACH projects, NTP).	✓			X	X	X
12. Hold a stakeholder meeting very three months to monitor progress and results in implementation of IEC/BCC.	✓			X	X	X
13. After one year, document and publish results and lessons learned.	✓					X

Annex A

Proposed technical approach for IEC for case detection

1. Audience segmentation:

The primary audience in demonstration areas will be female clinic attendees aged 15-44; secondary audiences are medical doctors, nurses, lab technicians, and CHWs.

2. Desired knowledge, attitude, and behavior change:

The attendees at health facilities will know the principle TB symptoms (cough with expectoration of sputum for more than 3 weeks) and understand the need to seek care at the health facility. The health personnel will have the capacity to apply the public health criteria for case detection.

3. Objectives:

Increase attendees knowledge in 50% of facilities within the first year. Train the TB team in 100% of these same facilities during the first year.

4. Message:

The attendees at health facilities should know that persistent cough with expectoration of sputum for more than three weeks could be TB. Health personnel should have the same message.

5. Indicators:

Suggested indicators for the primary audience include the number and percent of:

- Attendees exposed to the messages
- Attendees who recall the message
- Attendees who seek information
- Attendees who adopt the behavior
- Materials produced
- Facility-based TB promotional campaigns

Suggested indicators for the secondary audience include the number and percent of:

- Personnel who receive key messages
- Personnel who recall the message
- Personnel who adopt a desired behavior
- Workshops and/or training courses
- Staff trained

Annex B

BACKGROUND, OBSERVATIONS, AND MAIN FINDINGS IN DESIGNATED AREAS OF SCOPE OF WORK

**Dr. Pedro G. Suárez (MSH)
January 20 - March 10, 2005**

1. Assist the NTP to rapidly scale-up TB case detection and treatment capacity to expand DOTS

- Despite tremendous social and economic difficulties, Afghanistan has made gradual progress in implementing and expanding DOTS strategy during the last three years. The main facts are as follows:
 - DOTS implemented in 38% of districts, covering 38 % of the entire Afghan population
 - TB case notification increased from 9,581 cases in 2001 to 12,871 cases in 2002, 13,616 in 2003, and 18,405 or 20,000 cases in 2004 (depending on the source) a 92 or 108% total increase over these three years. Around 86% of them were reportedly successfully treated in the existing DOTS health facilities
 - DOTS is being gradually integrated into the expansion of the BPHS, in particular through the financial support from USAID through REACH, the WB, and the EC
 - There has been no shortage of anti-TB drugs and laboratory supplies in DOTS areas. The national warehouse of the NTP is well controlled and maintained
 - Partners regularly coordinate their activities through ICC and Country Coordination Mechanism (CCM) for the Global Fund(GF)
- Although the NTP has shown gradual progress in the implementation of DOTS, significant limitations exist. The main facts are as follows:
 - Even though NTP reported a 108% increase in the reported number of TB cases between 2001 and 2004, this number represents only 26% of all expected annual TB cases in Afghanistan
 - The number of TB patients without accurate diagnosis and treatment who visit the health facilities is important, for example in the 117 hospitals included in the Afghanistan National Hospital Survey of August, 2004, we estimate that 15,000 to 20,000 TB patients were missed in 2004
 - In 2004, DOTS is implemented in a limited number of health facilities: 202 out of approximately 1013 health facilities in Afghanistan
 - There is no drug management information system in the NTP
 - The surveillance system and the monitoring & evaluation program for TB control are weak
 - Partnerships, although continuously expanded and quite effective, still need further development. The magnitude of TB problems is tremendous and the NTP needs further financial and technical support
 - The NTP has not developed an IEC/BCC strategy for TB control because of constrained technical capacity and limited financial resources

2. Technical assistance to the CCM and Global Fund Management Unit (GF MU)

- GF MU has hired a long-term laboratory advisor to further develop the system for sputum microscopy for TB diagnosis, HIV rapid testing, and malaria smears and to develop a nationwide quality assurance program in these technical activities. The ten operating technical GF MU staff

are a Program Manager, Deputy Program Manager, Monitoring & Evaluation Consultant (two), Laboratory Consultant, Training Consultant, Finance Manager, Logistic & Administrative Manager, International Program Technical Advisor, and International Financial Advisor.

3. Work with the new GF MU laboratory advisor to review policies and procedures for improving the national capacity to do sputum microscopy to improve TB diagnosis, and to establish a national quality assurance program in sputum microscopy for TB

- No laboratory QA program or basic Bio-safety SOPs for TB laboratories currently exist in Afghanistan.
- The NTP organizational chart includes a Laboratory in charge, but though a job description is available, the position is not functioning.
The GF MU has contracted a Lab consultant whose Scope of Work (SOW) includes activities to strengthen the national TB laboratory network; GF MU Round 2 and 4 budgets financially support strengthening the national TB laboratory network.
- JICA has drafted “Guidelines for External Quality Assurance (EQA) of TB Sputum Smear Examination;” the work plan requires seven months (April – October 2005) to develop the EQA system in pilot areas using panel testing and blind rechecking. Budget estimate is not available.
- JICA has proposed “Quality Assessment for TB Sputum Smear Microscopy in Afghanistan,” a study using panel testing. The action plan requires three 3 months (April – June 2005); estimated budget USD 8,561.
- The February 2005 WHO/GDF mission to Afghanistan recommends collaboration with JICA and other partners to develop the TB laboratory network by establishing a functional national reference laboratory for the examination of sputum smear samples within a recognized quality control system.

Annex C



**Islamic Republic of Afghanistan
Ministry of Public Health
National Tuberculosis Control Program**



**Proposal to Implement Quality Assurance (QA) and
Basic Biosafety in the TB laboratory Network in Afghanistan**

March 2005



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LIST OF ACRONYMS/ABBREVIATIONS

AFB	Acid - Fast Bacilli
AIDS	Acquired Immunodeficiency Syndrome
ANHRA	Afghanistan National Health Resources Assessment
APHL	Association of Public Health Laboratories
BHC	Basic Health Center
BPHS	Basic Package for Health Services
CDC	Centers for Disease Control and Prevention
CHC	Comprehensive Health Center
CL	Controlled Laboratory
CV	Critical Value
DOTS	Directly Observed Treatment Short-Course
EQA	External Quality Assurance
FP	False Positive
FN	False Negative
GDF	Global Drug Facility
GFMU	Global Fund Management Unit
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
ILS	Intermediate Laboratory Service
IUATLD	International Union Against TB and Lung Diseases
JICA	Japan International Cooperation Agency
LQAS	Lot Quality Assurance System
MCP	Malaria Control Program
MoPH	Ministry of Public Health
MSH	Management Sciences for Health
NACP	National AIDS Control Program
NRL	National Reference Laboratory
NTI	National Tuberculosis Institute
NTP	National Tuberculosis Program
QA	Quality Assurance
QC	Quality Control
REACH	Rural Expansion of Afghanistan's Community-Based Health Care
RL	Reference laboratory

SOPs	Standard Operational Procedures
STI	Sexually Transmitted Infections
SOW	Scope of Work
TB	Tuberculosis
TB SS+	Pulmonary Tuberculosis Sputum Smear Positive
UNAIDS	United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
WHO	World Health Organization
ZN	Ziehl -Neelsen

I. Background

Using the international standard of one lab per 50,000 - 100,000 population, Afghanistan, with a population of 25.3 million, requires at least 250 laboratories for TB diagnostic. According to the Basic Package for Health Services (BPHC), all Comprehensive Health Centers (CHC) and hospitals should have the capacity to provide laboratory service for tuberculosis (TB) and malaria control. As of June 2004, the Afghanistan National Health Resources Assessment (ANHRA) had identified a total of 359 laboratories in the country, although it is uncertain how many are actually functioning.

At this time, a lab network in Afghanistan to support tuberculosis (TB) control does not exist, and Quality Assurance (QA) for sputum smear is not available. According to the National Tuberculosis Program (NTP), an estimated 134 labs work in TB control; however, only in some laboratories owned by Medair do lab technicians perform cross-checks of TB examined slides, and they do not use universally accepted methodology.

This organizational situation negatively impacts the capacity of the NTP to increase case finding and the quality of TB diagnosis and treatment.

The USAID/REACH (MSH) mission visiting Afghanistan in August 2004 recommended the following:

- Over the next year, focusing international technical assistance to strengthen the national TB laboratory network on the finalization of comprehensive Standard Operational Procedures (SOPs) for TB laboratories and organizing the implementation of SOPs and training for lab technicians
- Implementing QA activities in a well-organized fashion
- Taking action to improve performance
- Extending and integrating TB laboratory services up to the primary health care level

II. Findings

In February-March 2005, a technical advisor to USAID/REACH visited Afghanistan to work with the new Global Fund Management Unit (GFMU) laboratory advisor to review policies and procedures for improving the national capacity to do sputum microscopy to improve TB diagnosis, and to establish national quality assurance programs in sputum microscopy for TB. The main findings and recommendations are as follows:

1. To date, no QA program has existed in Afghanistan, and information regarding this program is lacking.
2. To date, no basic Bio-safety SOPs for TB laboratories have existed in Afghanistan.

3. The organizational chart of the NTP includes a Laboratory in Charge, but though a job description for this position is available, currently the position is unfilled.
4. The GFMU has contracted a Lab Consultant whose Scope of Work (SOW) includes strengthening the national TB laboratory network.
5. GFMU financial support to strengthen the national TB laboratory network has been included in the second and fourth round budget.
6. JICA has developed a first draft of “Guidelines for External Quality Assurance (EQA) of TB Sputum Smear Examination.” The action plan for developing and piloting an EQA system requires seven months (April – October 2005) and includes two methods: Panel testing and blind rechecking. A budget is not available.
7. JICA has developed a first draft of a study proposal “Quality Assessment for TB Sputum Smear Microscopy in Afghanistan.” The action plan for this study requires three months (April – June 2005) and includes one method: Panel testing survey. The budget is an estimated USD 8,561.
8. The WHO/GDF mission visiting Afghanistan in February 2005 recommended collaborating with JICA and other partners to develop a TB laboratory network by establishing a functioning national reference laboratory with a recognized quality control system for the examination of sputum smear samples
9. On this framework the TB Lab advisory of the GFMU, jointly at the NTP Manager of the MoPH, JICA and USAID/REACH advisory development a proposal to implement QA and basic Biosafety in the TB laboratory network in Afghanistan.

III. Recommendations

Given the operational conditions of the lab network in the country, described previously, the following steps are needed to organize a functional TB laboratory network and implement the QA for TB Labs:

1. Organize and establish a technical team in the National Reference Laboratory (NRL) of the NTP.
2. Specify roles and responsibilities in the National Reference Laboratory of the NTP.
3. Train a technical team in TB Lab Management and QA for the National Reference Laboratory of the NTP.
4. Implement a quick assessment, organized by GFMU and NTP, of the laboratories in eight priority provinces in Afghanistan that support TB, malaria and HIV control (see annex A).
5. Implement a quick assessment, organized by GFMU and NTP, of basic laboratory equipment that supports TB, Malaria and HIV control in Afghanistan (see annex B).
6. Implement the study “Quality Assessment for TB Sputum Smear Microscopy in Afghanistan,” organized by JICA and NTP.

7. Implement QA focused in EQA. The NTP should approve official guidelines for EQA coordinated with those in the JICA and GFMU proposals, using a method of blinded rechecking to periphery to center modified by applying the Lot Quality Assurance System (LQAS) (see annex C).
8. Review and implement the proposed “Manual for direct sputum smear microscopy,” developed by JICA and NTP, which can be applied to any laboratory in the country (see annex D).
8. Implement the basic SOPs for Biosafety in the TB labs that process sputum smear microscopy, as developed by GFMU and NTP (see annex E).

Approach to the development and implementation of SOPs

- The implementation of SOPs requires consultation with a wide range of stakeholders and review at all stages in order to obtain a consensus and ensure local ownership. To assist this process, a participatory approach should be used to build the local management capacity within the NTP and MoPH to finalize and implement SOPs appropriate for the local situation in Afghanistan
- Through a consensus building process, stakeholders from the NTP, MoPH and selected regional and district laboratories will review the content, style, layout, technical accuracy, user-friendliness and suitability of SOPs; identify gaps in the document; and agree on any changes and/or additions required.

IV. Timetable

1. Activities to improve the management and technical capabilities of National Reference Laboratory	International TA required	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006
1.1 Organize and establish a technical team in the National Reference laboratory of the NTP	✓	X	X						
1.2 Specify roles and responsibilities in the National Reference laboratory of the NTP	✓	X	X						
1.3 Train a technical team in Management and QA for the National Reference laboratory of the NTP	✓		X						
2. Activities to organize baseline information for TB Lab Network									
2.1. Implement a quick laboratory assessment of the laboratories in 8 priority provinces in Afghanistan that support TB, malaria and HIV control	✓	X	X						
2.2. Implement a quick assessment of basic laboratory equipment that support TB, Malaria and HIV control	✓	X	X						
2.3. Implement the study “Quality Assessment for TB Sputum Smear Microscopy in Afghanistan”	✓		X						
3. Activities to implement EQA and basic SOPs Biosafety									
3.1. Obtain approval of official guidelines for EQA	✓		X						
3.2. Implement guidelines for EQA	✓		X	X	X	X	X	X	X

3.3. Review and implement the proposed “Manual for direct sputum smear microscopy”,	✓			X	X	X	X	X	X
3.4. Implement training for lab	✓		X	X	X	X	X	X	X
3.5. Implement the basic SOPs for Biosafety in the TB Labs	✓	X	X	X	X	X	X	X	X

V. Rationale

Quality Assurance (QA) with regard to TB bacteriology is a system designed to continuously improve the reliability, efficiency and use of TB laboratory services. QA must be established in order to achieve the required technical quality in laboratory diagnosis. Intermediate (level II) laboratories should supervise the peripheral network, while the NRL should supervise the intermediate network. The main components of a QA program are the following:

1. Quality control (QC)

The internal monitoring of working practices in the TB laboratory, including technical procedures, equipment and materials, quality of specimens collected, containers, transportation, recording and reporting, and bio-safety issues.

2. External quality assurance (EQA)

Proficiency testing, with three main methods developed to assess laboratory performance: on-site evaluation, panel testing and blinded rechecking.

2.1. On site evaluation

Visits to network laboratories to directly observe working conditions, technical and administrative procedures, and the coordination between the laboratory and other services involved in the TB control strategies at that level (NTP, DOTS).

A checklist is used to ensure that SOPs are in place, a functional microscope and adequate supply of reagents within expiration dates are available, a Laboratory Register and standardized request-report forms are properly used, results are promptly reported to the health centre, and slides are stored for EQA rechecking.

During the visit, data is collected on the number of smear examinations per week/ month and positivity rates for TS and follow up examinations. Cross-checking both laboratory and NTP registers will illustrate coordination and whether pulmonary tuberculosis sputum smear positive (TB SS+) cases reported by the laboratory are receiving treatment.

DOTS requires NTP supervisors to make quarterly visits to health centres; this provides the opportunity for basic laboratory supervision as well as for collecting slides to be rechecked at the higher level laboratory or delivering slides, or their results, for panel testing.

These visits can be combined or alternated with those by a staff member from NRL or level II laboratories, who can make a more complete technical evaluation of procedures: rechecking several positive and negative smears; analysing with laboratory technicians the results obtained in

panel testing or rechecking; and suggesting measures to resolve problems. In all cases, a brief meeting should be held with the laboratory personnel, nurse, health workers and physician to jointly discuss such matters, as well as to discuss the coordination of the components of the NTP at the local level, its evolution over time, and need for any corrections and improvement.

2.2. Panel testing

A method of EQA in which the NRL or the intermediate level periodically send a batch of stained smears to the corresponding peripheral laboratories for processing, reading, and reporting of results.

Panel testing provides some basic information on the state of the microscope and quality of examinations. It is used prior to implementing a rechecking program in order to quickly detect problems associated with very poor performance and to evaluate proficiency of laboratory technicians following training. Panel testing can also be used in areas and settings where positivity rates are very low to guarantee that technicians are periodically examining some positive slides.

Where the sample of slides submitted to re-reading (LQAS, see below) contains few or no positives, proficiency testing will complement assessment made by blinded rechecking.

A panel must include at least ten slides, some with different grades of positivity, in order to evaluate the ability of the technicians to properly grade positive results. Either especially manufactured slides or stained smear slides collected from the routine at the reference laboratory can be used.

The first option is to treat positive sputum samples with sodium hydroxide and formaldehyde solutions mixed and diluted to obtain the desired AFB load to prepare a stock of standardized slides; this is not an easy procedure. The same batch of slides should be sent to all participant laboratories so that each one's performance can be evaluated. Slide sets sent in different panel testing exercises should differ in the quantity and positivity of grades. After initial pilot testing, for continuity, panel testing should be done at regular intervals, as should other EQA activities. The frequency of panel testing may be increased or decreased, depending on laboratory performance.

Example:

Ten slides were sent to the peripheral laboratory. Results were compared with the "gold standard" at the Central Laboratory, and a 2 x 2 double entry table was created as follows:

Peripheral laboratory	Reference laboratory		TOTAL
	(+)	(-)	
(+)	7 (a)	1 (b)	8 (a+b)
(-)	1 (c)	1 (d)	2 (c+d)
TOTAL	8 (a+c)	2 (b+d)	10 (a+b+c+d)

Total agreement: $(a+d)/(a+b+c+d) = 8/10 \times 100 = 80\%$. Total disagreement: $(c+b)/(a+b+c+d) = 2/10 \times 100 = 20\%$. False positives (FP), relative % = $b/(a+b) = 1/8 \times 100 = 12.5\%$. False negatives

(FN), relative % = $c / (c+d) = 1/2 \times 100 = 50.0\%$. FP, absolute % = $b / b+d = 1/2 \times 100 = 50.0\%$. FN, absolute % = $c / a+c = 1/8 \times 100 = 80.0\%$

2.3. Blinded rechecking. Statistical bases: Lot Quality Assurance System (LQAS)

Blinded rechecking consists of periodically re-reading at the reference laboratory (RL) a sample of slides –randomly selected and representative- from a controlled laboratory (CL) in order to assess whether that laboratory has an acceptable level of performance.

To prevent bias, the RL must ensure that the technician rechecking the slides does not know the initial results. Discrepant results should be resolved by a second controller. These programs are not intended to confirm any individual patient's diagnosis but rather to assess laboratory performance.

A system must be in place to provide continual feedback to the laboratories under supervision. In the early 1970's, several countries established rechecking programs when the usual sample of slides was composed of 10% negatives and 100% positives. To facilitate rechecking, the CL stored positive and negative smears in two different boxes.

However, a significant improvement in this EQA method is the more recent application of the *Lot Quality Assurance System*, designed in manufacturing processes to test whether a “lot” (here referring to the smears examined during a given period of time in a given laboratory) meets a specific standard. If the number of sampled smears re-read does not exceed the previously fixed “threshold or *critical value*” of false positive (FP) and false negative (FN) smears, the lot is accepted.

Calculating the sample size requires information on the positivity rate (population prevalence); the quantity of smears examined during the period (population size); the maximum number of FP and FN, called errors, that could be found in the sampled smears (critical value, CV); and the confidence level (usually 95%).

Sensitivity is defined here as the ability of the technician (CL) to detect AFB in relation to the RL. An average value of 80% is usually assigned.

Specificity inherent to the ZN method is very high, and it can be set at 99.9-100.0% , also relative to RL. Any FP result should trigger action.

Authors have signalled limitations of this method: the sample of positives here is too small to allow any conclusion about specificity if no false positives are found. With a specificity set at 100%, the *sample size* and the *critical value* are based on the total number of negative slides.

In practice, the number of slides to be selected (sample size) should be fixed beforehand by the RL using a Table similar to Table 1 based on LQAS method, with a confidence interval of 95%, sensitivity of 80% and specificity of 99.9%. The expected percentage of error, mainly due to FN, has been demonstrated to increase with prevalence (positivity rate). Therefore, according to statistical principles, sample size decreases with positivity rate, as can be seen in Table 1.

Table 1: Sample Size for Sensitivity 80%, Specificity 99.9%

Number of slides per quarter/ year	Slide Positivity Rate					
	5%	10%	15%	20%	25%	30%
200	107	72	54	43	36	30
500	154	89	62	48	39	31
1000	180	96	66	49	40	33
5000	208	103	69	50	40	33
50000	216	104	69	51	40	33

Source: WHO, APHL, CDC, IUATLD, KNCV, RIT. 2002. *External Quality Assessment for AFB Smear Microscopy*. Washington DC: Association of Public Health Laboratories.

An additional advantage of LQAS relative to the traditional sampling method of all positives plus 10% of negatives is the smaller size of the sample, especially for relatively high positivity rates.

Example

Lot size N= 501, 76 positive and 425 negative slides (Positivity rate= 15%).

Conventional sample size (all positives + 10% of negatives)= 76 + 43 (10% of 425)= 119.

LQAS, according to the Table, n= 66.

In a sample of three health facilities, the mission found a slide positive rate of 11.11%. (see Table 2); excluding the Islamic Aid Center, the rate was 10.30%. This data should be useful for calculating the sample size required for implementation of EQA using the LQAS method in Afghanistan.

