rGLC/EUROPE MISSION

FOR MONITORING OF THE IMPLEMENTATION

OF THE NATIONAL M/XDR-TB RESPONSE PLAN

IN TAJIKISTAN

08 – 14 October 2014

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List of acronym

ARV	Antiretroviral
DOT	Directly Observed treatment
DOTS	Directly observed treatment short-course
DRS	Drug resistance survey
DR-TB	Drug Resistant Tuberculosis
DST	Drug Sensitivity Testing
EQA	External Quality Assurance
FDC	Fixed Dose Combinations
FLDs	First line anti-TB drugs
GDF	The Global Drug Facility
TGF	The Global Fond to fight against AIDS, Tuberculosis, and Malaria
GLC	Green Light Committee
HAIN	Hain Lifescience (HAIN); The Hain GenoType MTBDR® plus Assay
HC	Health Care
HIV	Human immunodeficiency virus
IC	Infection Control
L-J	Lowenstein-Jensen medium
LTBI	Latent Tuberculosis infection
MDR-TB	Multi -Drug Resistant Tuberculosis
MGIT	BACTEC™ MGIT™ 960 Mycobacterial Detection System
NRL	National reference laboratory
NTP	National Tuberculosis Control Programme
SLDs	Second line anti-TB drugs
SRL	Supranational reference laboratory
SS-	Sputum smear negative
SS+	Sputum smear positive
TB	Tuberculosis
VCT	Voluntary counselling and testing
WHO	World Health Organization
XDR-TB	Extensively drug-resistant tuberculosis

1. Terms of Reference

Objectives:

- to assess the implementation of the program, evaluate current achievements and sustainability of the program; and develop recommendations for future activities;
- to assess the National M/XDR-TB Response Plan and ensure that it complies with the European M/XDR-TB Response Plan;
- to assess the progress of the implementation of the National M/XDR-TB Response Plan (if available);
- to assess the current M/XDR–TB Control project supported by the Global Fund or any other donor (if applicable).

Key issues to be elaborated and reviewed:

1) Availability of the National M/XDR-TB Response Plan, which includes coverage of all patients including children and adolescents, prisoners and migrants, homeless and etc.;
2) Alignment of the National M/XDR-TB Response Plan to the *"Consolidated Action Plan to Prevent and Combat M/XDR-TB in WHO European Region 2011 – 2015"*;
3) Identify the need of technical assistance to elaborate and modify the National M/XDR-TB Response Plan;
4) Assess the level of the governmental support and coordination between government and internal and external partners (donors, implementers); the project and the community; civilian and penitentiary system; M/XDR-TB and HIV interventions; human resources management and training;
5) Assess case finding strategies and identify barriers to timely start of M/XDR-TB treatment, including TB in children;
6) Case management and treatment strategies and approaches (clinical protocols and guidelines, side effect management and availability of diagnostics and ancillary drugs at all levels, especially at ambulatory sector); TB children case management; TB care delivery ethics and other relevant aspects of the program with the focus on vulnerable groups (prisoners, former prisoners, migrants and children);
7) Follow up of TB and M/XDR-TB patients; patient-centered approach and social support;
8) Infection control strategies at inpatient and outpatient settings;
9) Current status of laboratory services, diagnostics, accessibility for the patients, including children; collaboration with the supranational reference laboratory;
10) Drug management system for first and second-line TB drugs in terms of quantification method, procurement, importation, storage, distribution and delivery to the patients, availability of children dosages formulation; collaboration with the first and second-line drug procurement agency;
11) Information system (including availability of recording and reporting forms, and data base) and data management (routine collection and cohort analysis); existence of separate MDR-TB register or user-friendly platform for separate data management from the all TB register. Existence of the laboratory information management module linked to MDR-TB and/or TB register.
12) Identify the need, frequency and duration of technical assistance to implement the National M/XDR-TB Response Plan.