Table 2: Slide Positive Rate in TB Laboratories, Afghanistan, 2004

Health Facilities	Symptomatic Respiratories Examined (Number)	Positive Rate	
		Number	%
Policlinic/ NTI/Darulaman	3,174	323	10.17
Ghazni TB Center	46	4	8.6
CHC/Islamic Aid Health Center/Ghazni	144	47	32.63
Total	3,364	374	11.11

Source: TB Laboratory Register at Health Facilities. Afghanistan, February – March 2005

2.4. Implementing the EQA

In operational conditions, UNION has identified four principal methods for the proficiency testing of smear microscopy results:

- Sending slides from center to periphery
Monitoring the quality of sputum smear microscopy during supervisory field visits
- Sending slides from periphery to center
- Sampling slides of registered patients

All four methods have distinct advantages and disadvantages, and it is thus advisable to develop several methods in parallel, specifying the objectives of each NTP (see Table 3).

Table 3. Advantages and disadvantages of methods for EQA of sputum smear microscopy.

Method	Advantages	Disadvantages	Use
On-site supervision	<ul style="list-style-type: none"> • Allows direct contact • Permits observation of actual work • Motivates staff • Identifies causes of errors • Permits verification of the quality of equipment 	<ul style="list-style-type: none"> • Selective, not country-wide if left solely to reference laboratory • Labor intensive • Costly 	<ul style="list-style-type: none"> • Always during supervisory visits
Periphery to center	<ul style="list-style-type: none"> • Country-wide • Low workload for periphery 	<ul style="list-style-type: none"> • Heavy workload for center • Unavoidable inaccuracies • Biased, if technique is not careful • Personnel must be made available 	<ul style="list-style-type: none"> • Standard for surveillance
Center to periphery	<ul style="list-style-type: none"> • Low workload for center • Rapid response country-wide • May lead indirectly to identification of faults in equipment 	<ul style="list-style-type: none"> • Ability testing, not routine performance 	<ul style="list-style-type: none"> • After training • Rapid assessment of training needs
Tuberculosis register based	<ul style="list-style-type: none"> • Unbiased assessment of accuracy of classification of registered patients 	<ul style="list-style-type: none"> • Logistically difficult • Heavy workload for center 	<ul style="list-style-type: none"> • Consider for repeat spot checks in selected tuberculosis management units

Source: International Union Against Tuberculosis and Lung Disease. 1998. *The Public Health Service National Tuberculosis Reference Laboratory and the National Laboratory Network Minimum Requirements, Role and Operation in a Low-Income Country*. Paris, France

3. Quality improvement

Quality improvement is a process by which the components of smear microscopy diagnostic services are analyzed to look for ways to permanently remove obstacles to success. Data collection, data analysis, identification of problems and creative problem solving are key

components of this process. Quality improvement involves continued monitoring and identification of defects, followed by remedial action to prevent recurrence of problems.

VI. References

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Comprehensive Checklist for the Quick Assessment of Laboratories in Priority Provinces in Afghanistan that Support TB, Malaria and HIV control

I. Background

In many countries like Afghanistan with a high prevalence of tuberculosis (TB) and malaria, microscopy remains the most cost effective tool for the following:

- Diagnosing very infectious cases of TB and malaria in the community
- Monitoring progress in the treatment of TB and malaria cases
- Declaring the cure rate at the end of TB treatment and the type of malarial infection
- Categorizing TB patients and their treatment
- Strategizing TB control (DOTS) that relies on network laboratories providing sputum smear microscopy

It is well known that serious deficiencies can occur in lab operation when insufficient attention is given to the quality of the work. The need to assess laboratory performance has been recognized for years, and both the NTP and the Malaria Control Program (MCP) have attempted at one time or another to monitor the quality of microscopic work.

Microscopy errors are likely to result in failure to detect persons with infectious TB and malaria. These cases will then continue to spread infection in the community and receive unnecessary treatment as non-TB and non-malaria cases. Error in follow-up smears can result in patients being placed on prolonged treatment or having treatment prematurely discontinued.

Afghanistan is considered a country with a low HIV prevalence but one at high risk for the spread of the HIV epidemic. At the end of 1999, the HIV prevalence in adults was estimated at below 0.01%. Using a point prevalence software package developed by UNAIDS and WHO, the actual number of HIV/AIDS cases was estimated at between 250 and 300. (*www.worldbank.org.af*).

However, according to the HIV control program director in the MoPH, the number of HIV cases in the year 2004 was estimated at 700 to 800.

To date, no Lab Quality Assessment (QA) system exists in Afghanistan and information regarding this program is lacking.

Using the international standard of one lab per 50,000 to 100,000 population, Afghanistan, with a population of 25.3 million, requires at least 250 laboratories for TB diagnostic.

Using the international standard of one lab per 50,000 - 100,000 population, Afghanistan, with a population of 25.3 million, requires at least 250 laboratories for TB diagnostic.

According to the Basic Package for Health Services (BPHC), all Comprehensive Health Centers (CHC) and hospitals should have the capacity to provide laboratory service for tuberculosis (TB) and malaria control. In June 2004, the Afghanistan National Health Resources Assessment (ANHRA) identified a total of 359 laboratories in the country, although it is uncertain how many are actually functioning. A lab network to support tuberculosis (TB) control does not exist, and

Quality Assurance (QA) for sputum smear is not available. According to the NTP, an estimated 134 labs work in TB control.

This organizational situation negatively impacts the capacity of the NTP and MCP to increase case finding and the quality of diagnosis and treatment. A similar situation exists for HIV control.

The Ministry of Public Health (MoPH), in coordination of Global Fund Management Unit (GFMU) and other stakeholders, has identified eight priority provinces in which to improve the TB, malaria and HIV control program in the fiscal year 2005: Kabul, Nangarhar, Helmand, Badakhshan, Kunduz, Ghazni, Balkh, and Herat.

II. Objectives

1. To define baseline data on laboratory staffing levels, facilities, infrastructure, basic bio-safety practices, laboratory practice, workload, and quality assurance for TB, malaria and HIV control in the priority provinces.
2. To identify the main gaps and priority needs.

III. Methodology

For this assessment the following steps should be undertaken:

1. Sampling

The survey will explore the qualitative aspects of laboratory activities; thus the most appropriate and convenient sample would be drawn from among existing laboratories. The number of laboratory units included should allow comprehensive and adequate collection of qualitative information, generally a time-consuming process. In order to collect enough data, we propose to carry out this qualitative study by enrolling 32 laboratories from the eight priority provinces. The sample should include four types of laboratories from each of the eight provinces:

- The provincial laboratory
- One principal hospital laboratory
- Two CHC laboratories

If several laboratories belonging to the same type are available in the province (i.e., Kabul), the number of laboratory (ies) required will be randomly selected from a pre-established list.

To obtain the list of labs available in the eight priority provinces, we will use up-to-date data from ANHRA, WHO and other stakeholders,

2. Assessment tool

One questionnaire, designed as a checklist (see annex 1).

3. Implementation

A small working group (3-5 people) selected from the laboratory coordination meeting will implement the assessment, including the following:

3.1. Pretest tool for assessment:

- The working group should designate two or three lab experts to apply the assessment tool in three labs in Kabul province. The pilot study for the assessment will be carried out in one reference hospital lab and two CHC labs. The working group is advised to translate the assessment tools into the local languages.

3.2. Approval of the final tool for the assessment:

- After pretest, the assessment tool will be reviewed and the working group should approve the final version.

3.3. Approval of the defined timetable:

- The working group should agree on a time table and the assessment activities should be defined.

3.4. Development of the flowchart:

- The working group should organize a flowchart for the assessment's operational procedures.

3.5. Organize the electronic data base

- The working group should organize a database in Epiinfo to record received data.

3.6. Conduct the training:

- A selected team of trained senior lab technicians (two from NTP, two from MCP and four from the central lab) should conduct the assessment after 2 days of training (see annex 2).

3.7. Provide facilities for the survey team:

- To organize the training and logistical support, the working group should develop a budget (see annex 3) and coordinate with the national and provincial authorities of the MOPH.

3.8. Organize the data collection

- Four survey teams each consisting of two senior trained lab technicians will visit the health headquarters of the selected province to obtain permission, discuss the objective and verify the list of the labs to be visited
- Each survey team will visit two provinces to apply the tools.
- After proper introduction, each survey team should visit the provincial lab technician and hold a friendly discussion on the purpose of their visit.

- The survey team will then collect the required data from the local laboratories according to their given skill.
- The required data will be collected in detail, following the developed checklists.

3.9. Supervision and monitoring of the survey team (assessors)

- Each survey team should be monitored by one supervisor designated by the working group.

3.10. Receive the data

- Following data collection in the province, each survey team should submit the collected questionnaires to their supervisor.

3.11. Analysis of the data

- To validate the data, a sample of the assessed labs will be selected for re-survey.

3.12. Preparation and dissemination of the final report

- The working group should draft a report of the assessment and organize a workshop with MoPH, GFMU and other stakeholders to provide feedback. After completion of the workshop, a final draft should be developed and disseminated.

IV. Timetable

Activities	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Conformation of working group	X											
Pretest tool for assessment		X										
Approval of the final tool for the assessment		X										
Approval of the defined timetable			X									
Development of the flowchart			X									
Organize the electronic data base			X	X								
Conduct the training					X							
Collect the data					X	X	X	X	X			
Providing facilities for the technical team					X							
Supervision and monitoring of the technical team (assessors)					X	X	X	X	X			
Analysis of the data							X	X	X			
Preparation and dissemination of the final report										X	X	X

A- ON-SITE EVALUATION

12. PHYSICAL STRUCTURE OF THE LABORATORY

Serial No	Laboratory Location/Structure (<u>√ Tick Yes or No</u>)	Yes	No	Remarks
1	Enough space for laboratory activities			
2	Walls and floor are easily washed, slip resistant and non absorbent			
3	Table(s) are made of materials resistant to chemicals used for cleaning and disinfection			
4	Power supply (electricity) is available in the laboratory			
5	Power supply (electricity) is available in the laboratory during the day time			
6	Power supply (electricity) is available in the laboratory during the night time			
7	Regular water supply is available in the laboratory during working hours			
8	A sink is available for washing hands and other materials			
9	An incinerator is available			

Comments _____

13. LABORATORY REAGENTS

Serial No	<i>Observation and question</i> Are all the following reagents with acceptable quality and manufacturing date available (<u>√ Tick Yes or No</u>)	Yes	No	Remarks
1	All the ZN reagents and materials used for diagnosis of TB			
2	All the Giemsa reagents and materials used for diagnosis of malaria			
3	All the kits and materials used for diagnosis of HIV			
4	All the kits and materials used for diagnosis of HBV			
5	All the kits and materials used for diagnosis of HCV			
6	All the kits and materials used for diagnosis of Syphilis			

Explain any deficiencies: _____

Action Required: _____

14. LABORATORY SAFETY

Serial No	Observing Questions <u>√ Tick Yes or No</u>	Yes	No	Deficiency
1	Access to the laboratory is limited to the lab personnel			
2	Laboratory is well organized and cleaned			
3	Disinfectant is used in the laboratory			
4	Disinfectant used is a kind recommended by the NTP			
5	Observed the technician smoking in the laboratory			
6	Observed the technician eating in the laboratory			
7	Observed the technician drinking in the laboratory			
8	The technician washes his hands before and after processing the clinical specimens			
9	Are sterilized disposable syringes used for blood sample?			
10	Sterilized, disposable lancets are used for blood samples			
11	The lab technician knows how to store securely the unprocessed sputum specimens in the lab during night time			
12	The technician knows that if infected materials, such as sputum containers or syringes, are not disposed, they can harm healthy people, especially children			

Explain any problems or deficiencies: _____

Action Required: _____

15. COLLECTION OF SAMPLES

Serial No	Observe and Question (√ Tick Yes or No)	Yes	No
1	Is specimen collected under direct supervision of the lab technician?		
2	Is the quality & quantity of specimen visually checked?		
3	Is specimen for follow up of TB patients collected according to policy?		
4	Is specimen for follow up of malaria patients collected according to policy?		

Explain any problems or deficiencies: _____

Action Required: _____

16. LABORATORY REQUEST FORM, REGISTER, REPORT FORMS FOR TB

Serial No	Observe and Question (√ Tick Yes or No)	Yes	No
1	Are the NTP-approved laboratory request forms, register and report forms used for every patient?		
2	Are all columns completed properly?		
3	Is the result report entered into the laboratory register daily?		
4	Are the microscopy results of all the examined specimens sent back to the treatment centre within two working days?		

Explain any problems _____

Action Required _____

17. LABORATORY REQUEST FORM, REGISTER, REPORT FORMS FOR MALARIA

Serial No	Observe and Question (√ Tick Yes or No)	Yes	No
1	Are the MCP-approved laboratory request forms, register and reports forms used for every patient?		
2	Are all columns completed properly?		
3	Is the result report entered into the laboratory register daily?		
4	Are the microscopy results of all the examined specimens sent back to the treatment centre within two working days?		

Explain any problems _____

Action Required _____

18. LABORATORY REQUEST FORM, REGISTER, REPORT FORMS FOR HIV

Serial No	Observe and Question (√ Tick Yes or No)	Yes	No
1	Are the NACP-approved laboratory request forms, register and reports forms used for every patient?		
2	Are all columns completed properly?		
3	Is the result report entered into the laboratory register daily?		
4	Are the microscopy results of all the examined specimens sent back to the treatment centre within two working days?		

Explain any problems _____

Action Required _____

19. WORKLOAD TUBERCULOSIS (1 October 2004 - 31 December 2004)

	Positive	Negative	Total
Number of slides examined			
Number of patients examined			

Explain any problem or deficiency _____

Action Required _____

20. WORKLOAD MALARIA (1 October 2004 - 31 December 2004)

	P. Falciparum	P. Vivax	Mixed Type
New slides examined			
U/T Examined			
Patients examined			

Explain any problem or deficiency _____

Action Required _____

21. WORKLOAD HIV AND BLOOD BORN DISEASES (1 October 2004 - 31 December 2004)

	Positive	Negative	Total
Number tested for HIV			
Number tested for HBV			
Number tested for HCV			
Number tested for Syphilis			

Explain any problem or deficiency _____

Action Required _____

B. QUESTIONERS

TUBERCULOSIS

22. According to NTP policy, how many sputum samples should be collected from a patient with suspected TB and in which sequence?

Answer _____.

23. Which one is the correct sequence of preparing sputum smear? (✓ Tick one box)

a- Open the sputum container, flame the loop and pick a small portion of sputum

b- Open the sputum container, and pick a small portion of sputum

c- Open the sputum container, flame the loop and pick a small purulent portion

24. If you have seen 20 AFB/ 10 fields, which one of the following is the correct report? (✓ Tick one box)

a- 1+

b- 2+

c- 3+

d- Exact number of AFB

MALARIA

25. What are the most common species of malaria infection in Afghanistan? (✓ Tick one box)

a- P. Vivax and P. Falciparum

b- P. Vivax and P. Oval

c- P. Vivax and P. Falciparum and P. Malariae

d- P. Oval and P. Malariae

26. The thick smear for diagnosis of malaria should be fixed with (✓ Tick one box)

a- Methyl alcohol

b- Ethyl alcohol

c- Xylol

d- All are wrong

27. Can a used prick or lancet be cleaned with alcohol and reused to bleed other people for diagnosis of malaria (✓ Tick one box) Yes

HIV, HBV and HCV

28. What is the name of the causative agent of HIV?

Answer _____

29. HIV Infection is transmitted through (✓ Tick one box)

- a- Infected blood
- b- Infected syringes
- c- Sex activity (intercourse)
- d- Contaminated medical and shaving instrument
- e- From infected mother to child
- f- All are correct

Instructions for Laboratory Assessment Tool

INTRODUCTION

Please spend no more than 10 minutes on this section.

Upon arrival at the laboratory unit, seek out the head of the laboratory. One of the members should introduce the assessment team and explain the purpose of the visit.

Hello. My name is _____. My colleague and I are here on behalf of the Global Fund Management Unit within the Ministry of Public Health. We are conducting a rapid laboratory assessment on the capacity of laboratories to support AIDS, TB and malaria control. The assessment is covering eight main provinces targeting four laboratories per province. Your laboratory has been selected to participate in the assessment.

We would like to ask you a few questions about the qualifications of the laboratory staff, the physical layout and material resources of this laboratory, including the reporting forms used, the workload in terms of testing for malaria, TB, HIV and STIs, and if there is quality assurance and biosafety. We would also like to assess basic knowledge on laboratory testing for HIV, TB and malaria as well as gather your opinion about the general function of your laboratory or suggestions for strengthening laboratory services.

This is not a test. There are no right and wrong answers.

We realize that your time is limited and greatly appreciate your willingness to respond to our questions.

Do you have any questions?

Respond to any questions as openly as possible.

After responding, request a quick tour of the laboratory before sitting down to administer the questionnaire. During the tour, try to observe all the key areas that you will be assessing, such as physical layout, the laboratory procedures taking place, the safety measures, etc.

At your earliest opportunity, document any critical issues that you noted during the tour.

NOTE

- Text in *TIMES ROMAN italic font* are instructions on ***what the interviewers should do***
- Text in **ARIAL font** are **exactly what the interviewers need to say**

LOCATION AND COVERAGE

Spend no more than 10 minutes on this section.

Q.1- 4: To begin, we would like to ask you about the name, location and population coverage of this laboratory.

Fill in the identification details for the laboratory.

Q. 5: What is the estimated size of the population served by this laboratory?

If the interviewees are not sure, then before leaving the facility, try to confirm this information from the in-charge of the health facility.

Q.6: What level of health facility is this laboratory located in: a BHC, CHC, District or Provincial Hospital?

Tick the box that represents the reported level of health facility. If the laboratory is located in a health facility that it is neither a BHC, CHC, District or Provincial Hospital then tick the box for "Other".

LABORATORY PERSONNEL AND QUALIFICATIONS

Spend no more than 10 minutes on this section.

Q. 7: What are the names and qualifications of the laboratory staff working here?

*List the first and last name for every **technical** staff working in the laboratory (i.e. laboratory technicians, laboratory assistants and microscopists). Specify their academic qualifications (certificate, diploma, degree). Record the name of the Head of the Laboratory separately in the space provided. (It is assumed that the number of laboratory technical staff will not exceed 4).*

Q. 8: Have your technical staff in this laboratory attended any laboratory training for TB, Malaria and HIV testing? Please tell us about the last training attended by each lab staff.

For each laboratory technician, assistant or microscopist, record the year of the last (i.e. the most recent) training for a particular disease in the appropriate box.

LABORATORY SERVICES

Spend no more than 10 minutes on this section.

Q. 9: Which laboratory tests are performed in this laboratory?

Tick the appropriate boxes against each disease.

Q. 10: Does this laboratory perform testing for only a single disease (i.e., separate for HIV, TB or malaria) or does it perform tests for more than one disease (i.e., integrated services)?

Tick the appropriate boxes according to the given response.

Q.11: Does this laboratory have a policy for External Quality Assessment?

Tick the appropriate response.

If the response is no, skip to Q. 12 on the next page.

If the response is yes, ask the following questions while pausing to fill each response in the relevant space provided.

- Please tell us who conducts the EQA. How often?
- Did you receive any feedback from the last supervision?
- How much time elapsed before you received feedback?
- What was the name of the assessor and which agency did he/she come from?
- When was the last EQA conducted?

LABORATORY STRUCTURE

Spend no more than 10 minutes on this section.

Q. 12: Please answer the following questions about the physical structure of the laboratory. You are free to demonstrate to us any problem areas.

After each question put an "X" under the appropriate response in the adjacent column, i.e., either Yes or No. Record any additional remarks made by the respondent in relation to the question. Based on your tour of the laboratory, verify the responses given and make special notes if your observation of the physical structure differs from that of the respondent. You may request another quick tour if necessary. If there is not enough space, write on the back of this page of the questionnaire.

1. Do you have enough space for laboratory activities?
2. Are the walls and floor easily washed, slip resistant and non-absorbent?
3. Are the tables made of materials that are resistant to chemicals used for cleaning and disinfection?
- 4.-6. Is a power supply available in the laboratory?
(Question further to establish whether the power supply is always available 24 hours a day, or instead interrupted and available only during the day or night.)
7. Do you have regular water supply available in the laboratory?
(Question further to establish whether the water supply is available daily during working hours.)
8. Is there a sink for washing hands and other materials?
9. Is there any incinerator available?

After completing the table, ask the following question:

Do you have any further comments on the physical structure of the laboratory?

Fill the response in the space given below the table for Q.12.

LABORATORY REAGENTS

Spend no more than 10 minutes on this section.

Q.13: Kindly answer the following questions about availability of laboratory reagents. If possible, show us the reagents so that we can confirm the brand and quality of available reagents.

Put an "X" under the appropriate response in the adjacent column, i.e., either Yes or No. Record any additional remarks made by the respondent in relation to availability of laboratory reagents. In addition, record the expiration dates of the reagents and, based on your observation, record whether the reagents appear to be of acceptable quality. Should any brand of reagents differ from that recommended by the MOPH, probe to determine the supplier or source of the reagents. If there is not enough space, write on the back of this page of the questionnaire.

1. Do you have Z N reagents and materials for diagnosis of TB infection?
2. Do you have Giemsa reagents and materials for diagnosis of malaria infection?
3. Do you have kits and materials for diagnosis of HIV infection?
4. Do you have kits and materials for diagnosis of HIV infection?
5. Do you have kits and materials for diagnosis of HCV infection?
6. Do you have kits and materials for diagnosis of HBV infection?
7. Do you have kits and materials for diagnosis of syphilis infection?

After completing the table for Q.13, ask the following two questions and write the response in the space provided:

- Please tell us of any other deficiencies affecting the supply of reagents and materials in this laboratory.
- What suggestions do you have on ways to minimize problems with laboratory reagents?

LABORATORY SAFETY

Spend no more than 10 minutes on this section.

Q. 14: Kindly answer the following questions on laboratory safety.

From your tour of the laboratory try to recall any activity related to biosafety. After each question put an "X" under the appropriate response in the adjacent column, i.e. either Yes or No. Record any additional remarks made by the respondent in relation to the question. If you notice anything that contradicts normal laboratory biosafety, please record your observation separately. If there is not enough space, write on the back of this page of the questionnaire.

1. Is access to this laboratory limited to the laboratory personnel?
2. Is this laboratory always well organized and kept clean?
3. Is any disinfectant used in this laboratory?
4. Is this disinfectant recommended by the National Tuberculosis Program?
5. Have you ever observed your laboratory personnel smoking in the laboratory?
6. Have you ever observed your laboratory personnel eating in the laboratory?
7. Have you ever observed your laboratory personnel taking drinks in the laboratory?

8. Do all laboratory personnel wash their hands before and after processing the clinical specimens?
9. Does this laboratory only use sterilized disposable syringes for taking blood samples?
10. Does this laboratory only use disposable lancets for taking blood samples?
11. Do the laboratory personnel know how to store securely the unprocessed sputum specimens in the laboratory during night time?
12. Do the laboratory personnel know that infected material, such as sputum containers or syringes, that is not disposed can harm healthy people, especially children?

After completing the table for Q.14, ask the following two questions and write the response in the spaces provided:

- Please tell us of any other deficiencies affecting the safety of this laboratory?
- What suggestions do you have about ways to minimize problems with laboratory safety?

COLLECTION OF SAMPLES

Spend no more than 10 minutes on this section.

Q. 15: Kindly answer the following questions regarding the collection of laboratory samples.

After each question put an “X” under the appropriate response in the adjacent column, i.e., either Yes or No. Record any additional remarks made by the respondent in relation to the question. If during the laboratory tour you noticed any practices in this laboratory that contradict the recommended procedures for collection of laboratory samples, please make a special note of your observation separately. If there is not enough space, write on the back of this page of the questionnaire.

1. Are specimens collected under the direct supervision of the laboratory technician?
2. Is the quality and quantity of specimens visually checked?
3. Are the specimens for follow up of TB patients collected according to policy?
4. Are the specimens for follow up of malaria patients collected according to policy?

After completing the table for Q.14, ask the following two questions and write the response in the spaces provided:

- Please tell us of any other deficiencies affecting the collection of samples in this laboratory.
- What suggestions do you have about ways to minimize problems with collection of samples?

LABORATORY REQUEST FORM, REGISTER, REPORT FORMS

REPORTS FOR TUBERCULOSIS

Spend no more than 10 minutes on this section.

Q. 16: Kindly answer the following questions regarding how this laboratory records and reports on TB tests. Please show us the laboratory request forms, registers and report forms that were used to record past sputum smear tests.

After each question put an “X” under the appropriate response in the adjacent column, i.e., either Yes or No. Record any additional remarks made by the respondent in relation to the question. If you notice the laboratory is using recording materials that are not by NTP, please make special note of this. If there is not enough space, write on the back of this page of the questionnaire.

1. Are the NTP approved laboratory request forms, register and report forms used for every patient?
2. Are all columns completed properly?
3. Is the result report entered into the laboratory register daily?
4. Are the microscopy results of all the examined specimens sent back to the treatment center within two working days?

After completing the table for Q.16, ask the following two questions and write the response in the spaces provided:

- Please tell us of any other deficiencies in terms of request forms, registers and report forms for this laboratory.
- What suggestions do you have about ways to minimize problems with laboratory request forms registers and report forms?

REPORTS FOR MALARIA

Spend no more than 10 minutes on this section.

Q. 17: Kindly answer the following questions regarding how this laboratory records and reports on malaria tests. Please show us the request forms, registers and report forms that were used to record past malaria tests.

After each question put an “X” under the appropriate response in the adjacent column, i.e., either Yes or No. Record any additional remarks made by the respondent in relation to the question. If you notice the laboratory is using recording materials that are not from MCP, please make special note of this. If there is not enough space, write on the back of this page of the questionnaire.

1. Are the MCP approved laboratory request forms, register and report forms used for every patient?
2. Are all columns completed properly?
3. Is the result report entered into the laboratory register daily?

4. Are the microscopy results of all the examined specimens sent back to the treatment center within two working days?

After completing the table for Q.17, ask the following two questions and write the response in the spaces provided:

- Please tell us of any other deficiencies in terms of request forms, registers and report forms for malaria in this laboratory.
- What suggestions do you have about ways to minimize problems with laboratory request forms registers and report forms for malaria?

REPORTS FOR HIV

Spend no more than 10 minutes on this section.

Q. 18: Kindly answer the following questions regarding how this laboratory records and reports on HIV tests. Please show us the laboratory request forms, registers and report forms that were used to record past HIV tests.

After each question put an “X” in the adjacent column under the appropriate response, i.e., either Yes or No.

Record any additional remarks made by the respondent in relation to the question. If you notice the laboratory is using other recording materials, please note details separately. If there is not enough space, write on the back of this page of the questionnaire.

1. Are the NACP approved laboratory request forms, register and report forms used for every patient?
2. Are all columns completed properly?
3. Is the result report entered into the laboratory register daily?
4. Are the microscopy results of all the examined specimens sent back to the treatment center within two working days?

After completing the table for Q.18, ask the following two questions and writel the response in the spaces provided:

- Please tell us of any other deficiencies in terms of request forms, registers and report forms for HIV in this laboratory.
- What suggestions do you have on ways to minimize problems with laboratory request forms registers and report forms for HIV?

LABORATORY WORK LOAD

TUBERCULOSIS

Spend no more than 10 minutes on this section.

Q. 19: Kindly answer the following questions regarding the laboratory workload for TB. If possible, show us the quarterly summaries for the _____ quarter of 200__.

With reference to the quarterly laboratory report, record the total number of positive and negative slides examined by the laboratory staff in the appropriate space in the table. In addition, record the number of patients examined for TB (new suspects plus those under treatment) and reported as positive and negative for TB infection in the appropriate space. If this report is not available, refer to the laboratory register for sputum smear results. Record any additional remarks made by the respondent in relation to the question. If you notice the TB laboratory registers are not up to date, please take note of this separately. If there is not enough space, write on the back of this page of the questionnaire.

1. What is the total number of slides examined during the stated period? How many were reported with positive and negative sputum smears?
2. What is the total number of patients examined during the stated period? How many were reported with positive and negative sputum smears?

After completing the table for Q.19, ask the following two questions and write the response in the spaces provided:

- Please tell us of any other deficiencies in terms of the TB workload in this laboratory.
- What suggestions do you have about ways to minimize problems with the workload for TB testing in this laboratory?

MALARIA WORKLOAD

Spend no more than 10 minutes on this section.

Q. 20: Kindly answer the following questions regarding the laboratory workload for malaria testing. If possible, show us the quarterly summaries for the _____ quarter of 200__.

With reference to the quarterly laboratory report for malaria, record the number of positive slides for different types of malaria infection in the appropriate space in the table. If this report is not available, refer to the laboratory register for malaria blood smears. Record any additional remarks made by the respondent in relation to the question. If you notice the laboratory registers for malaria tests are not up to date, please take note of this separately. If there is not enough space, write on the back of this page of the questionnaire.

1. What is the total number of slides for new patients that were reported as positive for Plasmodium Falciparum, for Plasmodium Vivax and with mixed malaria parasite infection?
2. What is the total number of slides for patients under treatment during the stated period that were reported as positive for Plasmodium Falciparum, for Plasmodium Vivax and with mixed malaria parasite infection?
3. What is the total number of patients examined and reported as positive for Plasmodium Falciparum, for Plasmodium Vivax and with mixed malaria parasite infection?

After completing the table for Q.20, ask the following two questions and write the response in the spaces provided:

- Please tell us of any other deficiencies in terms of the malaria workload in this laboratory.
- What suggestions do you have about ways to minimize problems with the workload for malaria testing in this laboratory?

HIV AND BLOOD BORN DISEASES WORKLOAD

Spend no more than 10 minutes on this section.

Q. 21: Kindly answer the following questions regarding this laboratory's workload for HIV and Blood Born Diseases testing. If possible, show us the quarterly summaries for the _____ quarter of 200__.

With reference to the quarterly laboratory report on HIV and Blood Born Diseases, record the number of patients tested and reported as positive for HIV, HBV, HCV and syphilis infection in the appropriate space in the table. If this report is not available, refer to the laboratory register for HIV and STI tests. Record any additional remarks made by the respondent in relation to the question. If you notice the laboratory registers are not up to date in terms of reporting for HIV and STI tests, please take note of this separately. If there is not enough space, write on the back of this page of the questionnaire.

1. What is the total number of patients tested for HIV and specify the number reported as positive and negative for HIV infection?
2. What is the total number of patients tested for HBV and specify the number reported as positive and negative for HBV infection?
3. What is the total number of patients tested for HCV and specify the number reported as positive and negative for HCV infection?
4. What is the total number of patients tested for syphilis and specify the number reported as positive and negative for syphilis infection?

After completing the table for Q.21, ask the following two questions and fill the response in the spaces given:

- Please tell us of any other deficiencies in terms of the HIV and Blood Born Diseases testing workload in this laboratory.
- What suggestions do you have on ways to minimize problems with the workload for HIV and Blood Born Diseases testing in this laboratory?

Upon reaching this stage of the questionnaire say:

Thank you for responding to our questions in great detail. Before we conclude, we would like to answer a few multiple questions related to laboratory tests for HIV, tuberculosis and malaria.

Administer each of the questions and read out the multiple choices. Tick the appropriate letter based on the given response.

At the end of the questionnaire, be sure all the questions on each page have been answered. Then thank all the laboratory staff for their cooperation and bid them farewell.

Training Curriculum for Survey Team for the Quick Assessment of the Laboratories in Priority Provinces in Afghanistan that Support TB, Malaria and HIV Control

I. Training description

This two day training course is designed to prepare the survey team to collect the data required to assess the laboratories in priority provinces in Afghanistan that support TB, malaria and HIV control.

II. Course goal

Provide knowledge and skill to the trainees to properly use the assessment tools for effective collection of data from the designated laboratories.

III. Objectives

- Describe the background, objective and methodology of the laboratory assessment
- Identify the role and responsibility of the survey team
- Understand the importance of the assessment
- Guarantee the correct use of the procedures for data collection

IV. Training methods

- Illustrated lectures and group discussion
- Group exercise
- Role plays
- Practice in the laboratory

V. Training materials

- Guidelines from NTP, MCP, and NACP
- Questionnaire for the assessment

VI. Participants

- Survey team: 2 from NTP, 2 MCP and 4 Central Laboratory
- Four supervisors
- Three facilitators

VII. Method of evaluation

- Participants: Pretest and posttest
- Training: evaluation

VIII. Duration of the course

- Two days – full time

IX. Venue of the course

NTI or Central Laboratory

X. Agenda

Date	Activity	Objective	Time	Facilitator
Day 1	Registration of the participants		8.30 am– 9.00 am	
	Introduction to the training	<ul style="list-style-type: none"> • Orientation • Introduction of participants • Review of agenda, objectives and goal • Pretest 	8.30 am– 9.30 am	All working group
	Lecture and brief group discussion about the TB, Malaria and HIV situation in Afghanistan	<ul style="list-style-type: none"> • To refresh the skill and knowledge of the participants 	9.30 am– 10.15 am	NTP/MCP/ NACP Managers MoPH
	Break		10.15 am – 10.30 am	
	Lecture and brief group discussion about the situation of the lab network in Afghanistan	<ul style="list-style-type: none"> • To refresh the skill and acknowledge of the participants 	10.30 am – 11.00 am	Central Laboratory Director MoPH
	Lecture and group discussion about the objectives, methodology and timetable of the assessment	<ul style="list-style-type: none"> • To describe objectives, methodology and timetable of the assessment 	11.am – 12 m	Q. Habibi GFMU
	Lunch		12m – 1 pm	
	Lecture and group discussion about the assessment tool	<ul style="list-style-type: none"> • To guarantee the correct use of the procedures for data collection 	1pm – 2.30 pm	Q. Habibi GFMU
	Groups exercise	<ul style="list-style-type: none"> • To identify the role and responsibility of the survey team and supervisors 	2.30 pm – 3.30 pm	All working Group

	Group discussion	<ul style="list-style-type: none"> To assess the efficiency of the survey team and supervisors 	3.30 pm – 4 pm	All working Group
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Date	Activity	Objective	Time	Facilitator
Day 2	Field visit to four Kabul laboratories (2 participants, 1 supervisor)	<ul style="list-style-type: none"> To assess the tool and verify the skill of the survey team and supervisors 	8.30am – 12.30 pm	All working group
	Lunch		12.30 pm – 1.30 pm	
	Group discussion	<ul style="list-style-type: none"> To assess the efficiency of the survey team and supervisors 	1.30 pm – 2.30 pm	Q. Habibi GFMU
	Conclusions	<ul style="list-style-type: none"> Post test Training evaluation Work agreements 	2.30 pm – 4.00pm	All working group

Budget (for GFMU)

I. Field test

- Printing of assessment tool
- Transportation for the field test group to visit three labs in Kabul over two days
- Lunch for five people

II. Training for 12 participants and 5 facilitators

1. Training materials Amount required

- TB Lab Manual 12 copies
- Malaria Lab Manual 12 copies
- HIV Lab Manual 12 copies
- Ballpoint pen 17 pcs
- Pencils 17 pcs
- Note pad 17 pcs
- File cover 17 pcs
- Agendas 17 pcs
- Copy of the assessment tool 17 pcs
- Pretest and posttest 17 pcs
- Training evaluation 17 pcs
- Attendant sheet 1 pcs
- Board markers, and others

2. Refreshment and lunch for 2 days for 17 people

3. Transport for 17 participants for 2 days

4. Transport for four groups for field visits to four laboratories in Kabul

5. Payment to 12 participants and 5 facilitators

III. Traveling expenses for assessment in 32 laboratories in eight provinces

- Printing of assessment tools for 32 laboratories
- Per diem and transportation for four survey groups (each group should consist of 3 people who will visit two provinces)
- Time for each group: six days per province to visit four labs
- Communication facilities
- Office material

IV. Organize the electronic data base

- Part-time consultation for two weeks to develop and organize a database in Epiinfo for recording received data

V. Analysis of the data

- Part-time consultation for three weeks to record and analyze the database in Epiinfo

VI. Preparation and dissemination of the final report

- Part-time consultation for two weeks to draft and finalize the assessment report
- Printing and dissemination of final report (200 copies)

Checklist for the Quick Assessment of Basic Laboratory Equipment that Supports TB, Malaria and HIV Control in Afghanistan

I. Background

In main countries like Afghanistan with a high prevalence of tuberculosis (TB) and malaria, microscopy remains the most cost effective tool for

- Diagnosing very infectious cases of TB and malaria in the community
- Monitoring progress in the treatment of TB and malaria cases
- Declaring the cure rate at the end of TB treatment and the type of malarial infection
- Categorizing TB patients and their treatment
- Strategizing TB control (DOTS) that relies on network laboratories providing sputum smear microscopy

It is well known that serious deficiencies can occur in lab operation when insufficient attention is given to the quality of the work. The need to assess laboratory performance has been recognized for years, and both the NTP and the Malaria Control Program (MCP) have attempted at one time or another to monitor the quality of microscopic work.

Microscopy errors are likely to result in failure to detect persons with infectious TB and malaria. These cases will then continue to spread infection in the community and receive unnecessary treatment as non-TB and non-malaria cases. Error in follow-up smears can result in patients being placed on prolonged treatment or having treatment prematurely discontinued.

Afghanistan is considered a country with a low HIV prevalence but one at high risk for the spread of the HIV epidemic. At the end of 1999, the HIV prevalence in adults was estimated at below 0.01%. Using a point prevalence software package developed by UNAIDS and WHO, the actual number of HIV/AIDS cases was estimated at between 250 and 300. (*www.worldbank.org.af*).

However, according to the HIV control program director in the MoPH, the number of HIV cases in the year 2004 was estimated at 700 to 800.

To date, no Lab Quality Assessment (QA) system exists in Afghanistan, and information regarding this program is lacking.

Using the international standard of one lab per 50,000 to 100,000 population, Afghanistan, with a population of 25.3 million, requires at least 250 laboratories for TB diagnostic.

Using the international standard of one lab per 50,000 - 100,000 population, Afghanistan, with a population of 25.3 million, requires at least 250 laboratories for TB diagnostic.

According to the Basic Package for Health Services (BPHC), all Comprehensive Health Centers (CHC) and hospitals should have the capacity to provide laboratory service for tuberculosis (TB) and malaria control. In June 2004, the Afghanistan National Health Resources Assessment (ANHRA) identified a total of 359 laboratories in the country, although it is uncertain how many are actually functioning. A lab network to support tuberculosis (TB) control does not exist, and

Quality Assurance (QA) for sputum smear is not available. According to the NTP, an estimated 134 labs work in TB control.

This organizational situation negatively impacts the capacity of the NTP and MCP to increase case finding and the quality of diagnosis and treatment. A similar situation exists for HIV control.

II. Objectives

- To determine the number of microscopes operating in the labs, and those that need repair or replacement by GFMU and other stakeholders in the provinces
- To determine the number of other pieces of basic equipment operating in the labs and those that need repair or replacement by GFMU and other stakeholders in the provinces

III. Methodology

For this assessment the following steps should be undertaken:

1. Sampling

The MoPH, GFMU and the other stakeholders decided not to sample the labs and instead to conduct a quick inventory of all known labs. We will use the updated data of the ANHRA, WHO and other stakeholders to obtain the list of labs available in the provinces.

3. Assessment tool

One questionnaire, designed as a checklist (see Annex 1).

3. Implementation

A small working group should be designated and organized to assess the lab in the eight priority provinces. Implementing the assessment includes the following:

3.1. Pretest tool for assessment:

- Two or three lab experts should be designated by the working group to apply the assessment tool in three labs in Kabul province. The pilot study for the assessment will be carried on in one reference hospital lab and two CHC labs. The working group is advised to translate the assessment tools into the local languages

3.2. Approval of the final tool for the assessment:

- After pretest, the assessment tool will be reviewed and the working group should approve the final version

3.3. Approval of the defined timetable:

- The working group should agree to and define a time table for assessment activities

3.4. Organize the electronic data base

- The working group should organize a database in Epiinfo to record received data

3.5. Organize the data collection

- The NTP Manager of the MoPH should send the questionnaire to the stakeholders supporting BPHS. These stakeholders should coordinate with the Provincial Directorates, main provincial labs and district-based laboratories for data on microscopes and other basic laboratory equipment
- Each local lab should complete the questionnaire and submit it to their provincial lab; the completed data should then be sent to the stakeholders and, finally, to the working group for analysis

3.6. Analysis of the data

The working group should organize a database in Epiinfo to record the data received from the Central laboratory.

3.7. Presenting the data and suggestion

The working group should draft a report of the assessment and organize a workshop with MoPH, GFMU and other stakeholders to provide feedback. Following the workshop, the report should be finalized and disseminated.

IV. Timetable

Activities	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Formation of working group	X											
Pretest tool for assessment		X										
Approval of the final tool for the assessment		X										
Approval of the defined timetable			X									
Organization of the electronic database			X	X								
Collection of the data					X	X	X	X	X			
Analysis of the data							X	X	X			
Preparation and dissemination of the final report										X	X	X

**Checklist for the Quick Assessment of Laboratory Basic Equipment who support TB,
Malaria and HIV control in Afghanistan**

1. Laboratory _____ 2. District: _____ 3. Province _____

4. Address _____

5. Population covered _____

6. Type of health facility: (√ Tick one box)

BHC CHC District Hospital Provincial Hospital Other

7. MICROSCOPES

Type of microscope	Number of microscope	Model	Inventory Year	Condition of the microscope (√ Tick one box)			Lamp Light (√ Tick one box)		Observations
				Working	To repair	To replace	Sun light	Electricity	

Explain any problems or deficiencies: _____

Action Required: _____

8. OTHER EQUIPMENT

<u>S</u> <u>No</u>	<u>Name</u>	Number	Type	Capacity	Condition of the equipment (√ Tick one box)			Observations
					Working	To repair	To replace	
1	Autoclave							
2	Centrifuge							
3	Incubator							
4	Distillatory							
5	Oven							
6	Elisa machine							
7	Refrigerator							
8	Balance							
9	Vortex mixer							
10	Water still							
11	Desiccators							
12	Bunsen burners							
13	Glass brushing machine							
14	Hot air oven							
15	Laminar flow hood							
16								

Explain any problems or deficiencies: _____

Action Required: _____

Instructions for Interviewers

Please spend no more than 10 minutes on this section.

Upon arrival at the laboratory unit, seek out the head of the laboratory. One of the members should introduce the assessment team and explain the purpose of the visit.