2. Background information

The regional Green Light Committee (rGLC) for the WHO European Region is supporting the scaling up of the M/XDR-TB Response Plan in Tajikistan. The last monitoring mission was conducted by Drs. Kai Blöndal and Elmira Gurbanova in February 2014. Current mission to assess the project activities on behalf of the rGLC was planned for the period 9-14 October 2014.

The country applied successfully to The Global Fund (TGF) in rounds 3 and RCC of round 3 with Project HOPE as the principal recipient; rounds 6 and 8 with the UNDP as the Project Implementation Unit (PIU). The consolidated rounds 6 and 8 include the treatment of multidrug- and extensively drug-resistant TB (M/XDR-TB). The RCC phase 2 (started at the end of 2012) was revised for including treatment of MDR-TB patients. In 2012, the country successfully applied to the Transitional Funding Mechanism (TFM) of the TGF (UNDP as the PIU) and the grant agreement was signed in June 2013. A total of 1,628 MDR-TB patients were planned to be treated under the TFM during the period 2014–2015. The country has prepared the concept note to the New Funding Mechanism (NFM) of TGF to be submitted in October 2014. The TGF project is planned to start in 2016 and last for two years. A total of 2,597 drug-resistant (DR) TB patients will be treated during the two years; out of them 1,866 with MDR-TB and 100 with XDR-TB. One of the important achievements is that the government has assigned funding to procure 50% of the needed first-line anti-TB drugs (FLDs) in 2016 and 100% in 2017.

In 2014, the MoHSA has develop and approved (August 2014) the new National Strategic Plan (NSP) on TB for the years 2015-2020. The M/XDR-TB Response Plan (2015-2020), has been updated in July 2014. The M/XDR-TB Plan as well as the National Strategic Plan are aligned with the WHO/EURO Roadmap for the European Region 2011-2015 and the 67th World Health Assemble adopted Global strategy and targets for tuberculosis prevention, care and control after 2015 (Post-2015 TB Strategy).

Tajikistan applied to the GLC and was approved in February 2009 to receive the second-line anti-TB drugs (SLDs) for a limited cohort of 50 MDR-TB patients (Table 1). The cohort expansion for additional 400 patients was approved on 1st of March 2010. In April 2011, the countrywide management of M/XDR-TB patients was approved by the GLC, however the full country coverage will be actually reach at the end of 2014 mainly due to the limited supply of the SLDs and difficulties in expanding the access to culture and DST in the regions. The GLC monitoring missions have been carried out in March and November 2009, and November 2010, April 2011, and April 2012, July 2013 and February 2014.

Table 1. Number of M/XDR-TB patients diagnosed and started treatment during the period 2009–2011

Year	Diagnosed M/XDR-TB cases	Provided treatment courses (not necessarily out of diagnosed this year)
2009	141	52
2010	333	245
2011	721	380
2012	772	536 R8
2013	911	668
2014	Estimated 1,020. By October 2014, 559 cases diagnosed	Planned: 814 TFM + 50 KNCV + 125 Project HOPE and MSF up to 140 patients over 2 years Actually enrolled during the first 6 months: 405
2015	Estimated 1,020	814 TFM+ 125 Project HOPE = 939

[1] *Estimated 1,040: estimated pulmonary MDR-TB, data source: WHO country TB profile 2013 (WHO_HQ_Reports-TBepiCountryProfile_TJK.pdf)*

Main challenges

The main challenge is the performance of the National Laboratory network (NLN), particularly the performance of the culture labs and to some extent the performance of the National Reference Laboratory (NRL). Although the performance of the NRL has drastically improved compared to 2012, the information exchange between the lab and clinicians as well as biosafety are still a problem. The safety hoods broke done in February 2014 and the NRL was closed for three months, leaving the country without possibility to perform drug sensitivity testing (DST).

Although the paper-based recording and reporting system is generally well functioning and the definitions were revised in 2014 according the 2013 WHO recommendations, the electronic recording and reporting (Open MRS) is in its early stage of development.