Hello. My name is _____. My colleague and I are here on behalf of the Global Fund Management Unit within the Ministry of Public Health. We are conducting a rapid microscopy and basic equipment survey in public laboratories. The assessment is targeting all public laboratories within eight main provinces.

We would like to ask you a few questions about the microscopes and other equipment in this laboratory, including their number, inventory date and whether they are functioning. We would also like to gather your opinion about the general function of your laboratory equipment and suggestions for maintenance.

This is not a test. There are no right and wrong answers.

We realize that your time is limited and greatly appreciate your willingness to respond to our questions.

Do you have any questions?

Respond to any questions as openly as possible.

After responding, request a quick tour of the laboratory before sitting down to administer the questionnaire. During the tour, try to observe all the available equipment and whether it is being used by the laboratory staff.

At your earliest opportunity, make a small inventory of the laboratory equipment and document any critical issues that you noted during the tour.

NOTE

- *Text in TIMES ROMAN italic font are instructions on **what the interviewers should do***
- Texts in ARIAL font are **exactly what the interviewers need to say**

LOCATION AND COVERAGE

Spend no more than 10 minutes on this section.

Q.1-4: To begin, we would like to ask you about the name, location and population coverage of this laboratory.

Fill in the identification details for the laboratory.

Q. 5: What is the estimated size of the population served by this laboratory?

If the interviewees are not sure, then before leaving the facility, try to confirm this information from the in-charge of the health facility.

Q.6: What level of health facility is this laboratory located in: a BHC, CHC, District or Provincial Hospital?

Tick the box that represents the reported level of health facility. If the laboratory is located in a health facility that it is neither a BHC, CHC, District or Provincial Hospital then tick the box for "Other".

MICROSCOPES

Spend no more than 10 minutes on this section.

Q.7: Please answer the following questions about the microscopes in this laboratory. You are free to display any of them to us. Can you first inform us how many microscopes there are in this laboratory?

In the table below, describe each microscope in a separate row. It is assumed that the number of available microscopes will not exceed four. For each microscope, ask all the questions below this paragraph and record the response along the same row in the corresponding column. Record any additional remarks made by the respondent in relation to the question separately. Based on your tour of the laboratory, verify the responses given and make special notes if your observation of the microscopes differs from that of the respondent. You may request to examine any microscope if necessary. If there is not enough space, write on the back of this page of the questionnaire.

1. Kindly tell us what kind of microscope this is.
2. What model is this microscope?
3. When was this microscope delivered to this laboratory?
4. What is the current condition of this microscope – is it good for microscopy tests? *(Probe to establish whether it is working well or needs repair or is beyond repair and needs to be replaced. Put a tick in the relevant column according to the response given)*
5. What kind of power source does this microscope require: light or electricity? *(If it is electricity you need to establish if the supply is regular during office hours)*
6. *After recording details for the microscope, request to examine it. Spend no more than 5 minutes examining the microscope and record your observations about its condition in the last column of the table.*

If there is another microscope, repeat the five questions above and the 6th step. Record the details of the microscope in the following row. Repeat until there are no more microscopes to record.

After completing the table for Q.7, ask the following two questions and fill the response in the spaces given:

- Please tell us of any deficiencies affecting the microscopes in this laboratory
- What suggestions do you have on ways to minimize problems with microscopes?

OTHER LABORATORY EQUIPMENT

Spend no more than 10 minutes on this section.

Q. 8: Kindly answer the following questions on other laboratory equipment.

Try to recall all available equipment seen during your tour of the laboratory. After each question put an “X” under the appropriate response in the adjacent column, i.e. either Yes or No. Record any additional remarks made by the respondent in relation to the question. If you notice anything that contradicts normal laboratory biosafety, please record your observation separately. If there is not enough space, write on the back of this page of the questionnaire.

Can you please tell us what other equipment you have in this laboratory?

Tick or write the names of all other equipment mentioned in the table for Q.8, each row representing a different kind of equipment. For each piece of equipment listed, ask the following four questions and record the response along the same row in the corresponding column:

1. Kindly tell us how many of this equipment are available in this laboratory?
2. What type or model is this equipment?
3. What is the capacity of this equipment?
4. What is the condition of this equipment?
5. *After recording details on the equipment, you should request to examine it. Spend no more than 5 minutes on the examination and record your observations about the equipment's condition in the last column of the table.*
6. *If no other equipment is listed, repeat the five questions above and the 6th step for the next equipment. Record the details of the equipment across the row. Repeat until there is no more equipment to record.*

After completing the table for Q.8, ask the following two questions and fill the response in the spaces given:

- Please tell us of any deficiencies affecting the microscopes in this laboratory
- What suggestions do you have on ways to minimize problems with microscopes?

Upon concluding questionnaire ensure all the relevant information on each page has been filled. If you need any clarification, do not hesitate to ask. Then say:

Thank you for responding to our questions in great detail. We very much appreciate your time and cooperation. We will share our findings with the central laboratory.
Have a nice day.

Recommended Basic Standard Operational Procedures (SOPs) to Implement External Quality Assurance (EQA) of Sputum Smear Microscopy in the TB Laboratory Network in Afghanistan

1. Selection of slides

The selection, storage and dispatching of TB slides examined at local laboratories for quality control on semiannual basis should be done as follows:

- According to the lab serial number in the Tuberculosis Laboratory Register (TB04), for laboratories that process 500 or more sputum smear slides monthly (6,000 or more annually) for diagnosis or follow-up, the sample is 99 per quarter.
- According to the lab serial number in the Tuberculosis Laboratory Register (TB04), for laboratories that process 50 to 500 sputum smear slides monthly (from 600 to 6000 annually), for diagnosis or follow-up, the sample size is 80 per quarter.
- According to the lab serial number in the Tuberculosis Laboratory Register (TB04), for laboratories that process fewer than 50 sputum smear slides monthly (fewer than 600 annually), for diagnosis or follow-up, the sample size is 70 per quarter.
- According to the lab serial number in the Tuberculosis Laboratory Register (TB04), laboratories that have not found any positive slides during the working month or during the semester for diagnosis or follow-up, should conserve 50% of the negative slides for QC.

2. Storage of slides

- The lab technician should clean the oil immersion of the examined slides in xylol daily. Place the slides on a slide rack for drying and then store them in a slide box for Quality Control (QC)
- According to the Tuberculosis Laboratory Register (TB04), the serial numbers of all slides should be clear.

3. Application of slides

The collection of slides should be performed at random from a cage where they are stored in numerically consecutive order. The sample corresponding to a semester should be collected quarterly (at three months) because during this period all labs will have processed more than 80 or 90 slides.

The system followed for random selection of slides to be re-read is always based on:

Total number of slides processed and stored / Sample size according to item I, i.e., 1500 (one quarter)/ 80: 18.75. This means that of every 19 slides, one is selected, using as a guide the Tuberculosis Laboratory Register (TB04).

An annual timetable should be prepared for each reference lab specifying the order in which the slide collection and control will take place in the labs under its control.

The timetable should specify two collections, i.e., during the 2nd and 4th quarters.

The Intermediate Laboratories Supervisor (ILS) should request that slides be shipped for QC at least two times a year (once per semester) from each laboratory within their local network. The supervised laboratory should send the forms for QC (see Annex 1 and 2) to the supervisory lab. The supervised laboratory should send the form (shown in Annex 1) in a sealed envelope.

If the local laboratory has not received the application for shipment of slides within fifteen days after the end of a semester, the local laboratory will proceed immediately to appropriately pack the preserved slides and submit them to the ILS.

The National Reference Laboratory (NRL) carries out QC to the ILS once each semester. The QC should be carried out monthly for six months in the following situations:

- Local laboratories that begin to carry out direct smear examinations
- Laboratory technicians recently designated
- Laboratories that present real disagreements

4. Shipment of slides

Upon receiving the application from the laboratory supervisor, the laboratory under supervision should proceed to appropriately pack the preserved slides for dispatch.

The shipment should be made within fifteen calendar days following receipt of the application.

The serial number of the slides should correspond with the number of slides listed on the QC form (see Annex 1 and 2).

5. Review of slides for QC

The ILS will review 100% of the slides received, ignoring the report of the local laboratory (see Annex 1). A corresponding format will be used for recording the results (see Annex 2); results should be sent to the supervised laboratory as soon as possible.

The technician will examine 100 fields under the microscope and record findings using standard procedures.

As the microscopic review is being done, a technical analysis of the slides will be made to check the following:

- The quality of the smear (size and thickness)
- The presence of staining (presence of fading defects, precipitate of fuchsin, characteristic of counter staining)

After the microscopic review and technical evaluation, the findings will be compared with the results from the original laboratory using the form shown in Annex 2).

6. Evaluation:

6.1. Results:

If disparities are observed between one or more slides in the reports of the first lab technician supervisor (see Annex 2) and the report from the laboratory of origin (see Annex 1), all the slide(s) in question should be examined by a second lab technician supervisor to obtain a final and acceptable result (counterchecking).

The second lab technician supervisor should not be aware of the earlier results (see Annex 1 and 2). The results of the examination by the second lab technician supervisor should be returned to the first lab technician supervisor on a separate sheet of paper, together with the slides.

6.2. Technique:

If 50% or more of the observed slides present technical deficiencies, either in terms of smear quality or staining, the original laboratory will be qualified as "with technical observations."

6.3. The following cases of disagreements:

If one or more disagreements in microscopy results are discovered, the original laboratory should be placed under the direct supervision of the laboratory supervisor who should do the following:

- Request a new reading of the slides
- Verify the original report of the slides in the NTP Laboratory Register
- See if there were errors in the identification or registration of the results of these slides when they were dispatched
- If, after all these actions are taken, the differences in the slides persist, the lab should recognize them as "real disagreements." This should be registered in the final report.
- In a situation where slides in the original report or in the report of the lab supervisor are observed with a scanty positive total number of AFB (1 to 09 AFB in a hundred observed microscopic fields), the persistence of the difference should be qualified as "relative disagreement." These relative disagreements won't be registered in the final report.

In presence of "real disagreements," all stages of the technique used should be reviewed and the operative condition of the microscope should be established and measured so that corrections can be made immediately.

In the laboratories classified "with technical observations," a complete review of the whole process should be carried out, including the preparation of reagents and the qualifications of the lab technician.

7. Report of the QC:

When the laboratory supervisor has completed the procedure for each quality control, the results should be sent in writing to the supervised laboratory in fewer than seven days using the form shown in Annex 3.

The ILS should consolidate the results from the realized quality control and provide them to the assigned local laboratories in a semiannual report of quality control (see Annex 4) as well in a complementary report (see Annex 5). Both reports should be sent to the NRL, with copies also to be sent to the Provincial Coordinator of the NTP.

The NRL should consolidate the results of quality control to the assigned ILS in the semiannual report of quality control (see Annex 4) and also in a complementary report (see Annex 5). Both reports should be sent to the Director of the NTP of the MOPH.

The final step is to enter the results into a database to consolidate the results of the annual covering QC sputum smear microscopy.

8. Complementary Report:

Each semester, the complementary report on QC sputum smear microscopy (see Annex 5) will show the relationship of local laboratories and ILS that form part of the TB lab network as well as the quality controls, the disagreements, the identified problems, and the remedial measures taken in each laboratory for which “disagreements” and “technical observations” were registered.

9. Annual Reporting:

Jointly, the report on quality control of sputum smear microscopy for the 2 semesters should be attached with the annual consolidation (see Annex 4), and the form for annual covering of the QC sputum smear should be attached (see Annex 5).

10. Chronogram for delivery of QC information.

The semiannual and annual information should be sent to the level of the laboratory that corresponds according to the following timeline:

- 1st semester, the last week of the month of July of the same year
- 2nd semester, the last week of the month of January of the following year

11. Certification of the laboratories:

All laboratories that fulfill 100% of the QC (minimum 2 times a year) will qualify for a "Certificate of Participation," which is renewable annually. The Director of the NTP and the NRL will send out the certificates in February each year.

Annex 1. Original results of sputum smear microscopy

Name of Lab..... Health facility.....
Province.....
Address.....
Names of Lab Technician.....
Semester 1 2 Year:

No	Lab Serial No	Original results of sample
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

Date.....

Signature of Supervised Lab Technician.....

Instructions for filling out the form shown in Annex 1

The supervised laboratory should complete the form in Annex 1 with clear writing.

Name of Lab: Write clearly the name of the laboratory sending the slides for QC

Health facility: Write clearly the name of the health facility where the laboratory is located

Address: Write clearly the laboratory address

Province: Write clearly the province where the laboratory is located

Names of Lab Technician: Write clearly the name of the lab technician responsible for processing the TB slides

Semester: Tick the semester of QC

Year: Write the year of QC

For each slide use one row

Lab Serial No: Write the same lab serial the TB04

Original results of sample: Write the result of the specimen in the supervised laboratory:

For negative: -

For positive: +, ++, +++

Date: Write the date on which the laboratory sent the slides for QC

Signature of Supervised Lab Technician: Signature of the Lab technician responsible for processing the TB slides

Note: Send this form to the supervisory lab in a sealed envelope

Annex 2. Results of QC for sputum smear microscopy

Name of Supervised Lab..... Health facility.....
 Province.....
 Address.....
 Names of Supervised Lab Technician.....
 Semester 1 2 Year:

Name of Supervisory Lab..... Health facility.....
 Province.....
 Address.....
 Names of Supervisor Lab Technician.....

No	Lab Serial No	Original results of sample	1 st supervisor results of sample	2 nd supervisor results of sample	Final Result of QC
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Date.....
 Signature of Supervisor Lab technician

Instructions for filling out the form shown in Annex 2

The supervised laboratory and supervisory laboratory should complete this form with clear writing.

To fill for the supervised laboratory: Please send separately of annex 1

- Name of Supervised Lab:** Write clearly the name of the laboratory sending the slides for QC
Health facility: Write clearly the name of the health facility where the supervised laboratory is located
Address: Write clearly the address of the supervised laboratory
Province: Write clearly the name of the province where the supervised laboratory is located
Names of Supervised Lab Technician: Write clearly the name of the Lab technician responsible for processing the TB slides
Semester: Tick the semester of QC
Year: Write the year of QC

To fill for the supervisory laboratory

- Name of Supervisory Lab:** Write clearly the name of the supervisory laboratory
Health facility: Write clearly the name of the health facility where the supervisory laboratory is located
Address: Write clearly the address of the supervisory laboratory
Province: Write clearly the name of the province where the supervisory laboratory is located
Name of Supervisor Lab Technician: Write clearly the name of the supervisor Lab technician
To here

For each slide use one row on the table

- Lab Serial No:** Write the same lab serial of the TB04 (The supervised Lab technician should write this column.)
Original results of sample: Don't write the result of the specimen in the supervised laboratory. After reading the slides for QC the 1st supervisor should open the envelope with annex 1 and write original results

1st supervisor results of sample: The 1st supervisor should write the results of the QC

- Negative: -
- Positive: +, ++, +++

1st supervisor should not be aware of either the original results of the annex 1

2nd supervisor results of sample: In case of disagreement, the 2nd supervisor should write the results of the QC after of read the slides. This 2nd lab supervisor should not be aware of either the original results of the annex 1 & 2.

Final Result of QC: The 1st supervisor should write the final result of the QC for each slide:

- Agreement
- Real disagreement
- Relative disagreements

Date: Write the date that the supervisory laboratory work the QC

Signature of Supervisor Lab Technician: From the Lab technician responsible for processing the QC

Annex 3: Report of QC for Sputum Smear Microscopy

Name of supervised lab : _____ Addres of supervised lab : _____
 Province: : _____ Laboratory supervisor : _____
 Semester : _____ Year : _____

Positive Slides					
Agreement		Disagreement		Total	
N ^o	%	N ^o	%	N ^o	%

Negative Slides					
Agreement		Disagreement		Total	
N ^o	%	N ^o	%	N ^o	%

Total Slides					
Agreement		Disagreement		Total	
N ^o	%	N ^o	%	N ^o	%

Technical analysis of slides

Months	Total number of slides reviewed	Size and Thickness								Staining			
		Good		Thin		Thick		No Homogeneous		Good		Deficient	
		N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o	%
Total													

Conclusions and recommendations:

Technical evaluation

Date : ____ / ____ / ____

Signature of Supervisor Lab Technician _____

Instructions of Annex 3

The supervisory laboratory should complete this form with clear writing and send at the supervised laboratory

Name of Supervised Lab: Write clearly the laboratory name that send the slides for QC

Address of Supervised lab: Write clearly the supervised laboratory address

Province: Write clearly the province where the supervised laboratory is located

Laboratory supervisor: Write clearly the supervisory laboratory name

Semester: Write the semester of QC

Year: Write the year of QC

Positive Slides: Write the No and % of positive slides with: Agreement, disagreement and total

Negative Slides: Write the No and % of negative slides with: Agreement, disagreement and total

Total Slides: Write the No and % of positive + negative slides with: Agreement, disagreement and total

Technical analysis of slides: For every month use one row on the table

Conclusions and recommendations: The 1st supervisor should write the final result of the QC for the quarterly, and in case of real disagreement or technical observations indicate the following measures implemented

Technical evaluation: The 1st supervisor should write the final result of the technical evaluation for the quarterly, and indicate if it is technical observations

Date: Write the date that the supervisory laboratory works the QC

Signature of Supervisor Lab Technician: From the Lab technician responsible for processing the QC

Annex 4: Semiannual Report of QC of Sputum Smear Microscopy

Year:.....

Intermediate Lab Supervisory: _____ Province: _____

Semester

1	2
---	---

Laboratories	Nº	%
1. Laboratories in the province	: _____	
2. Laboratories processing sputum smear microscopy	: _____	
3. Laboratories with QC	: _____	_____
4. Laboratories with disagreements	: _____	_____
Positive slides	Nº	%
5. Positive slides reviewed	: _____	
6. Agreement	: _____	_____
7. Disagreement	: _____	_____ (% false positives)
Negative slides	Nº	%
8. Negative slides reviewed	: _____	
9. Agreement	: _____	_____
10. Disagreement	: _____	_____ (% false negative)
TOTAL SLIDES REVIEWED	Nº	%
11. Total slides reviewed	: _____	
12. Total agreement	: _____	_____
13. Total slides disagreement	: _____	_____

Date: ____/____/____

Signature of Supervisor Lab Technician

Instructions of Annex 4

The supervisory laboratory should complete this form with clear writing and send at the NRL

Intermediate Lab Supervisory: Write clearly the supervisory laboratory name

Province: Write clearly the province where the supervisory laboratory is located

Year: Write the year of QC

Semester: Write the semester of QC

Laboratories:

Laboratories in the province: Write the total number of laboratories in the province in the semester

Laboratories processing sputum smear microscopy: Write the total number of laboratories in the province processing sputum smear microscopy in the semester

Laboratories with QC: Write the No and % of supervised laboratories with QC in the semester

Laboratories with disagreements: Write the No and % of laboratories with disagreements in the semester

Positive slides:

Positive slides reviewed: Write the total number of positive slides reviewed in the semester

Agreement: Write the No and % of positive slides reviewed with agreement in the semester

Disagreement: Write the No and % of positive slides reviewed with disagreement in the semester

Negative slides:

Negative slides reviewed: Write the total number of negative slides reviewed in the semester

Agreement: Write the No and % of negative slides reviewed with agreement in the semester

Disagreement: Write the No and % of negative slides reviewed with disagreement in the semester

Total slides reviewed:

Total slides reviewed: Write the total number of positive + negative slides reviewed in the semester

Total agreement: Write the No and % of positive + negative slides reviewed with agreement in the semester

Total slides disagreement: Write the No and % of positive + negative slides reviewed with disagreement in the semester

Date: Write the date that the supervisory laboratory works the QC

Signature of Supervisor Lab Technician: From the Lab technician responsible for processing the QC

Annex 5. Complementary Report of QC for Sputum Smear Microscopy

Name of Supervisory Lab..... Health facility.....
 Province.....
 Address.....
 Names of Supervisor Lab Technician.....
 Semester 1 2 Year:

No	Relationship of local laboratories that form part of the TB lab network
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
Short report about the main identified problems, and the following measures implemented in each laboratory with disagreements and technical observations	

Date.....
 Signature of Supervisor Lab technician

Instructions of Annex 5

The supervisory laboratory should complete this form with clear writing and send at the NRL

Name of Supervisory Laboratory: Write clearly the supervisory laboratory name

Health facility: Write clearly the health facility name where the supervisory laboratory is located

Province: Write clearly the province where the supervisory laboratory is located

Address: Write clearly the supervisory laboratory address

Names of Supervisor Lab Technician: Write clearly the names of the supervisor Lab technician

Semester: Tick the semester of QC

Year: Write the year of QC

For each supervised laboratory use one row on the table

Relationship of local laboratories that form part of the TB lab network: Write clearly the name of the supervised laboratory.