The dependency of the country on the donor support in terms of the laboratory supplies, the anti-TB drugs and living support to the patients is the cause of the vulnerability of the TB-related services. Moreover, the low salary of the health care staff and low prestige of TB-related services has been the main reasons for the lack of the motivated human resources in the TB-services. This will be escalated even more by the significant decrease of the salary top-ups as per the tightened policy of TGF. The weaknesses of the health care staff are revealed in suboptimal TB-services provided to the patients.

Otherwise, the progress of the NTP during the last half of the year has been noticeable; besides the development of the major documents, such as CN and the NSP, several guidelines have been developed/revised (DR-TB guideline, palliative TB care guideline, paediatric TB guideline) and approved or to be approved shortly. Furthermore, in July 2014, the country launched the Stop TB Partnership to ensure broad coalition of the partners, instrumental in capacity building of the NGOs and community-based organisations (CBOs). The NTP is planning to become the principal project implementation unit (PIU) of TGF from 2016. The out-patient management has been strengthened by establishing legal framework for the DOT points countrywide, the implementation of the infection control (IC) plan developed earlier has been launched with impressive training (USAID support). The know-how of the clinicians in the Republican TB Hospital Macheton and in Dushanbe city on TB and DR-TB is good.

3. Follow up of the previous mission recommendations.

	General country/region profile	Comment
1	Continue preparation of the TB Concept Note for the application to the NFM of the Global Fund to Fight AIDS, Tuberculosis and Malaria (TGF) (deadline May – or June, 2014).	Submitted by 15 October 2014
2	Start development of the new National strategic TB plan for the next five years 2015–2019. The M/XDR-TB plan should be part of the strategic plan.	done
3	Expand management of M/XDR-TB countrywide according to the NTP/MoHSP plan by the end of 2014.	4 rayons left by October to be covered by the ned of the year
4	It is essential that the MoHSP takes over the responsibility to procure the first-line anti-TB drugs (FLDs) from 2015, including the procurement of the isoniazid for TB prophylaxis among children. Until now the FLDs and SLDs are procured under the support of the TGF. However, in order to guarantee the support of the Partners, including the TGF, it is essential to demonstrate the contribution of the government.	The budget has been allocated by the MoHSP from 2016 to cover 50% of the FLDs cost and 100% from 2017
5	When the procurement of the FLDs will be done by the MoHSP, it is of pivotal importance that the FLDs will be procured through the GDF / WHO prequalified suppliers.	All parties in agreement
6	Develop and implement comprehensive human resource management plan for TB-related services (2013 World Health Organization (WHO) review recommendation).	The plan has been developed in 2014. The implementation started with the application to the Security Council under the President of RT for the salary rise approved in 2006
7	In order to continue decreasing the number of TB beds (planned to decrease to 1,500 beds by 2015) it is essential to repeat the needs assessment considering the changing environment. The freed budget should remain in TB service as it has been until now.	It was told that the freed budget was remaining in the TB services, the number of beds has decreased to 1545 hospital beds
8	Consider re-assessing the structure of the laboratory network with the consideration of the recent developments (continued expansion of the use of Xpert MTB/Rif machines, need for drug susceptibility testing in Sughd Oblast, etc).	Preliminary re-assessment has taken place in connection to the NSP and CN development (See report)
9	Develop and implement palliative TB care guidelines and plan, including for the penitentiary system (PS).	The plan and guidelines have been developed, the funding (except for training under USAID) missing

10	Although an obvious effort has been done to increase provision of food in the TB hospitals (increase by 30%) it is still not sufficient. Continue increasing the governmental funding for the food in the TB hospitals.	The GF support provided. The governmental funding still limited
11	Continue making an effort to institutionalize the funding for the provision of the out-patient DOT (regular sustainable funding from the MoHSP).	The DOT points part of the HC structure, the adherence/living support still under donors projects (GF, WFP)
12	Implement the salary increase of the staff working in TB services according to the 2006 law on infectious diseases	The implementation started with the application to the Security Council under the President of RT for the salary rise approved in 2006 (see recommendation 6)
13	Implement provision of the disability support to the unemployed TB patients based on 2006 law on infectious diseases.	Approved by the MoHSP, implementation from 2015
14	Continue finding possibilities to ensure sustainability of the NGOs and civil societies in the TB-related activities (2013 WHO review).	Stop TB Partnership established on 30.07.2014 in Tajikistan with 76 members, of them 6 previous TB patients, 32 NGOs[1]. The advocacy for partners funding ongoing (NFM) Planned to apply for small grants under the Gov of TAJ
	Laboratory network	
15	Implement proficiency testing of culture laboratory network in the country, provide training and carry out monitoring of culture labs in the country.	The first monitoring visit carried out in August 2014. The SOP distributed, follow up activities have to be planned
16	To continue improving information exchange between clinicians and culture and DST laboratories (the culture and DST results have to be provided to the physicians without delay and the physicians and lower level labs should use properly filled in referral forms).	Planned to develop and implement electronic form for sensing the test results by e-mail
17	Develop standard operational procedures (SOP) for the culture labs.	
18	Consider discussing with the NRL the plan to implement epidemiological surveillance of drug resistance (use of fingerprinting) in the future. The NRL has collection of the strains for the last few years.	
19	Consider planning for the implementing DST in the north of the country	No capacity at the moment (infrastructure, HR) Maybe under the RfW and /or NFM (see

[1] The National Stop TB Partnership in Tajikistan. Available at: http://www.stoptb.org/countries/partnerships/np_tjk.asp

		text)
20	Carry out routine surveillance of the drug resistance.	Was done for 2013. Needs to be continued
	Case finding and treatment	
21	Consider implementing sputum induction unit for paediatric TB cases linked to the departments for paediatric TB.	The MFS supported establishment of units in Kuljab and Dushanbe and planned one more in Dushanbe and 1 in Kurgan Type
22	Train and re-train the clinicians dealing with paediatric TB in the Republican Children TB hospital in Dushanbe as this hospital has a sound diagnostic and treatment algorithms for children.	Ongoing
23	Continue improving diagnosis of latent TB infection (LTBI), particularly among children, by making more use of Mantoux test.	Tuberculin was planned to procure in 2013 under the GF, delayed up to now, price higher than planned. Hoping to get for 5000 doses by 2015
24	Continue providing on-job training and TA on DR-TB issues to the oblast Consiliums and MDR-TB coordinators.	Ongoing, more needs to be done, particularly in connection with moving towards the individualised treatment regimens
25	Improve information exchange between the Human Immunodeficiency Virus (HIV) and TB services. The treating TB doctor should be informed about the HIV status of the patient.	Guidelines available but actual cooperation between services weak
26	Continue decreasing hospitalization of sputum smear negative (could be Xpert MTB/Rif positive) TB patients.	The progress observed, however, the Dushanbe and the RTBC doctors still confused by Xpert results among sputum smear neg patients
27	Consider analysing the data on treatment default comparing results for the patients who have been hospitalized at start of treatment versus those who have been not hospitalized (possible method - *propensity* score matching). This analyses will provide guidance in further decreasing the hospitalization of TB patients.	
28	Consider starting to use the individualized treatment regimen sooner as the NRL has achieved good results of the proficiency testing. That means after the initial diagnosis of RR-resistance the standardized treatment regimen should be used as before, however, after the MGIT (or conventional DST) results are available the treatment regimen could be adjusted according to the DST results	Good progress
29	Consider performing HAIN tests for all sputum smear positive TB patients at admission to the hospital in case the patient is referred to the hospital without rapid test or conventional DST results. The HAIN test should be done at admission to promptly isolate the MDR-TB cases in order to	