Short report about the main identified problems, and the following measures implemented in each laboratory with disagreements and technical observations: Only for supervised laboratories with disagreements or technical observations

Date: Write clearly the date that the supervisory laboratory work the QC

Signature of Supervisor Lab Technician: From the Lab technician responsible for processing the QC

Review draft of manual for direct sputum smear microscopy (JICA)

1. Suggested to include a brief chapter of background about the TB situation in Afghanistan and the importance of the TB laboratory services.
2. Suggested to include a brief chapter about what is the TB, transmission, type and diagnosis.
3. Suggested to include a brief chapter of objectives and methodology of the guidelines.
4. Suggested to include a brief chapter of design of the TB lab network.
5. On page 4: Suggested in item “For staining: 6th paragraph” include 0.3% of Methylene Blue (according WHO recommendations) instead 0.1% of Methylene Blue.
6. On page 5: Suggested to include in the item “For Common Use: Disposable gloves”.
7. On page 12-13: Suggested to include 3% Lysol from the concentrated one.
8. On page 13: Suggested to include the recommend SOPs for biosafety in TB lab network(See proposed SOPs).
9. On page 15: Suggested to include in the 1st and 3rd paragraph, health facility instead of TB microscopy.
10. On page 16: Suggested to put sputum collection prohibited in the lab, bathroom and other offices in the health facility.
11. On page 17: in the 1st line include nurses instead of lab technician.
12. On page 21: delete the title AFB sputum smear examination.
13. On page 21: Suggested to include “spirit lamp”.
14. On page 24: Suggested to include, 0.3% of Methylene Blue (according WHO recommendations) instead 0.1% of Methylene Blue and instead of 10 second 1 minute is recommended.
15. On page 27: Suggested to include, 0.3% of Methylene Blue (according WHO recommendations) instead 0.1% of Methylene Blue and instead of 10 second 1 minute is recommended for counter staining.
16. On page 35: Suggested to include, expired date (6- 12 months) for the ZN reagents.

Recommended Basic Standard Operational Procedures (SOPs) for Biosafety in the TB Laboratory Network that process Sputum Smear Microscopy in Afghanistan

1. General approach

- Biosafety is defined as common sense preventive measures that are necessary for the protection of the health personnel working in a TB laboratory, who face different risks posed by biological, physical and chemical agents
- The objectives of biosafety in the TB laboratory are as follows:
 - To minimize the production of aerosols, splashes or spills
 - To advise the laboratory workers on the accidental inhalation of these infectious particles
 - To prevent the laboratory workers from acquiring the TB infection through accidental inhalation or ingestion
- The personnel that work in the TB laboratories will fulfill the biosafety norms strictly
- To minimize the risks in the laboratory the personnel should receive appropriate training on biosafety procedures
- It is the responsibility of the director of the health facility to guarantee the appropriate biosafety conditions

2. The environment and the infrastructure

- The doors of the laboratories should be signed with the mark of biological risk, (See annex 1)
- The laboratory should be illuminated properly and must have functional and operative services of water, drainage and light
- In TB laboratories with unique working room, the sputum smearing section should be placed and fixed in one side of the room where there is no circulation of personnel. Reception and storage of sputum specimens should be in a different table from where sputum samples are processed
- Before beginning the daily work, paper impregnated in disinfectant solution 5% Phenol will be applied routinely to cover the working table or sprayed with 5% Phenol solution and leave it 30 minutes
- Personnel should only keep the materials on table that are required for sputum smear preparation
- A Bunsen burner or spirit lamp can be used during smear preparation, but the Bunsen burner is preferred

- It is absolutely forbidden to use fans in the TB laboratories; the lab technician should not keep the windows open during sputum processing
- The telephone set should not be kept on the table where sputum specimens are processed

3. Personnel's behavior:

- Access to the laboratory is limited to lab personnel
- The TB laboratory personnel should go for medical evaluation annually
- All laboratory workers with respiratory problems (cough with expectoration of sputum for more than 3 weeks) will be investigated/tested for sputum smear
- In the laboratory it is absolutely forbidden to: eat, drink, smoke, put on cosmetics and/or keep kitchen utensils
- It is forbidden to store drinking water and meals in the lab refrigerator
- While the laboratory worker is processing the sputum sample, it is avoided touching with fingers: eyes, nose, mouth, and other parts of the body
- At the end of sputum processing or during interruption of the activity both hands must be washed with running water and germicidal soap

4. Personal protective equipment

- During the sputum processing the personnel should use a lab coat that close from behind. Lab coat sleeves should be long enough to protect both wrists
- The lab coat should not be used outside of the laboratory
- The lab coat should be boiled or sterilized in autoclave and then washed with detergent or soap
- Lab staff should take off their personnel clothes during sputum smear preparation
- The lab staff with long hair should tie their hair back and use cap. The long hair can be dangerous in the laboratory, particularly around the fire and possibly can be contaminated with infectious material
- The lab personnel should take off their bracelets or long necklaces before starting to work; these jewelry can be contaminated easily with infectious material
- The lab staff should use lab shoes to cover their feet completely and to protect them from possible spills of acids and other infectious substances. Sandals and open-toed shoes should not be worn in the laboratory
- Cloth or paper masks don't provide protection against the inhalation of infectious particles with *Mycobacterium tuberculosis*. According to the recommendations of the

WHO/UNION in the TB laboratories where only direct smear examination is processed, respiratory protection is not required. If it is necessary it is recommended that are use the N95 respirator

5. The lab floor and working tables

- The cleaning person must be qualified in cleaning process and should be supervised daily in the cleanliness of the floor and working tables
- Washable painting could be used for the walls. The walls and floors will be flat and washable to facilitate the cleaning with disinfectant solutions. It is forbidden the use of carpets on the floor
- The floors of the laboratory must be cleaned every day with disinfectant solutions at the end of the working day using swabs. Never sweep the floor with a broom
- The top of laboratory tables should be covered with Formica to be washed and disinfected easily
- It is absolutely forbidden to keep cleaning material inside the laboratory (brushes, swabs, etc.)

6. Handling of waste

- The cleaner of the lab must be qualified in proper elimination of the waste
- It is the responsibility of the laboratory personnel to properly dispose the hazardous or contaminated materials
- The receptacle used for collection of hazardous or contaminated material should be covered by black plastic shopping bag
- For the disposal of the sputum containers, the ideal procedure is to use autoclaving or the incineration
- If there is no autoclave or incinerator in the facility, the lab staff should disinfect the sputum containers by adding 5% Phenol for 30 minutes, in sufficient quantity to cover the sample totally and then destroy the containers properly to avoid re using

7. Dispatching of sputum samples

- The transportation and shipment of sputum samples should be carried out according to specific regulations of biosafety procedures. For that should be followed by all those that intervene in this process (health personnel, employees of post office and transport)
- When using the public transport for dispatching purposes in short distances, the specimen should be placed in a plastic container that is shock resistant and to avoid leakage

- The form “Request for sputum examination” will be transported in a separate place, not in contact with the container and the specimen container should not be wrapped up with the application form
- For air or land transportation over long distances, the container will be placed in a tightly closed primary recipient, this in turn will be placed in another secondary tightly closed container containing absorbent material (cotton or plastic foam) and finally an external container will be applied to protect the secondary recipient

8. Processing

- In the TB laboratory, all the procedures should be completed, according to the technical norms, trying to reduce or to minimize the formation of aerosols, splashes or spills
- The door of the TB laboratory should be kept closed while carrying out the technical procedures
- Special care should be observed when opening the sputum containers, when carrying out the sputum smearing and flaming of the contaminated wire loop

9. Accidental contamination

- If an accidental spill happens, the area should be covered immediately with paper or another absorbent material, then apply a liquid disinfectant (5% Phenol), for 30 minutes and finally proceed to their cleaning
- All spills or accidents should be reported immediately to somebody nearby and to the immediate supervisor. A written protocol (See annex 2) of any accidents should be submitted and an evaluation of the occurrence should be carried out in order to avoid recurrence, as well as the follow-up and treatment if it is necessary

10. Equipment in biosafety

- If the technical norms in processing the direct smear examination are properly followed in the TB laboratories the use of biosafety cabinets is not required
- In the TB laboratories that carry out culture for *Mycobacterium tuberculosis* the use of laminar flow equipment consists of biosafety cabinets and laminar flow clean benches of cabinets of biosafety, are required

Annex 1: Signal of biological risk



**MINISTRY OF PUBLIC HEALTH OF AFGHANISTAN
LABORATORY NETWORK ON PUBLIC HEALTH**

BIOSAFETY



**RESTRICTED AREA
DANGER OF CONTAMINATION
ACCESS LIMITED TO LABORATORY PERSONNEL**

Annex 2: Report of accidents in the TB laboratory

Name of Lab..... Health facility.....
Address.....
Names of Lab Technician notified accident.....
Date:..... Time:.....

Description of accident:

.....
.....
.....
.....
.....

Personnel affected:

.....
.....
.....
.....

Personnel present in the laboratory at time of accident:

.....
.....
.....
.....

Measures adopted at time of accident:

.....
.....
.....
.....
.....

Signature of Lab Technician notified accident.....

Signature of Chief of Laboratory.....



**Islamic Republic of Afghanistan
Ministry of Public Health
National Tuberculosis Control Program**



**Proposal of Annual Operational Plan
2005**

March 2005

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LIST OF ACRONYMS/ABBREVIATIONS

ANHRA	Afghanistan National Health Resources Assessment
BCC	Behavior Change Communication
BHC	Basic Health Center
BPHS	Basic Package for Health Services
CCM	Country Coordinating Mechanism
CGFB	Canadian Grain Food Bank
CHC	Comprehensive Health Center
CHW	Community Health Worker
CIDA	Canadian International Development Agency
COMBI	Communication for Behavioral Impact
DOTS	Directly Observed Treatment Short-Course
EC	European Commission
EQA	External Quality Assurance
GDF	Global Drug Facility
GF	Global Fund
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GFMU	Global Fund Management Unit
HIV	Human immunodeficiency virus
ICC	Interagency Coordination Committee
IEC	Information, Education and Communication
JICA	Japan International Cooperation Agency
MCC	Mennonite Church Committee
M&E	Monitoring and Evaluation
MDR-TB	Multidrug Resistant Tuberculosis
MoPH	Ministry of Public Health
MOU	Memorandum of Understanding
MSH	Management Sciences for Health
NGOs	Nongovernmental organizations
NTI	National Tuberculosis Institute
NTP	National Tuberculosis Program
QA	Quality Assurance
QC	Quality control
REACH	Rural Expansion of Afghanistan's Community-Based Health Care
SOPs	Standard Operational Procedures
SR	Symptomatic Respiratories
TB	Tuberculosis
TB SS+	Pulmonary Tuberculosis Sputum Smear Positive

USAID	United States Agency for International Development
WB	World Bank
WFP	World Food Program
WHO	World Health Organization

SUMMARY

Various international missions, such as the USAID-funded REACH Program (MSH), in August 2004, and WHO/GDF, in February 2005, have strongly recommended that the NTP enlist international technical support and the participation of key stakeholders at both regional and provincial levels in developing a biannual or annual operational plan for expanding DOTS coverage in health facilities.

Such a holistic approach highlights the importance of establishing a stronger relationship between the NTP and international and local stakeholders in order to gain political and technical support for DOTS expansion and to guarantee the sustainability of TB control.

The NTP and stakeholders have thus developed and are proposing Operational Plan – 2005. This proposal, organized into eleven managerial and technical components, is clearly designed to expand DOTS .

Operational Plan – 2005 has three core objectives:

- To implement DOTS in 100% of the Comprehensive Health Centers (CHCs) and in selected hospitals of eight priority provinces
- To implement DOTS in 100 % of the CHCs in 26 provinces of Afghanistan
- To increase the rate of case detection from 26% to 40%

To achieve these three core objectives, 68.1 % of a preliminary total budget of approximately USD 3 million is oriented to three main components: TB treatment, training and laboratories.

Approval and implementation of the proposed Operational Plan will require consultation with a wide range of stakeholders and review at all stages in order to obtain a consensus and ensure local ownership.

To assist in this process, a participatory approach should be used that will build NTP management capacity to finalize and implement an operational plan appropriate for the TB situation in Afghanistan.

I. Situation analysis

1. Overview

Over the past 27 years of war and civil strife, lack of political and financial support, and destruction of the social infrastructure, the National TB Control Program (NTP), like other public health programs, has been in a permanent state of crisis.

In the past, tuberculosis (TB) control was not a regular MOPH activity. However, since 2001, the Afghanistan Transitional Government and the MOPH, along with the Global Fund (GF) and international stakeholders such as the World Health Organization (WHO), the USAID-funded REACH Program, World Bank (WB) and the European Commission (EC) have emphasized strengthening, implementing and expanding the DOTS strategy, recommended by WHO, to achieve TB control.

The strengthening, implementation and expansion of DOTS strategy has been coordinated with the expansion of health facilities through the Basic Package of Health Services (BPHS).

Afghanistan is the highest TB-burdened country in the Eastern Mediterranean Region and one of the 22 highest TB-burdened countries in the world, with an estimated incidence of tuberculosis pulmonary sputum smear positive (TB SS+) at 150 patients per 100,000 population per year, and active cases at 333 patients per 100,000 population per year. These figures result in an annual incidence of 76,000 for all active TB cases and 34,000 for TB SS+ (*WHO, Report 2004, Global Tuberculosis Control*).

NTP objectives are a 70% case detection rate and an 85% treatment success rate. However, both indicators are well below the national targets: the achieved case detection rate is 26%, and a treatment success rate of 86.4% is found only in the existing DOTS health facilities. The percent of the population covered by DOTS is estimated at 38% (*WHO, Report 2004, Global Tuberculosis Control*).

An estimated 20,000 people die from TB each year.

An unusual predominance of TB in women persists: In 2003, 68% of TB SS+ cases were women. Possible explanations include a naturally TB predominates in women, and that men do seek medical attention in the private sector, thereby avoiding inclusion in the national statistics.

In the North West Frontier Province in Pakistan, 50% of TB cases are among Afghan refugees; in Iran, one in five TB patients is Afghan. In Tehran, 45% of the total number of TB cases are among Afghan refugees. The disease burden in Afghanistan is now exacerbated by the repatriation of an estimated 1.5 million refugees from Pakistan since the beginning of 2002, with at least 2 million more to follow.

The rate of multidrug-resistant TB (MDR- TB) is estimated at 7.3 % of new TB SS+ cases (*WHO, Report 2003, Global Tuberculosis Control*).

2. Progress in the implementation of the DOTS strategy

Despite tremendous social and economic difficulties, over the past three years, Afghanistan has gradually made progress in implementing and expanding DOTS strategy, as follows:

- The MOPH considers TB control a priority
- In 2004, DOTS had been implemented in 38% of districts and covered an estimated 38 % of the population.¹
- TB case notification by public and NGO health facilities increased from 9,581 cases in 2001 to 12,871 cases in 2002, 13,616 cases in 2003, and, depending on the source, to 18,405 or 20,000 cases in 2004. Again depending on this source, this shows a 92% or 108% total increase in case notification over three years. Of these cases, 86% of them were reportedly successfully treated in the existing DOTS health facilities.
- With the financial support of USAID, WB, and EC, in particular, DOTS is being gradually integrated into the expansion of the general health system through BPHS. At present, 30 out of 46 NGOs that implement BPHS are involved in DOTS activities.
- Partners regularly coordinate their activities through the Interagency Coordination Committee (ICC) and the Country Coordination Mechanism (CCM) for the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM).
- The GFATM has approved USD 2.4 million for TB control for 2005 and 2006.
- The MOPH has successfully recruited and appointed five key NTP national level staff.
- The MOPH has published national guidelines for TB control, identifying the aims and establishing the structure of the NTP as well as policies on components of TB control
- With support from JICA, renovation of the National TB Institute (NTI) has been completed. JICA has also lent support to the routine maintenance of the building and assisted in the procurement of new equipment and provision of basic operating supplies.
- There has been no shortage of anti-TB drugs and laboratory supplies in DOTS areas. The national warehouse of the NTP is well controlled and maintained
- WHO signed a Memorandum of Understanding (MOU) with the NGOs involved in DOTS activities and has provided them with anti-TB drugs
- The World Food Program (WFP), Canadian Grain Food Bank, (CGFB), Mennonite Church Committee, (MCC) and Canadian International Development Agency (CIDA) provide nutritional support to TB patients and their families

3. Limitations in the implementation of the DOTS strategy

¹ This is a generous estimate of population coverage. It assumes the whole population of a district to be covered even if only one health facility in the district provides DOTS and regardless of the actual number of people having access to that facility.

Although the NTP has made gradual in the implementation of DOTS, the following significant limitations exist:

- Even though NTP reported that the number of TB cases reported in Afghanistan increased 92% or 108% (depending on the source) between 2001 and 2004, the number of reported cases represents only 24% or 26% of the expected number of TB cases in Afghanistan.
- DOTS is implemented in only 202 of approximately 1000 health facilities in Afghanistan. Implementation of DOTS through BPHS is still in an early stage of development
- To date, the private health care sector and other health care providers, such as the Ministries of Higher Education and Interior (prison health services), are not implementing DOTS.
- The NTP has a serious staffing problem at the central level, where there are only five technical staff.
- The NTP has no drug management information system.
- Although there has been no shortage of anti-TB drugs to date, the WHO/GDF mission, which visited Afghanistan in February 2005, has identified two risks: The current stock of Ethambutol at the national level is too small, and urgent procurement of 2.5 million tablets of Ethambutol is needed. More importantly, even after urgent procurement of Ethambutol, the current national stock is sufficient for treating only 15,000 patients, even though due to DOTS expansion, case notifications are expected to increase to 30,000 patients this year. Funds currently available at WHO, the main funding source for TB drugs, are not sufficient to meet the estimated USD 1 million needed to meet this need.
- The surveillance system and monitoring & evaluation for TB control are weak.
- A Quality Assurance (QA) system for sputum microscopy examination virtually does not exist.
- To date, no functional TB Laboratory network exists in Afghanistan.
- To date, no basic Bio-safety Standard Operational Procedures (SOPs) for TB Laboratories exist in Afghanistan.
- Because TB problems are so large, partnerships, although continuously expanded and quite effective, still need further development: further financial and technical support is paramount.
- The commitment of the provincial governments, provincial health directorates and other authorities to TB control is not always strong and needs to be strengthened.
- The NTP has not developed an IEC/BCC strategy for TB control due to constrained technical capacity and limited financial resources.

II. Current financial status of NTP in Afghanistan

Given the bad socio-economic situation in the country (the GDP per capita is about USD 250), the government of Afghanistan doesn't have sufficient resources to meet the basic needs of the people. The budget framework for 2005 contains very limited MOPH support for the NTP, with funds only for the salary of the NTP personnel. Consequently, to guarantee DOTS expansion, the proposed Operational Plan should be supported by international donors.

In the past, the strategic plan for TB control estimated financial needs for the years 2002 and 2003 at approximately USD 4.87 million, leaving a financial gap of approximately USD 1 million in 2003. The total budget for the NTP in 2004 is not available.

Currently, six important donors contribute to TB control:

1. USAID (through the REACH Program)

In FY 2003, USAID/Afghanistan allotted approximately USD 4 million for TB prevention and control and USD 4 million for malaria prevention and control. In regard to malaria, this means that through the REACH Program, USAID-supported malaria activities should be focused in the 9 of the 13 USAID priority provinces that have documented cases; TB, on the other hand, is prevalent in all 13 provinces. Considering the need to expand systems, improve quality of services, and enhance the community through BPHS, these resources are not limited to a specialized disease focus.

2. WHO (CIDA and Italian Cooperation)

Over the period 2002–2003, WHO received extra-budgetary funds from CIDA and the Italian Cooperation to contribute to TB control. The total amount received was close to USD 3 million. These funds were to be used for technical support, contracting of eight TB regional advisories, procurement and distribution of TB medicines, provision of vehicles and office supplies, and for training and supervision.

3. JICA

JICA has provided a great deal of support to the NTI, including construction of a new building, equipment and training for the TB lab. The JICA annual budget for the NTI/NTP is approximately USD 1 million per year.

4. WFP

The WFP assists TB patients with food. Other sources of funding are directly targeted to various NGOs implementing TB activities in various provinces/ districts (Medair, CAC, Merlin, GRS and others).

5. Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)

The Afghanistan CCM/GFMU has been awarded \$3.2 million for Round II start-up activities in HIV/TB/Malaria. USD 424,666 has been allocated to support TB control activities in 2005. The Global Fund has also announced plans to award the MOPH USD 2.4 million in Round IV funds specifically for TB control. The GFMU has developed a work plan for Round IV and

submitted it to the GFATM.

III. Rationale

Various international missions, such as the USAID-funded REACH Program (MSH), in August 2004, and WHO/GDF, in February 2005, have strongly recommended that the NTP enlist international technical support and the participation of key stakeholders at both regional and provincial levels in developing a biannual or annual operational plan for expanding DOTS coverage in health facilities.

Such a holistic approach highlights the importance of establishing a stronger relationship between the NTP and international and local stakeholders in order to gain political and technical support for DOTS expansion and to guarantee the sustainability of TB control.

The approach includes:

- Setting clear targets for each year, with a priority on organizing and expanding case detection
- Organizing a functional referral network
- Strengthening human resource capacity, including training, supervision, and monitoring
- Improving the reporting and recording system
- Organizing case detection and supervised case treatment
- Organizing the regular TB drug and laboratory supplies
- Organizing a functional laboratory system for TB control activities, with a focus on the quality control of sputum smears
- Applying IECC/BCC strategies

The proposed Operational Plan – 2005 is clearly oriented to expand DOTS coverage.

IV. General goal

The general goal is to expand DOTS coverage in health facilities **focused in** eight priority provinces.