	decrease the risk of nosocomial transmission and start immediately appropriate treatment.	
30	Consider establishing closer monitoring of the diabetic patients with TB, providing co-trimoxazole to HIV-infected TB and M/XDR-TB patients	Diabetes not well controlled. Co-trimoxazoel not provideed
31	Implement isoniazid preventive therapy (IPT) for the people living with HIV (PLWH)	IPT provided by the HIV-related services, however no information provided to the TB services beside the order of the isoniazid
	Recording reporting	
32	Carry out routine surveillance of the drug resistance.	Started in 2013, should be continued
33	Consider finding possibilities to strengthening and expanding the electronic recording reporting system countrywide. The central level of the TB register has to be strengthened: the database finalized to be able to generate reports, the IT persons contracted to finalize the software and carry out maintenance, the Interactive Research & Development (IRD) TA provided to train the IT person to work on the software, the staff employed to enter the data (at least three at the central level). The oblast (rayon) levels should be strengthened by ensuring sufficient data entry staff, constant electricity supply, monitoring and on-job training.	Waiting for funding (USAID, GF)
34	Continue training on new recording and reporting forms and definitions (2013 WHO definitions).	
35	Ensure that all TB cases are entered to the TB register	Good progress
36	Ensure that it is possible to analyse the cases by bacteriological confirmation using different methods (sputum smear, conventional culture and DST, Xpert MTB/Rif, HAIN).	The new paper-TB registers contain the respective fields.
	Drug management	
37	Consider procuring linezolid for XDR-TB and pre-XDR-TB patients. Consider procuring other group-5 drugs, such as Clofazimine. During the DRS 15% of MDR-TB patients were identified to have XDR-TB. However, based on the experience of the other projects as not all XDR-TB will be treated due to several reasons, thus when planning procurement of the 5th group of TB drugs then the NTP can estimate that 5-10% of MDR-TB cases will have XDR-TB.	The Lzd and Cfz shipment under the GF support will probably arrive in January2015
38	Consider applying to the J&J PRD for companionate use of bedaquiline in pre-XDR and XDR-TB patients.	Oportunity missed. Bdq is available udner the GDF but no funding for procurement before 2016 (NFM)
39	NTP should manage utilization HR 75/150 batch by June, 2014, when the batch will expire.	The expired drugs replaced but still a lot expired. Continues to be

		a problem
	TB infection control	
40	Ensure the availability of funding to implement the IC plan. Evolve partners in the implementation of the IC plan.	Significant improvement in training, respirators available, additional supply of UV lamps, plans for refurbishments of the facilities with the consideration of IC
41	Continue training of the health care personnel and the personnel of the GSES in IC issues countrywide, such as the sputum smear negative but culture or and Xpert MTB/Rif confirmed TB patients pose minimal risk to the surrounding; the disinfection of the homes of TB patients is not effective TB IC measure.	Good progress in communication with GSES, common understanding reached and legal framework to be established/.signed shortly
42	The sputum smear negative but Xpert MTB/Rif (HAIN) positive pulmonary TB patients should generally not be hospitalized. These patients pose negligible risk to the others.	Very few SS neg patients hospitalised in Macheton
43	The patients with extra pulmonary TB are generally considered to be non-infections and regardless of their DST status could be hospitalized to the department for extra pulmonary TB in case there is no department for sputum smear negative MDR-TB patients.	Problem solved in Macheton
44	Consider discharging the TB patients from the hospital as soon as possible after the sputum smear conversion to decrease the possibility of re-infection of the patients and to decrease the costs of the healthcare.	Problem solved in Macheton
	Prisons	
45	To ensure that the rapid tests (Xpert MTB/Rif or HAIN) are used for all inmates with the suspicion of TB in order to identify the cases earlier and start promptly effective treatment.	Under the TB REACH project launched in 2013
46	To improve case detection of TB and MDR-TB patients in the penitentiary system.	Under the TB REACH project launched in 2013
47	Continue improving infection control measures in the penitentiary system. Ensure that the staff rooms are isolated from the infectious TB and MDR-TB patients in the new prison TB hospital, ensure that the patients are isolated by different categories.	
48	Continue improving TB/HIV collaborative activities in the PS. Ensure early initiation of ART (first 2-8 weeks of TB treatment) and Co-trimoxazole treatment to TB/HIV cases.	ARV is commonly started but not co-trimoxazole therapy
49	Consider premises for palliative care in the PS	To be finalised shortly with the CL support