V. Main objectives

The main objectives of the Operational Plan—2005 are as follows:

- To implement DOTS in 100% of Comprehensive Health Centers (CHCs) and in selected hospitals of the eight priority provinces
- To implement DOTS in 100 % of the CHCs in 26 provinces of Afghanistan
- To improve the rate of case detection from 26% to 40%
- To implement quality assurance for sputum smear microscopy
- To improve the cure rate from 59% to 70% in new TBSS+ cases
- To guarantee 100 % free and supervised treatment for all diagnosed TB patients
- To guarantee a TB treatment buffer stock of 50% at the national level
- To guarantee 100% follow up with sputum smear tests of TB patients in treatment.
- To expand a standard recording and reporting system to 100% of health facilities with DOTS

VI. Main expected results of operational plan

The Operational Plan is intended to achieve the following results by the end of 2005:

- A fully developed strategic plan for TB control in Afghanistan 2006 – 2010 and the commitment of stakeholders to its implementation
- A fully developed annual Operational Plan for 2006
- NTP Guidelines--reviewed, approved and applied
- Guidelines for case detection--approved and applied
- National guidelines for External Quality Assurance (EQA), direct sputum smear microscopy, bio-safety procedures and techniques for maintenance of lab equipment— approved and applied
- 466 DOTS health facilities throughout the country, including 9 selected pilot hospitals, with a focus on eight priority provinces
- 165,000 symptomatic respiratory (SR) patients identified and examined
- 495, 000 sputum smear tests done for diagnosis
- 90,000 sputum smear tests done for the follow up of TB patients in treatment
- 30,000 TB patients in treatment
- A buffer stock equivalent to 15,000 TB treatments
- Procurement in late 2005 of TB drugs for the first semester of year 2006
- Implementation of a recording and reporting system in all DOTS health facilities
- 2,102 health personnel trained
- A total of 438 supervisory visits made at the regional, provincial and local levels
- 2 semiannual NTP review meetings held at the national level
- 4 surveys conducted
- 100 CHWs trained
- 30,000 TB patients receiving food package incentives
- 500 IEC packages for health facilities and CHWs

VII. Methodology for approval and implementation of the Operational Plan

Approval and implementation of the proposed Operational Plan will require consultation with a wide range of stakeholders and review at all stages in order to obtain a consensus and ensure local ownership.

To assist in this process, a participatory approach should be used that will build NTP management capacity to finalize and implement an operational plan appropriate for the TB situation in Afghanistan.

The next recommended steps are as follows:

1. A small working group (2- 3 people) integrated for the NTP Manager and the main stakeholders should be organized to conduct a quick process (1 month) for approve the operational plan including:
2. The working group should e-mail the draft of the Operational Plan to all concerned stakeholders asking them to complete a detailed review within one week.

3. One week later, the working group should begin a two-week period of visits to the headquarters of the stakeholders to gather their feedback on the proposed Operational Plan, discuss the objectives and targets, collect complementary information, **negotiate any necessary compromises or changes to the proposed Plan** and obtain their commitment to support the activities of the NTP in 2005.

4. During the fourth and final week, the working group should, if needed, use the information and opinions gathered from the stakeholders to develop a revised draft of the Operational Plan. They should then organize a workshop with representatives of the MoPH, GFMU, WHO, USAID/REACH, JICA, WB, EC and other stakeholders for feedback and approval. The final draft should be developed after completion of the workshop and then disseminated

VIII. Timetable

Activities for approval and implementation of the NTP Operational Plan - 2005	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Formation of working group	X											
Send e-mail to stakeholders for their detailed review of proposal of operational plan	X											
Visits the headquarters of stakeholders for feedback		X	X									
Develop a revised draft			X									
Organize a workshop with stakeholders for feedback and approval				X								
Develop final draft				X								
Dissemination of operational plan					X	X	X	X	X	X	X	X

IX. Description of components of operational plan and benefits

The NTP and stakeholders have to organize **the implementation of** the Operational Plan in eleven managerial and technical components:

1. DOTS coverage and case detection

1.1. DOTS coverage

The major goal for 2005 is to expand DOTS coverage. Operational and epidemiological analysis suggests that Kabul, Nangarhar, Helmand, Badakhshan, Kunduz, Ghazni, Balkh, and Hirat provinces have the highest rates of TB as well as major gaps in DOTS coverage and case detection. The NTP has prioritized these provinces for intensified interventions to improve TB control in 2005.

The DOTS strategy should be implemented in 100% of the CHCs and selected hospitals in these eight provinces. The preliminary total number of governmental and non-governmental facilities in the eight priority provinces stands at 463. There were 86 active DOTS health facilities in these

eight provinces in 2004. The preliminary goal is to implement DOTS in approximately 111 additional health facilities in 2005. Thus the NTP expects there to be 197 DOTS health facilities in these eight provinces by December 2005.

For the remaining 26 provinces, the goal is to implement DOTS in at least 100% of the CHCs. The preliminary total number of governmental and non-governmental facilities is 550 in these 26 provinces. There were 116 active DOTS health facilities in 2004. The preliminary goal is to implement DOTS in approximately 153 additional health facilities in 2005. The NTP thus expects to have a total of 269 DOTS health facilities in these 26 provinces by December 2005.

Thus, by December 2005, the NTP expects to have a total of 466 DOTS health facilities throughout the country's 34 provinces (See Annexes 1 and 2).

DOTS expansion will not be **convincing** if resources are too widely dispersed; therefore, the NTP and stakeholders should focus on implementing the DOTS strategy in those CHCs and hospitals that have a high probability of success. Once this is accomplished, DOTS can be expanded outwards. The strategy includes having improved and quickly built "DOTS pilot CHCs" and "DOTS pilot hospitals" among the CHCs and hospitals selected.

Those CHCs and hospitals which are more efficient, with optimal indicators and undertakings of the health personnel and CHWs, will be designated "DOTS pilot CHCs" and "DOTS pilot hospitals." For effective DOTS expansion, TB teams at all levels must understand what actions and inputs are required for successful implementation and in that context, must detect potential barriers. The initial analysis and planning process will focus on fully implementing DOTS in the pilot CHCs and pilot hospitals.

The key strategies will be organize a "Package for implementing DOTS "(See annex 3) and follow it with intensive training, monitoring, supervision and regular evaluation.

1.2 Case detection

The major goal for 2005 is to increase the rate of case detection from 26 % to 40%. This means that the NTP expects approximately 165,000 symptomatic respiratories (SR) patients to be identified and examined and expects TB laboratories to examine 495,000 sputum smear tests for diagnosis. For the follow up of the TB patients in treatment, the NTP expects TB laboratories to examine 90,000 sputum smear tests (See Annex 1).

Given that the NTP at the moment does not have acceptable programming criteria for case detection hence for this year it is recommended to calculate the SR expected using the following formula:

SR expected = 16,500 (expected TB SS+ cases) * 10 (the number of symptomatic respiratories cases needing sputum smear examination to find a TB SS+ case)

To calculate the number of sputum smears needed, multiply the expected number of symptomatic respiratories by 3 sputum smear tests.

To improve case detection, the NTP recommends using public health criteria to organize the detection of symptomatic respiratory cases. The focus will be on facilities and, because medical doctors work in only 49% of Afghanistan's health facilities but nurses work in 100% of the

facilities, also on strengthening the role of nurses and medical doctors in carrying out this process. In this area, the target population is the entire population that has TB.

International experience has shown that organizing an NTP with specialized services functioning at the edge of the general health facilities has not proved viable; it substantially reduces the possibility of adequate coverage for case detection as well as the provision of supervised anti-tuberculosis treatment.

To have an epidemiological impact, case detection in general health facilities must be integrated into normal health care activities. Therefore, they need to be very carefully organized, supervised, monitored and evaluated.

TB case detection will take place in two complementary and successive phases:

The first phase will be carried out under public health criteria and applied in all health facilities. It starts with identification and sputum smear examination of people with respiratory symptoms (cough and expectoration for more than three weeks - SR). This process does not necessarily require the participation of medical doctor; it can also be done by nurses and trained CHWs. This phase is an absolute priority in countries with a moderate or high incidence of TB, as in Afghanistan.

The second phase is a diagnostic follow up, done under medical-clinical criteria, of individuals with negative sputum smear examination results but whose respiratory symptoms persist. This phase either eliminates or confirms diagnosis of TB or other respiratory pathology by means of a differential diagnostic process that is supported by culture, radiography and other auxiliary examinations, in addition to observation and clinical follow up.

Both phase one and phase two are based on the use of bacteriology.

2. TB treatment

The goal for year 2005 is to improve TB case treatment. The objective is to guarantee supervised and 100 % free treatment to diagnosed TB patients. According to the WHO/GDF mission, 30,000 patients are expected this year (See Annex 1). The programming criteria to define the number of TB treatments for each category it is recommended:

- **Category 1:** NTP expects 55 % of all the TB cases
- **Category 2:** NTP expects 5 % of all the TB cases
- **Category 3:** NTP expects 35 % of all the TB cases
- **Category 4:** NTP expects 5% of all the TB cases

To define the above percentages, an epidemiological approach is applied, such taking the number of TB cases reported in 2003 and 2004 for each category and correlating it with the percent expected for this year (2005).

The three main strategies to guarantee TB treatment are as follows:

- Procure 30,000 TB treatments
- Procure a buffer stock of 15,000 TB treatments (50% of 30,000)
- In late 2005, procure TB drugs for the first semester of 2006

The proposed distribution of TB treatments in each province is detailed in Annex 4.

The prices used for each category of treatment are calculated according to the GDF pricelist plus 20% for administrative costs. Given the limited logistical conditions, the NTP will use a blister sheet presentation to organize a package treatment for every TB patient (See Annex 5).

To improve case treatment, the effectiveness of provider-client interaction should be enhanced by using the support of the facility-based TB team to guarantee supervised treatment as well as TB education to the patient and family. Moreover, the facility-based team should coordinate closely with the CHWs and organize the follow up, including domiciliary visits to TB patients receiving irregular treatment.

3. Recording and reporting system

The goal is to establish a standard recording and reporting system; therefore, the two objectives are (1) to expand a standard recording and reporting system to all health facilities with DOTS and (2) to improve the recording and reporting system at the provincial level (see Annex 1).

The main activities are as follows: Provide a standard recording and reporting system to DOTS health facilities, organize the process of collecting data and analysis, and provide 34 computerized systems at the provincial level.

In the short and medium term, an intense training program following an established time table must be undertaken to ensure implementation and maintenance of a strong country-wide reporting and recording system.

4. Research

The goal is to collect baseline data of the epidemiological TB situation in Afghanistan. To do so, the NTP and stakeholders should conduct four surveys (see Annex 1).

5. Monitoring and evaluation

The goal is to organize a standard monitoring and evaluation system; consequently, the NTP, with should organize and conduct two national workshops for technical evaluation of DOTS expansion, one in July 2005 and one in March 2006 (see Annex 1). Stakeholders at the regional and provincial levels should participate.

6. Supervision

The goal is to strengthen the supervision system. The objective is to guarantee regular supervision of DOTS at regional, provincial, and district levels where it is being applied (see Annex 1).

An intensive training plan for supervision of DOTS will be developed and implemented at the national level for the NTP and stakeholders. The NTP expects to conduct a total of 438 supervisory visits at the regional, provincial and local levels in 2005.

7. Capacity building

In light of the high political and epidemiological priority of TB control, the NTP needs to be well organized and to set up a technical team in the Central Unit. The goal is to build the NTP's managerial and technical capacity (see Annex 1) so that it can achieve the following specific objectives:

- Improve technical and managerial capacity of central NTP
- Revise NTP Guidelines
- Develop a strategic plan for NTP 2006-2010
- Develop an annual operational plan for 2005
- Develop an annual operational plan for 2006
- Achieve political commitment to retain TB staff and take measures to avoid TB staff turnover
- Improve the capacity to manage TB drug supplies
- Involve the private sector in DOTS

The NTP and stakeholders must make it a priority to carry out the WHO/GDF mission's recommendation to organize and improve the supply of drugs and laboratory needs. Training will be needed to assess TB drug policies, capacity, supply systems and the status of TB drug management systems.

These activities will result in improved systems and procedures for procuring TB drugs and other commodities, managing inventory, assuring a complete course of drug treatment, and monitoring product quality.

8. Community mobilization/food incentive

The goal is to improve community participation in DOTS, including two specific objectives:

- To implement community participation in DOTS in at least 10% of health facilities applying DOTS
- To improve the incentives for TB patients

The NTP expects to organize and conduct training for 100 CHWs and distribute food to 30,000 TB patients (see Annex 1). The monthly ration for one TB patient is as follows: Cereals 50 Kg., Pulses 7 Kg., Vegetable Oil 5 Liters, Sugar 2 Kg., WSB 12.5 Kg., Iodized Salt 1 Kg.

9. Training

The goal is to strengthen NTP technical capacity (see Annex 1), including three specific objectives:

- To improve the technical capability of the TB team in 100 % of the DOTS health facilities
- To improve the technical capability of lab technicians in 100 % of DOTS health facilities having a lab
- To improve the management and technical capability of NTP central and regional teams

An intensive training plan for all health personnel, including medical doctors, nurses, laboratory technicians, and midwives will be developed and implemented for the NTP and stakeholders at the national level. Training should focus on NTP guidelines, specific technical guidelines and the

concept of a TB team. For the recommended content of training in the expansion of DOTS strategy, see Annex 6.

The following should be provided to improve training methods: in-service training in “model” or “pilot” DOTS centers and hospitals, group training, training in social participation techniques and correspondence training.

Using a variety of methods, the NTP and stakeholders expect to train 2,102 health personnel.

10. IEC

The goal is to implement IEC activities for expanded DOTS. To do so, the NTP and stakeholders will coordinate activities to develop an IEC plan; to provide IEC material to CHWs, communities, and to the health facilities applying DOTS; and to organize partnership meetings and community workshops.

The NTP and stakeholders expect to organize and distribute approximately 500 IEC packages for health facilities and CHWs (see Annex 1).

11. Laboratory

The goal is to organize a functional lab network for TB control activities, focusing on quality assurance of sputum smear microscopy. Specific objectives are as follows:

- To obtain baseline data in the priority provinces on lab staffing levels, facilities, infrastructure, basic biosafety practices, lab practice, workload, and quality assurance for TB control.
- To determine the number of microscopes operating in labs and the number needing repair or replacement
- To repair/replace non-functioning microscopes
- To implement quality assurance for sputum smear microscopy

The NTP and stakeholders are expected to provide 300 microscopes and to approve and apply national guidelines for External Quality Assurance (EQA), direct sputum smear microscopy, bio-safety procedures, and techniques for maintenance of lab equipment (see Annex 1).

X. DOTS expansion plan and budgetary needs

Amounts budgeted for various activities are based on preliminary information on stakeholder budgets for TB control in Afghanistan. However, some activities are not included in the amount budgeted because budget information is not available. The preliminary total budget is around USD 3 million and the initial support by stakeholders is detailed in Table 1.

Depending on the proposed methodology and timetable, the NTP and stakeholders expect this budget to increase by the end of the approval process (detailed above in items VII and VIII).

Table 1: Preliminary budget for TB control by stakeholders and components. Afghanistan. 2005.

S. No	Components	Total budget (USD)	Budget by stakeholders (USD)							
			MoPH	WHO	GFMU	USAID/REACH	JICA	WB	WFP	EC
1	DOTS coverage and case detection	52,650		52,650						
2	TB treatment	1,344,000		888,269	127,231	328,500				
3	Recording and reporting system	69,600			34,000	17,800		17,800		
4	Research	478,561			420,000	25,000	8,561	25,000		
5	Monitoring and evaluation	40,000		10,000	5,000	10,000	5,000	10,000		
6	Supervision	84,400		32,000	10,200	16,000		26,200		
7	Capacity building	98,300		20,900	62,600	12,800	2,000			
8	Community mobilization/food incentives	39,990			39,990					
9	Training	307,275			65,775	79,500	120,000	42,000		
10	IEC	108,000			78,000	30,000				
11	Laboratory	424,400	1,755	62,645	106,000	100,000	154,000			
Total		3,047,176	1,755	1,066,464	948,796	619,600	289,561	121,000		

The preliminary budget for each management -technical component is detailed in Table 2. Three main components-TB treatment, training and laboratory-have 68.1% of the total budget; the amount appears reasonable to guarantee achieving the goals of this Operational Plan.

Table 2: Preliminary budget for TB control by components. Afghanistan. 2005.

S. No	Components	Total budget (USD)	Percent
1	DOTS coverage and case detection	52,650	1.7
2	TB treatment	1,344,000	44.1
3	Recording and reporting system	69,600	2.3
4	Research	478,561	15.7
5	Monitoring and evaluation	40,000	1.3
6	Supervision	84,400	2.8
7	Capacity building	98,300	3.2
8	Community mobilization/food incentives	39,990	1.3
9	Training	307,275	10.1
10	IEC	108,000	3.5
11	Laboratory	424,400	13.9
Total		3,047,176	100.0

This operational plan includes only the direct cost for TB control through the NTP and stakeholders.

Indirect costs assumed by stakeholders for technical assistance and expansion of DOTS through the implementation of BPHS are not considered in the budget because specific amounts were not available. While currently the DOTS coverage and case detection component is 1.7% of the total budget, under operational conditions, the budget for this component should be larger.

Budget by Components



Islamic Government of Afghanistan
Ministry of Public Health
National Tuberculosis Control Program
Operational Plan 2005



TB situation: Afghanistan is one of the 22 high TB-burden countries in the world
Insufficient DOTS coverage of health facilities, including hospitals and primary health centers
Low case detection

General Objective: Expanding DOTS coverage in health facilities focused in eight priority provinces

Component 1: DOTS Coverage and case detection

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	EC
Expanding DOTS coverage.	To implement DOTS in all CHCs and selected hospitals in 8 priority provinces	No of health facilities with DOTS/total No of health facilities for province	Annual survey	Coordination with stakeholders,PDH, Directors of Health facilities and others	MoU with implementing NGOsand also organize the DOTS Package (Annex 3)	197 health facilities with DOTS (Annex 2)	X	X	X	X	NA	NA	NA			NA	NA	NA
	To implement DOTS in all CHCs in 22 provinces	No of CHCs applying DOTS/Total No of CHCs	Annual Survey	Coordination with stakeholders,PDH, Directors of Health facilities and others	MoU with implementing NGOsand also organize the DOTS Package	269 CHCs with DOTS (Annex 2)	X	X	X	X	NA	NA	NA			NA	NA	NA
Increase case detection	To improve case detection from 20% to 40%	No of SR examined/No of SR expected	Quarterly and annual Reports	Organize case finding in all health facilities with DOTS	3 Sputum Smear tests for each SR identified	165,000 SR examined												
		No of SR examined/No of SR identified	Quarterly and annual Reports				495,000 SS tests	X	X	X	X	0.09	44,550.00		44,550.00			
	To guarantee 100% follow up with sputum smear tests of the TB patients in Treatment	No of SS tests follow up by each TB patient in treatment	Quarterly and annual Reports	Organize the follow up of TB patients in Treatment	3 ss test for each TB patient in treatment	90, 000 SS tests	X	X	X	X	0.09	8,100.00		8,100.00				
Total												52,650.00		52,650.00				



Islamic Government of Afghanistan
Ministry of Public Health
National Tuberculosis Control Program
Operational Plan 2005



Component 2: TB Treatment

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)				
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB
Improve TB case treatment	To guarantee 100 % free and supervised treatment for all TB patients diagnosed	No of TB treatment procured/No of TB treatment expected	Programing module, quarterly and annual reports	Selection, quantification, procurement & distribution of TB treatments	MoU with implementing NGOs, Distribution mechanism	16500 treatment for category 1	X	X	X	X	22.20	366,300.00		269,069.00	97,231.00		
						1500 treatment for category 2	X	X	X	X	37.80	56,700.00		56,700.00			
						10500 treatment for category 3	X	X	X	X	19.50	204,750.00		204,750.00			
						1500 treatment for category 4	X	X	X	X	19.50	29,250.00		29,250.00			
						8250 treatment for category 1	X	X	X	X	22.20	183,150.00		183,150.00			
						750 treatment for category 2	X	X	X	X	37.80	28,350.00		28,350.00			
						5250 treatment for category 3	X	X	X	X	19.50	102,375.00		102,375.00			
						750 treatment for category 4	X	X	X	X	19.50	14,625.00		14,625.00			
						1 provincial hospital			X	30,000.00	30,000.00				30,000.00		
						8250 treatment for category 1				X	22.20	183,150.00				183,150.00	
						750 treatment for category 2				X	37.80	28,350.00				28,350.00	
						5250 treatment for category 3				X	19.50	102,375.00				102,375.00	
						750 treatment for category 4				X	19.50	14,625.00				14,625.00	
						Total										1,344,000.00	



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Component 3: Recording and reporting system

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	OTHER
Establish standard recording and reporting system	To expand 100% standard recording and reporting system to all health facility with DOTS	No of health facilities applying DOTS with standard recording and reporting system	No of standard recording and reporting material used by DOTS health facilities	Provision of standard recording and reporting system to DOTS health facilities	Printing and dissemination of recording and reporting package for DOTS health facilities	400 package distributed		X	X	X	25.00	10,000.00				5,000.00	5,000.00	
		No of health facilities applying DOTS with quarterly reports cohort studies	Quarterly reports and cohort studies	Organize the process of collecting data and analysis	Organize quarterly meetings for collecting and analysis data in each prince and districts with DOTS	136 provincial meeting	X	X	X	X		12,000.00				6,000.00	6,000.00	
						32 regional meetings	X	X	X	X		13,600.00				6,800.00	6,800.00	
	To improve recording and reporting system at provincial level	No of provinces having regular recording and reporting system	Quarterly reports and cohort studies	Provision of 34 computerized system	Organize purchase and distribution	34 computer purchahsed				X	1,000.00	34,000.00						
Total											69,600.00		34,000.00		17,800.00	17,800.00		



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Component 4: Research

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT USD	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)							
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA		
Collect baseline data of epidemiological TB situation in Afghanistan	To conduct 4 research studies	Studies conducted	Studies results publish and disseminated	Organize and conduct survey to determine prevalence of TB in urban and rural provinces where DOTS has been implemented	RFP issued award granted and fund allocated to winning NGO and MoU signed	1 survey conducted		X	X			345,000.00	345,000.00			345,000.00				
				Organize and conduct survey to determine seroprevalence of HIV among TB SS+ patients	RFP issued award granted fund allocated to winning NGO and MoU signed	1 survey conducted		X	X			75,000.00	75,000.00			75,000.00				
				Organize and conduct survey to determine the prevalence of TB among prisoners	RFP issued award granted and fund allocated to winning NGO and MoU signed	1 survey conducted			X	X			50,000.00	50,000.00			25,000.00		25,000.00	
				Organize and conduct quality assessment for TB sputum smear microscopy in Afghanistan	Assessment team assigned	1 assessment survey conducted		X					8,561.00	8,561.00						8,561.00
Total												478,561.00			420,000.00	25,000.00	25,000.00	8,561.00		



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Component 5: Monitoring and evaluation

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA
Organize standard monitoring and evaluation system	To guarantee regular NTP monitoring and evaluation at central and regional level	2 semiannual evaluation workshops conducted	Annual reports of evaluation	Organize and conduct semiannual evaluation (2 workshops July and March)	Semiannual workshops with 100 participants for 3 days	2 workshops			X	X	20,000.00	40,000.00		10,000.00	5,000.00	10,000.00	10,000.00	5,000.00
Total											40,000.00	10,000.00	5,000.00	10,000.00	10,000.00	5,000.00		



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Component 6: Supervision

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	OTHER
Strengthen the supervision system	To guarantee regular supervision at regional, provincial level and district levels applying DOTS	No of the supervisory visits from central to regional levels	Supervisory and field trip repots	Organize the supervisory plan	2 supervisory visits per region (5 days each & 2 supervisors)	16 visits		X	X	X	2,000.00	32,000.00		32,000.00				
		No of the supervisory visits from regional to province	Supervisory and field trip repots	Organize and apply supervisory plan	3 supervisory visits per province(each supervisory visits 1 person 2 days)	102 visits	X	X	X	X	200.00	20,400.00		10,200.00			10,200.00	
		No of the supervisory visits from province to districts applying DOTS	Supervisory and field trip repots		2 supervisory visits per districts with DOTS (each supervisory visits 1 person 2 days)	320 visits	X	X	X	X	100.00	32,000.00			16,000.00			16,000.00
Total											84,400.00		32,000.00	10,200.00	16,000.00		26,200.00	



Component 7: Capacity building

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)							
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA		
Build managerial and technical capacity of NTP	To improve technical and managerial capacity of central NTP	No of central staff hired	Annual HRD reports	Define the job description for each technical positions	Hiring of technical team and develop ToR	7 personnel hired		X	X	X	2,100.00	18,900.00		18,900.00						
	To revise the NTP guideline	NTP guideline developed	NTP guideline disseminated	Organize and conduct the reviewing workshop	Coordinate with stakeholders	1 workshop	X				1,000.00	1,000.00			1,000.00					
	To develop strategic plan for NTP 2006-2010	Strategic plan for NTP developed	Strategic plan for NTP disseminated and applied	Organize and conduct workshop to develop strategic plan for NTP	Workshop with 30 participants	Coordinate with stakeholders	1 workshop	X				5,000.00	5,000.00		2,600.00	2,400.00				
									X											
										X										
	To develop operational plan for 2005	Operational plan for NTP developed	Operational plan for NTP disseminated and applied	Organize and conduct workshop to develop operational plan for NTP	Workshop with 30 participants	National strategic plan endorsed by MoPH	Strategic plan available	X												
										X			6.00	3,000.00	3,000.00					
									X				5,000.00	5,000.00	2,600.00	2,400.00				
	To develop operational plan for 2006	Operational plan for NTP developed	Operational plan for NTP disseminated and applied	Organize and conduct 2 workshops to develop operational plan for DOTS expansion	Workshop with 90 participants for 3 days each	National operational plan endorsed by MoPH	Operational plan available	X												
									X				6.00	3,000.00	3,000.00					
										X			10,000.00	20,000.00	20,000.00					
	To achieve political commitment to retain staff measures to avoid turn over of staff in TB	Achieved political commitment to retain staff	Annual HR reports	Organize and conduct workshop to retain staff in TB program	1 seminar with 60 participant for 2 days	1 seminar			X		8400	8400		8400						
	To involve private sector involvement in DOTS	Acknowledgement of situation	Study result	Coordinate and conduct 2 months study on acceptability and feasibility of DOTS delivery through private sector	RFP issued award granted and fund allocated to winning NGO and MoU signed				X		25,000.00	25,000.00		25,000.00						
	To improve the management capacity for TB drug supplies	No of NTP staff trained in drug supplies	Training reports, Assessments reports	Organize and coordinate training in drug supplies with USAID/REACH	Workshop for 12 NTP personnel's in drug supplies	Define ToR and coordinate activities	1 workshop		X			NA				NA				
								X				NA				NA				
Total												98,300.00	20,900.00	62,600.00	12,800.00	2,000.00				



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Component 8: Community mobilization/food incentives

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT USD	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	WFP
Improve the community participation in DOTS	To implement the community DOTS in at least 10% of health facilities applying DOTS	No of health facilities applying DOTS with community participation	Reports	Conduct two moth consultancy to study feasibility of community based DOTS	Consultant hired and study organized	1 study			X		25,000.00	25,000.00			25,000.00			
			Reports	Training on community DOTS of 100 CHWs and 12 master trainers at district level (3days training)	Coordinate and organize	100 CHWS and 12 master trainers			X	X	4,375.00	8,750.00			8,750.00			
			Reports	Produce training material on community DOTS for 100 CHWs and 12 master trainer on community DOTS	Coordinate and organize material	Material for100 CHWS and 12 master trainers			X		20.00	2,240.00			2,240.00			
			Reports	Purchase and distribute 4 motorcycles for 4 provincial supervisors	Coordinate and organize selection and distribution	4 motorcycles				X	1,000.00	4,000.00			4,000.00			
	To improve the incentive for TB patient	No of TB patient received food incentive	Quarterly reports	Organize and coordinate the MoU with key stakeholder WFP	Coordinate the food distribution	30,000 patients	X	X	X	X	NA	NA					NA	
Total											39,990.00	39,990.00						



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Component 9: Training

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)				
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB
Strengthen technical capacity of NTP	To improve technical capability of TB team in 100 % of the health facilities implementing DOTS	No of health personnel received training on DOTS	Training reports	Training of 47 master trainers at central and sub national level on DOTS (7 day training)	Coordinate and organize the training	47 master trainer on DOTS			X	X	11,350.00	11,350.00		11,350.00			
				Training of 252 different categories of health staff (CHCs, BHCS Districts and provincial hospitals)	Coordinate and organize the training	252 different category health staff trained on DOTS			X	X	52,400.00	52,400.00		52,400.00			
				Producing training material for 252 different category health staff on DOTS	Coordinate and organize the training	Material for 252 different health category health workers on DOTS			X	X	8.30	2,024.70		2,024.70			
				Training of 466 medical doctors in all health facilities applying DOTS	Coordinate and organize 34 trainings	466 medical doctors through 34 workshop	X	X			1,000.00	34,000.00		13,000.00		21,000.00	
				Training of 466 nurses in all health facilities applying DOTS	Coordinate and organize 34 trainings	466 nurses through 34 workshop	X	X			1,000.00	34,000.00		13,000.00		21,000.00	
				Refresher training of 700 medical doctors, nurses and midwives in all health facilities applying DOTS in 13 provinces supported by USAID/REACH Program (35 trainings 1 day)	Coordinate and organize refresher trainings	700 medical doctors, nurses and midwives	X	X	X	X	700.00	24,500.00		24,500.00			
	To improve technical capability of lab technicians in 100 % of the health facilities implementing DOTS with lab	No of lab technician training	Training reports	Training of 18 lab master trainer at central and sub national level receive 10 days training on sputum smear microscopy	Coordinate and organize trainings	18 lab technicians			X			400.00	72,000.00				72,000.00
				Training of 120 lab technicians at central and sub national levels received 10 days training on sputum smear microscopy	Coordinate and organize trainings	120 lab technicians	X	X			400.00	48,000.00				48,000.00	
				Training of 65 CHCs lab technicians of USAID/REACH provinces received 10 days training on sputum smear microscopy	Coordinate and organize trainings	65 lab technicians	X	X	X		400	26,000.00		26,000.00			
				Training of 15 NTP staff for 3 days supported by USAID/REACH	Organize and coordinate with USAID/REACH	15 NTP staff trained	X				3,000.00	3,000.00		3,000.00			
To improve management technical capability of NTP central and regional team	No of staff received training on management	Training reports	Training of 15 NTP staff for 3 days supported by USAID/REACH	Organize and coordinate with USAID/REACH	15 NTP staff trained			X			3,000.00	3,000.00		3,000.00			
Total											307,274.70		65,774.70	79,500.00	42,000.00	120,000.00	



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Component 10: IEC

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)							
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	OTHER		
Implement IEC activities for expanded DOTS	To implement IEC activities into the health facilities applying DOTS	No of health facilities using IEC material	Supervisory visits and activities reports	Coordination with stakeholders to provide IEC material	MoU with stakeholder to produce and disseminate the IEC material	500 IEC package distributed		X	X	X		30.00	15,000.00				15,000.00			
	To implement IEC activities in CHWs	No of CHW using IEC material	Supervisory visits and activities reports	Coordination with stakeholders to provide IEC material	MoU with stakeholder to produce and disseminate the IEC material	500 IEC package distributed		X	X	X		30.00	15,000.00				15,000.00			
					Conduct 3 month consultancy to prepare COMBI plan of action	Prepare ToR for consultant and coordinate with stake holders	1 consultancy done			X		30,000.00	30,000.00				30,000.00			
					Conduct 6 partnership meeting to promote public relation/advocacy and mobilization for TB control	Coordinate and organize the activities	6 meetings held			X	X	666.00	4,000.00				4,000.00			
					Conduct 40 community events on TB control	Coordinate and organize the activities	40 events			X	X	200.00	8,000.00				8,000.00			
					Organize and conduct broad media campaigns	Coordinate and organize the activities	1 campaign				X		20,000.00	20,000.00				20,000.00		
					Develop , produce and distribute IEC materials on TB for community	Coordinate and organize the activities	Material distributed			X	X		16,000.00	16,000.00				16,000.00		
Total												108,000.00				78,000.00	30,000.00			



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Component 11: TB Laboratory

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA
Organize a functional lab network for TB control activities focusing in quality assurance of sputum smear microscopy	To define a baseline data of the lab staffing, levels, facilities, infrastructure, basic biosafety practices, lab practice, workload, quality assurance for TB control in the priority provinces	Quality assessment for TB labs conducted	Result report of the TB lab assessment	Organize and implement the lab assessment tool	Analyze the data and publish the result/report	Full assessment conducted	X	X			4,000.00	4,000.00			4,000.00			
	To determine the no of microscopes operating in labs and those that need repair or replacement	Assessment for microscopes in TB labs	Result report of the TB lab assessment	Organize and implement the equipment lab assessment tool	Analyze the data and publish the result/report	Full assessment conducted	X	X			NA	NA			NA			
	To repair/replace the non functioning microscopes	No of microscope repair and replace	Laboratory reports and admin reports	Coordination with GFMU and other stakeholder for guarantee of microscopes procurement and repair	Organize the distribution and repair of microscopes	GFMU=100 microscopes procured and distributed			X	X	1,000.00	100,000.00			100,000.00			
									X	X	X	1,000.00	100,000.00			100,000.00		
										X	X	1,000.00	54,000.00	54,000.00				
										X	X	1,000.00	54,000.00					54,000.00
						To repair 100% microscopes identified			X	X	NA	NA* after assessment						
	To implement quality assurance for sputum smear microscopy	No of lab performing quality assurance system	Quarterly/semiannual reports	Approve the national guideline for quality assurance of lab	Organize technical review workshop	Approve guideline and diseminate 500 copies of national guideline		X			4,000.00	4,000.00		2,000.00	2,000.00			
									X	X	X	X	250.00	3,000.00	540.00	2,460.00		
										X	X		100,000.00	100,000.00				
			Establishment of National Reference laboratory	Procurement of equipment and reagents	Equipment and reagents available			X	X									
				Hiring of technical team and develop ToR	3 lab tech assume position		X	X	X	200.00	5,400.00	1,215.00	4,185.00					
											424,400.00	1,755.00	62,645.00	106,000.00	100,000.00	154,000.00		

Expected Coverage of DOTS in Health Facilities. Afghanistan. 2005

No	Province	Population	Active facilities 2003 - 2004 (Number)	DOTS Active facilities 2003 (Number)	DOTS Active facilities 2004 (Preliminary Number)	Expected DOTS CHC/BHC facilities 2005 (Number)	Expected DOTS Hospitals 2005 (Number)	Expected total number of DOTS Health Facilities 2005	Stakeholder				
									MOPH	USAID / REACH	WORLD BANK	EC	OTHERS
1	Kabul	6,274,100	125	9	18	32	2	34	X	X			
2	Kapisa	366,800	20	4	11	17		17	X		X		
3	Parwan	774,400	56	6	7	19		19	X		X		
4	Panjsher	0	0	0	0	5		5	X		X		
5	Wardak	451,900	40	10	16	20		20	X		X		
6	Logar	323,200	23	2	3	9		9	X			X	
7	Ghazni	962,200	68	5	10	19	1	20	X	X			
8	Paktiya	416,200	26	3	5	10		10	X	X			
9	Nangarhar	1,207,400	81	10	15	34	1	35	X			X	
10	Laghman	384,300	24	4	5	15		15	X			X	
11	Kunar	331,400	24	7	6	11		11	X			X	
12	Badakhshan	741,500	34	6	10	17	1	18	X	X			
13	Takhar	833,400	25	3	10	12		12	X	X			
14	Baghlan	843,600	43	5	6	16		16	X	X			
15	Kunduz	1,013,800	27	3	7	11	1	12	X			X	
16	Samangan	326,200	8	1	1	4		4	X		X		
17	Balkh	1,210,900	46	5	4	33	1	34	X		X		
18	Jawzjan	498,200	21	2	3	13		13	X	X			
19	Faryab	877,900	24	2	2	9		9	X	X			
20	Badghis	313,900	22	1	2	6		6	X		X		
21	Hirat	1,505,300	59	10	16	30	1	31	X	X			
22	Farah	372,600	14	2	2	11		11	X		X		
23	Nimroz	161,600	7	1	1	6		6	X		X		
24	Helmand	797,900	23	4	6	12	1	13	X		X		
25	Kandahar	1,237,800	35	8	7	14		14	X	X			
26	Zabul	258,300	9	1	2	5		5	X			X	
27	Urozkam	646,600	15	2	3	12		12	X			X	
28	Ghor	497,100	17	4	3	11		11	X			X	
29	Bamyan	403,200	21	4	13	17		17	X	X			
30	Daikundi	0	0	0	0	0		0				X	
31	Paktika	359,400	22	2	3	9		9	X	X			
32	Nuristan	111,000	11	3	2	6		6	X			X	
33	Sari Pul	511,300	20	1	1	6		6	X		X		
34	Khost	307,500	23	1	2	6		6	X	X			
Total		25,320,900	1,013	131	202	457	9	466					

Source: ANHRA database, June, 2004.
NTP/WHO/USAID REACH

Suggested Package for Implementation of DOTS by Each Health Facility

1. TB treatment for three months, according to NTP and programming criteria
2. Laboratory reagents and sputum containers for six months
3. Records and report package (one register for suspected TB cases, one register for the laboratory, a TB register and 100 TB treatment cards, TB patient identity cards, TB referral transfer forms, requisition forms for TB drugs, 1000 request forms for sputum examination)
4. IEC package (flipchart for nurse counseling, flipchart for CHW, and wall posters)
5. Four copies of the National Guidelines for each health facility (one for the CHC in charge, one for the medical doctor, one for nurse(s) and one for lab technician(s))
6. Four sets of guidelines on case detection for each health facility (one for the CHC in charge, one for medical doctor(s), one for nurse(s), and one for lab technician(s))

Expected requirement of TB treatment by province. Afghanistan. 2005

No	Province	Population (Estimated)	All TB cases Notified 2003 (Number)	All TB cases notified 2004 (Preliminary Number)	Expected TB cases 2005 (Number)	Expected Treatment Category-2005 (Number)			
						Category 1	Category 2	Category 3	Category 4
1	Kabul	6,274,100	1,525	1,337	2,118	1,165	106	741	106
2	Kapisa	366,800	30	230	345	190	17	121	17
3	Parwan	774,400	79	157	236	130	12	83	12
4	Panjsher	0	0	0	0	0	0	0	0
5	Wardak	451,900	145	150	228	125	11	80	11
6	Logar	323,200	68	120	180	99	9	63	9
7	Ghazni	962,200	764	1,389	2,084	1,146	104	729	104
8	Paktiya	416,200	399	700	1,050	578	53	368	53
9	Nangarhar	1,207,400	1,482	1,680	2,520	1,386	126	882	126
10	Laghman	384,300	246	320	480	264	24	168	24
11	Kunar	331,400	420	400	600	330	30	210	30
12	Badakhshan	741,500	779	985	1,478	813	74	517	74
13	Takhar	833,400	419	928	1,392	766	70	487	70
14	Baghlan	843,600	585	1,419	2,192	1,206	110	767	110
15	Kunduz	1,013,800	935	1,707	2,561	1,409	128	896	128
16	Samangan	326,200	102	130	195	107	10	68	10
17	Balkh	1,210,900	884	1,205	1,808	994	90	633	90
18	Jawzjan	498,200	510	730	1,095	602	55	383	55
19	Faryab	877,900	265	382	573	315	29	201	29
20	Badghis	313,900	408	300	450	248	23	158	23
21	Hirat	1,505,300	843	915	1,373	755	69	481	69
22	Farah	372,600	264	417	626	344	31	219	31
23	Nimroz	161,600	0	60	90	50	5	32	5
24	Helmand	797,900	873	1,095	1,643	904	82	575	82
25	Kandahar	1,237,800	525	815	1,223	673	61	428	61
26	Zabul	258,300	0	150	225	124	11	79	11
27	Urozgam	646,600	39	370	550	303	28	193	28
28	Ghor	497,100	257	520	780	429	39	273	39
29	Bamyan	403,200	206	300	450	248	23	158	23
30	Daikundi	0	0	0	0	0	0	0	0
31	Paktika	359,400	29	300	450	248	23	158	23
32	Nuristan	111,000	171	220	330	182	17	116	17
33	Sari Pul	511,300	149	150	225	124	11	79	11
34	Khost	307,500	215	300	450	248	23	158	23
Total		25,320,900	13,616	19,881	30,000	16,500	1,500	10,500	1,500

Source: ANHRA database, June, 2004.

NTP/WHO/USAID REACH

Drugs Available from GDF**FIRST-LINE TUBERCULOSIS DRUGS & FORMULATIONS CURRENTLY
SUPPLIED/TO BE SUPPLIED BY THE GLOBAL TB DRUG FACILITY****PRODUCT CATALOGUE 2005. Updated 7 December 2004**

BLISTER PACKAGING		
<i>Drug</i>	<i>Price US\$*</i>	<i>Description</i>
<u>4-FDC-B</u>	25.96	Rifampicin 150 mg / Isoniazid 75 mg / Pyrazinamide 400 mg / Ethambutol 275 mg film coated tablets, box of 672 tablets in 24 blister sheets
<u>3-FDC-B</u>	20.36	Rifampicin 150 mg / Isoniazid 75 mg /Ethambutol 275 mg film coated tablets, box of 672 tablets in 24 blister sheets
<u>RH150/75-B</u>	10.34	Rifampicin 150 mg / Isoniazid 75 mg, film coated tablets, box of 672 tablets in 24 blister sheets
<u>RH150/150-B</u>	12.74	Rifampicin 150 mg / Isoniazid 150 mg, film coated tablets, box of 672 tablets in 24 blister sheets
<u>EH400/150-B</u>	15.39	Ethambutol 400 mg / Isoniazid 150 mg film coated tablets, box of 672 tablets in 24 blister sheets
<u>E400-B</u>	13.46	Ethambutol HCl 400 mg film coated tablets, box of 672 tablets in 24 blister sheets
<u>H300-B</u>	7.45	Isoniazid 300 mg tablet box of 672 tablets in 24 blister sheets
<u>Z400-B</u>	10.10	Pyrazinamide 400 mg tablets, box of 672 tablets in 24 blister sheets
BULK PACKAGING		
<i>Drug</i>	<i>Price US\$*</i>	<i>Description</i>
<u>4-FDC</u>	36.09	Rifampicin 150 mg / Isoniazid 75 mg / Pyrazinamide 400 mg / Ethambutol 275 mg film coated tablets, 1000 tablets/unit
<u>3-FDC</u>	27.95	Rifampicin 150 mg / Isoniazid 75 mg /Ethambutol 275 mg film coated tablets, 1000 tablets/unit
<u>RH150/75</u>	14.45	Rifampicin 150 mg / Isoniazid 75 mg, film coated tablets, 1000

		tablets/unit
<u>RH150/150</u>	16.22	Rifampicin 150 mg / Isoniazid 150 mg, film coated tablets, 1000 tablets/unit
<u>EH400/150</u>	17.24	Ethambutol 400 mg + Isoniazid 150 mg film coated tablets, 1000 tablets/unit
<u>E400</u>	14.27	Ethambutol HCl 400 mg film coated tablets, 1000 tablets/unit
<u>H300</u>	5.08	Isoniazid 300 mg tablet, 1000 tablets/unit
<u>Z400</u>	13.00	Pyrazinamide 400 mg tablet, 1000 tablets/unit
S 1 g	3.07	Streptomycin (as sulphate) powder for injection 1 g, 50 vials/unit
Water for Injection (Solvent)	1.98	Water for injection, 5 ml vial, 100 vials/unit
Hypodermic syringe	2.91	Hypodermic syringe, 5ml, 2-part, luer, disp, ster, bx/100, w/22Gx1.25 needle, by-packed
STOB TB PATIENT KITS		
<i>Drug</i>	<i>Price US\$*</i>	<i>Description</i>
Cat I & III Patient kit:	13.27	Full treatment for a Cat I or Cat III patient for 6 months: 2(RHZE)/4(RH) Oral drugs in blister packs in a single patient box

****CONTACT GDF AT MATIRUR@WHO.INT FOR PRICING INFORMATION**

GDF offers a selective range of high-quality anti TB drugs

GDF products conform to WHO recommended TB treatment guidelines

The GDF products enable the physician to treat a patient according to the latest WHO treatment guidelines.

GDF products conform to the WHO Essential Drugs List

With the exception of R150 mg/H75 mg/E275 mg (see table below), all GDF products are on the WHO essential drugs list, which facilitates their registration and importation.

FDC formulations

The use of Fixed Dose Combination (FDC) tablets greatly contributes to rational drug use and assists in effective DOTS implementation and expansion.

- FDC tablets reduce the number of tablets a patient needs to take, while avoiding monotherapy and thereby reducing the risks of developing Multidrug-Resistant TB (MDR-TB).
- GDF provides 4FDC tablets containing R150 mg/H75 mg/Z400 mg/E275 mg for the Intensive Phase of treatment, 3FDC tablets containing R150 mg/H75 mg/E275 mg for the Continuation Phase of Category II treatment and for the Continuation Phase of Category I treatment: 2 FDC tablets containing R150 mg/H75 mg or E400mg/H150mg for the Daily Regimen or R150mg/H150mg for Intermittent Use.

Pre-qualified manufacturers

- Compliance with WHO/GMP standards.
- Product compliance with WHO-recommended standards for medicines.
- Include a bio-availability study for the Rifampicin component of all FDCs.

Shelf life

GDF guarantees 3/4 remaining shelf-life of all products on arrival at the port of entry.

Pre-shipment inspection

Pre-shipment inspection of every order by an international agency, independent of the manufacturer, is conducted on packing, labeling, content and shelf life.

Laboratory testing

Samples of all batches to be supplied are tested by an independent laboratory for compliance with the relevant pharmacopoeia.

Specially designed quality containers for loose tablets

- 1000 loose tablets in specially designed square containers of High Density Polyethylene (HDPE)
- Aluminum seal under lids
- Every container packed in individual shrink foil for full protection against humidity and easy stocktaking: “shrink foil intact = contents complete”
- One container with 1000 4FDC or 2FDC tablets will treat 10 **average patients**
- Product information inserts in 6 UN languages

Specially designed blisters

GDF blisters are comprised of sheets with seven rows of four tablets: one blister sheet contains treatment for one week for one patient of average weight band, easily adjustable to patients of other weight bands.

Competitive prices

GDF prices are exceptionally competitive due to bulk procurement, competitive bidding, prompt payment policies and standardization of products (Refer to *Management Sciences for Health*:

International Drug Price Indicator Guide for comparison of GDF prices with other global market prices: <http://erc.msh.org/dmpguide>)

Suggested Contents of Training for DOTS Expansion

1. For the multidisciplinary team, with an emphasis on nurses:

- Components of DOTS strategy
- Management and functional organization of the NTP: Roles and functions for levels and occupational groups (medical doctors, nurses, laboratory technicians, and technical personnel)
- Organization of case detection and TB diagnostic
- Organization of TB treatment, study of contacts and chemoprophylaxis
- Organization of the NTP information system (operational and epidemiological)
- Appropriate filling out of NTP registration tools
- Correct use of operational information and cohort studies
- Analysis of operational and epidemiological indicators
- Programming and logistics in the NTP
- Organization of training, supervision and evaluation in the NTP

2. For the medical doctors:

- Attending to adverse reactions to TB drugs
- TB diagnostic monitoring
- Qualification of the initial gravity of the illness, the risk of dying of TB, and attending to complications
- TB diagnosis in children

3. For the laboratory technicians:

- Organization of the network labs
- Quality controls for sputum smear microscopy
- Method for quantification of laboratory supplies to facilitate procurement at the national level
- Bio-safety procedures and techniques for maintenance of lab equipment

Annex 3: Report of QC for Sputum Smear Microscopy

Name of supervised lab : _____ Address of supervised lab : _____
 Province: : _____ Laboratory supervisor : _____
 Semester : _____ Year : _____

Positive Slides					
Agreement		Disagreement		Total	
N°	%	N°	%	N°	%

Negative Slides					
Agreement		Disagreement		Total	
N°	%	N°	%	N°	%

Total Slides					
Agreement		Disagreement		Total	
N°	%	N°	%	N°	%

Technical analysis of slides

Months	Total number of slides reviewed	Size and Thickness								Staining				
		Good		Thin		Thick		No Homogeneous		Good		Deficient		
		N°	%	N°	%	N°	%	N°	%	N°	%	N°	%	
Total														

Conclusions and recommendations:

Technical evaluation

Date : ____ / ____ / ____

Signature of Supervisor Lab Technician _____

Annex 4: Semiannual Report of QC of Sputum Smear Microscopy

Intermediate Lab Supervisory: _____ Province: _____

Year:.....

Semester

1	2
---	---

Laboratories		N ^o	%
1. Laboratories in the province	:	-----	
2. Laboratories processing sputum smear microscopy	:	-----	
3. Laboratories with QC	:	-----	-----
4. Laboratories with disagreements	:	-----	-----
Positive slides			
		N ^o	%
5. Positive slides reviewed	:	-----	
6. Agreement	:	-----	-----
7. Disagreement	:	-----	----- (% false positives)
Negative slides			
		N ^o	%
8. Negative slides reviewed	:	-----	
9. Agreement	:	-----	-----
10. Disagreement	:	-----	----- (% false negative)
TOTAL SLIDES REVIEWED			
		N ^o	%
11. Total slides reviewed	:	-----	
12. Total agreement	:	-----	-----
13. Total slides disagreement	:	-----	-----

Date:/...../.....

Signature of Supervisor Lab Technician



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Component 4: Research

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT USD	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)							
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA		
Collect baseline data of epidemiological TB situation in Afghanistan	To conduct 4 research studies	Studies conducted	Studies results publish and disseminated	Organize and conduct survey to determine prevalence of TB in urban and rural provinces where DOTS has been implemented	RFP issued award granted and fund allocated to winning NGO and MoU signed	1 survey conducted		X	X			345,000.00	345,000.00			345,000.00				
				Organize and conduct survey to determine seroprevalence of HIV among TB SS+ patients	RFP issued award granted fund allocated to winning NGO and MoU signed	1 survey conducted		X	X			75,000.00	75,000.00			75,000.00				
				Organize and conduct survey to determine the prevalence of TB among prisoners	RFP issued award granted and fund allocated to winning NGO and MoU signed	1 survey conducted			X	X			50,000.00	50,000.00			25,000.00		25,000.00	
				Organize and conduct quality assessment for TB sputum smear microscopy in Afghanistan	Assessment team assigned	1 assessment survey conducted		X					8,561.00	8,561.00						
Total												478,561.00			420,000.00	25,000.00	25,000.00	8,561.00		



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Component 5: Monitoring and evaluation

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA
Organize standard monitoring and evaluation system	To guarantee regular NTP monitoring and evaluation at central and regional level	2 semiannual evaluation workshops conducted	Annual reports of evaluation	Organize and conduct semiannual evaluation (2 workshops July and March)	Semiannual workshops with 100 participants for 3 days	2 workshops			X	X	20,000.00	40,000.00		10,000.00	5,000.00	10,000.00	10,000.00	5,000.00
Total											40,000.00		10,000.00	5,000.00	10,000.00	10,000.00	5,000.00	



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Component 6: Supervision

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)				
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB
Strengthen the supervision system	To guarantee regular supervision at regional, provincial level and district levels applying DOTS	No of the supervisory visits from central to regional levels	Supervisory and field trip repots	Organize the supervisory plan	2 supervisory visits per region (5 days each & 2 supervisors)	16 visits		X	X	X	2,000.00	32,000.00		32,000.00			
		No of the supervisory visits from regional to province	Supervisory and field trip repots	Organize and apply supervisory plan	3 supervisory visits per province (each supervisory visits 1 person 2 days)	102 visits	X	X	X	X	200.00	20,400.00			10,200.00		10,200.00
		No of the supervisory visits from province to districts applying DOTS	Supervisory and field trip repots	2 supervisory visits per districts with DOTS (each supervisory visits 1 person 2 days)	320 visits	X	X	X	X	100.00	32,000.00			16,000.00		16,000.00	
Total											84,400.00		32,000.00	10,200.00	16,000.00	26,200.00	



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Component 7: Capacity building

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)						
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA	
Build managerial and technical capacity of NTP	To improve technical and managerial capacity of central NTP	No of central staff hired	Annual HRD reports	Define the job description for each technical positions	Hiring of technical team and develop TOR	7 personnel hired	X	X	X		2,100.00	18,900.00		18,900.00					
	To revise the NTP guideline	NTP guideline developed	NTP guideline disseminated	Organize and conduct the reviewing workshop	Coordinate with stakeholders	1 workshop	X				1,000.00	1,000.00			1,000.00				
	To develop strategic plan for NTP 2006-2010	Strategic plan for NTP developed	Strategic plan for NTP disseminated and applied	Strategic plan for NTP disseminated and applied	Organize printing and distribution	Coordinate with stakeholders	20.00 copies of guideline		X			3.00	6,000.00		2,000.00		2,000.00		2,000.00
					Organize and conduct workshop to develop strategic plan for NTP	Workshop with 30 participants	1 workshop		X			5,000.00	5,000.00		2,600.00		2,400.00		
					Agreed to national strategic plan for NTP	National strategic plan endorsed by MoPH	Strategic plan available		X										
	To develop operational plan for 2005	Operational plan for NTP developed	Operational plan for NTP disseminated and applied	Operational plan for NTP disseminated and applied	National strategic plan published	National strategic plan disseminated	500 copies strategic plan distributed			X		6.00	3,000.00			3,000.00			
					Organize and conduct workshop to develop operational plan for NTP	Workshop with 30 participants	1 workshop	X				5,000.00	5,000.00		2,600.00		2,400.00		
					Agreed to national operational plan for NTP	National operational plan endorsed by MoPH	Operational plan available		X										
	To develop operational plan for 2006	Operational plan for NTP developed	Operational plan for NTP disseminated and applied	Operational plan for NTP disseminated and applied	National operational plan published	National operational plan disseminated	500 copies operational plan distributed			X		6.00	3,000.00				3,000.00		
					Organize and conduct 2 workshops to develop operational plan for DOTs expansion	Workshop with 90 participants for 3 days each	2 workshop			X		10,000.00	20,000.00		20,000.00				
					Agreed to national operational plan for NTP	National operational plan endorsed by MoPH	Operational plan available			X									
	To achieve political commitment to retain staff measures to avoid turn over of staff in TB	Achieved political commitment to retain staff	Annual HR reports	Annual HR reports	National operational plan published	National operational plan disseminated	500 copies operational plan distributed			X		6.00	3,000.00				3,000.00		
					Organize and conduct workshop to retain staff in TB program	1 seminar with 60 participant for 2 days	1 seminar		X			8400	8400		8400				
	To involve private sector involvement in DOTs	Acknowledgement of situation	Study result	Study result	Coordinate and conduct 2 months study on acceptability and feasibility of DOTs delivery through private sector	RFP issued award granted and fund allocated to winning NGO and MoU signed			X			25,000.00	25,000.00			25,000.00			
To improve the management capacity for TB drug supplies	No of NTP staff trained in drug supplies	Training reports, Assessments reports	Training reports, Assessments reports	Organize and coordinate training in drug supply with USAID/REACH	Workshop for 12 NTP personnel's in drug supplies	1 workshop		X			NA					NA			
				Organize and coordinate assessment of drug supplies with USAID/REACH	Define ToR and coordinate activities	1 assessment		X						NA				NA	
Total											98,300.00	20,900.00	62,600.00	12,800.00	2,000.00				



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Component 8: Community mobilization/food incentives

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT USD	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)						
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	WFP	
Improve the community participation in DOTS	To implement the community DOTS in at least 10% of health facilities applying DOTS	No of health facilities applying DOTS with community participation	Reports	Conduct two moth consultancy to study feasibility of community based DOTS	Consultant hired and study organized	1 study			X		25,000.00	25,000.00			25,000.00				
			Reports	Training on community DOTS of 100 CHWs and 12 master trainers at district level (3days training)	Coordinate and organize	100 CHWS and 12 master trainers				X	X	4,375.00	8,750.00			8,750.00			
			Reports	Produce training material on community DOTS for 100 CHWs and 12 master trainer on community DOTS	Coordinate and organize material	Material for100 CHWS and 12 master trainers					X		20.00	2,240.00			2,240.00		
			Reports	Purchase and distribute 4 motorcycles for 4 provincial supervisors	Coordinate and organize selection and distribution	4 motorcycles						X	1,000.00	4,000.00			4,000.00		
	To improve the incentive for TB patient	No of TB patient received food incentive	Quarterly reports	Organize and coordinate the MoU with key stakeholder WFP	Coordinate the food distribution	30,000 patients	X	X	X	X	NA	NA						NA	
Total											39,990.00	39,990.00							



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Component 9: Training

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA
Strengthen technical capacity of NTP	To improve technical capability of TB team in 100 % of the health facilities implementing DOTS	No of health personnel received training on DOTS	Training reports	Training of 47 master trainers at central and sub national level on DOTS (7 day training)	Coordinate and organize the training	47 master trainer on DOTS			X	X	11,350.00	11,350.00			11,350.00			
				Training of 252 different categories of health staff (CHCs, BHCs Districts and provincial hospitals)	Coordinate and organize the training	252 different category health staff trained on DOTS			X	X	52,400.00	52,400.00			52,400.00			
				Producing training material for 252 different category health staff on DOTS	Coordinate and organize the training	Material for 252 different health category health workers on DOTS			X	X	8.30	2,024.70			2,024.70			
				Training of 466 medical doctors in all health facilities applying DOTS	Coordinate and organize 34 trainings	466 medical doctors through 34 workshop		X	X			1,000.00	34,000.00			13,000.00	21,000.00	
				Training of 466 nurses in all health facilities applying DOTS	Coordinate and organize 34 trainings	466 nurses through 34 workshop		X	X			1,000.00	34,000.00			13,000.00	21,000.00	
				Refresher training of 700 medical doctors, nurses and midwives in all health facilities applying DOTS in 13 provinces supported by USAID/REACH Program (35	Coordinate and organize refresher trainings	700 medical doctors, nurses and midwives	X	X	X	X		700.00	24,500.00			24,500.00		
				Training of 18 lab master trainer at central and sub national level receive 10 days training on sputum smear microscopy	Coordinate and organize trainings	18 lab technicians			X			400.00	72,000.00					
	Training of 120 lab technicians at central and sub national levels received 10 days training on sputum smear microscopy	Coordinate and organize trainings	120 lab technicians		X	X			400.00	48,000.00						48,000.00		
	Training of 65 CHCs lab technicians of USAID/REACH provinces received 10 days training on sputum smear microscopy	Coordinate and organize trainings	65 lab technicians		X	X	X		400	26,000.00			26,000.00					
	To improve technical capability of lab technicians in 100 % of the health facilities implementing DOTS with lab	No of lab technician training	Training reports	Training of 15 NTP staff for 3 days supported by USAID/REACH	Organize and coordinate with USAID/REACH	15 NTP staff trained		X			3,000.00	3,000.00			3,000.00			
To improve management technical capability of NTP central and regional team	No of staff received training on management	Training reports																
Total											307,274.70		65,774.70	79,500.00	42,000.00	120,000.00		



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Component 10: IEC

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)						
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	OTHER	
Implement IEC activities for expanded DOTS	To implement IEC activities into the health facilities applying DOTS	No of health facilities using IEC material	Supervisory visits and activities reports	Coordination with stakeholders to provide IEC material	MoU with stakeholder to produce and disseminate the IEC material	500 IEC package distributed		X	X	X	30.00	15,000.00				15,000.00			
	To implement IEC activities in CHWs	No of CHW using IEC material	Supervisory visits and activities reports	Coordination with stakeholders to provide IEC material	MoU with stakeholder to produce and disseminate the IEC material	500 IEC package distributed		X	X	X	30.00	15,000.00				15,000.00			
					Conduct 3 month consultancy to prepare COMBI plan of action	Prepare ToR for consultant and coordinate with stake holders	1 consultancy done			X	30,000.00	30,000.00				30,000.00			
					Conduct 6 partnership meeting to promote public relation/advocacy and mobilization for TB control	Coordinate and organize the activities	6 meetings held			X	X	666.00	4,000.00				4,000.00		
					Conduct 40 community events on TB control	Coordinate and organize the activities	40 events			X	X	200.00	8,000.00				8,000.00		
					Organize and conduct broad media campaigns	Coordinate and organize the activities	1 campaign				X	20,000.00	20,000.00				20,000.00		
					Develop , produce and distribute IEC materials on TB for community	Coordinate and organize the activities	Material distributed			X	X	16,000.00	16,000.00				16,000.00		
Total											108,000.00	78,000.00	30,000.00						



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Component 11: TB Laboratory

GOALS	SPECIFIC OBJECTIVES	INDICATORS	SOURCE OF VERIFICATION	ACTIVITIES	TASKS	TARGETS	QUARTERLY 2005				UNITARY AMOUNT	TOTAL AMOUNT USD	SOURCE OF BUDGET (USD)					
							1	2	3	4			MOPH	WHO	GFMU	USAID/REACH	WB	JICA
Organize a functional lab network for TB control activities focusing in quality assurance of sputum smear microscopy	To define a baseline data of the lab staffing, levels, facilities, infrastructure, basic biosafety practices, lab practice, workload, quality assurance for TB control in the priority provinces	Quality assessment for TB labs conducted	Result report of the TB lab assessment	Organize and implement the lab assessment tool	Analyze the data and publish the result/report	Full assessment conducted	X	X			4,000.00	4,000.00			4,000.00			
	To determine the no of microscopes operating in labs and those that need repair or replacement	Assessment for microscopes in TB labs	Result report of the TB lab assessment	Organize and implement the equipment lab assessment tool	Analyze the data and publish the result/report	Full assessment conducted	X	X			NA	NA			NA			
	To repair/replace the non functioning microscopes	No of microscope repair and replace	Laboratory reports and admin reports	Coordination with GFMU and other stakeholder for guarantee of microscopes procurement and repair	Organize the distribution and repair of microscopes	GFMU=100 microscopes procured and distributed			X	X	1,000.00	100,000.00			100,000.00			
									X	X	X	1,000.00	100,000.00			100,000.00		
									X	X	1,000.00	54,000.00	54,000.00					
									X	X	1,000.00	54,000.00	54,000.00					54,000.00
						To repair 100% microscopes identified		X	X	NA	NA* after assessment							
	To implement quality assurance for sputum smear microscopy	No of lab performing quality assurance system	Quarterly/semiannual reports	Approve the national guideline for quality assurance of lab	Organize technical review workshop	Approve guideline and disseminate 500 copies of national guideline		X			4,000.00	4,000.00		2,000.00	2,000.00			
							Hiring of lab incharge	Lab incharge assume position	X	X	X	X	250.00	3,000.00	540.00	2,460.00		
	Establishment of National Reference laboratory	Procurement of equipment and reagents	Equipment and reagents available		X	X				100,000.00	100,000.00							100,000.00
Hiring of technical team and develop ToR				3 lab tech assume position	X	X	X	200.00	5,400.00	1,215.00	4,185.00							
	424,400.00											1,755.00	62,645.00	106,000.00	100,000.00	154,000.00		