Update of the recommendations from 2013 not reflected under the previous recommendations in the current report

Action / Recommendation	Timeline
To consider forwarding the findings and recommendations of the review to the attention and further actions of the MoJ via Country Coordination Mechanism (CCM) platform.	
To provide technical assistance and on-job training to the TB-team in the Sughd prison TB department on diagnosis and treatment of drug resistant tuberculosis (DR-TB).	Technical assistance (TA) and training has been provided by CL, NTP, Project HOPE
Improve recording and reporting in the Sughd prison TB department.	The prison in Sughd was not assessed for progress, it was told that the situation has improved
Continue resource mobilization to ensure sustainability of DR-TB-related activities, particularly provision of the second line anti-TB drugs (SLD).	Sufficient supply at the moment, application for the New Funding Mechanism (NFM) 2016, 2017
Provide on-job training and technical assistance on DR-TB issues to oblast Consiliums and multi-drug resistant TB (MDR-TB) coordinators.	TA provided by the partners and the NTP (new supervising team)
Strengthen the on-job training and supervision of the PHC providers in the rural areas involved in management of DR-TB.	TA by the Partners (Quality project) and the NTP (new supervising team)

4. Current mission recommendations (summary)

	Recommendation	Responsibility	
	Epidemiology case finding and programme performance		
1	Ensure sufficient supply of tuberculin.	MoHSP/NTP/Partners	Continues
2	Continue improving diagnosis and management of latent TB infection (LTBI), particularly among children, but also among adults, including pregnant women (implementing Mantoux test, making use of IPT among persons 6-35 years old in case of infection).	MoHSP/NTP/Partners	Continues
3	Continue building sputum induction units for paediatric TB cases linked to the departments for paediatric TB as planned.	MoHSP/NTP/ Republican Children TB hospital/ Partners	2015
4	Improve routine surveillance of the drug resistance in the country.	NRL/NTP monitoring center	2014
	Coordination and management		
5	Continue improving recording and reporting to ensure that all TB and DR-TB cases are notified, not only those who started treatment.	MoHSP/NTP/Partners	Continues
6	Continue implementation of the human resource development plan (developed in 2104) for TB-related services.	MoHSP/NTP MoJ	Continues
7	Implement the salary increase of the staff working in TB services according to the 2006 law for infectious diseases. The salary top-off is not planned in NFM and if no changes in the basic salary of the staff the TB programme will suffer major loss of human resources.	MoHSP	2015
8	Continue providing on-job training and technical assistance on DR-TB issues to the oblast M/XDR-TB Consiliums and MDR-TB coordinators.	NTP/Partners	Continuous
9	Continue finding possibilities to ensure sustainability (local funding) of the TB-related NGOs and CBOs (2013 WHO review).	MoHSP, Partners	Continuous
10	Ensure funding to implement plan for palliative care (guidelines drafted in 2014)	MoHSP/NTP/Partners	2015

11	Although an obvious effort has been done to increase provision of food in the TB hospitals (increase by 30%) it is still not sufficient. Continue increasing the governmental funding for the food in the TB hospitals for the further sustainability.	MoHSP, Partners	Continuous
12	Continue making an effort to institutionalize the funding for provision of the out-patient DOT (regular sustainable funding for food incentives and transportation support from the MoHSP)	MoHSP, Partners	Continuous
13	To consider forwarding the findings and recommendations of the review to the attention and further actions of the MoJ via Country Coordination Mechanism (CCM) platform.	CCM (NTP/WHO)	Continuous
	Prison		
14	Consider using mouth-wash liquid before sputum collection to improve the quality of the phenotypic culture and DST.	Prison	2014
15	Continue improving IC measures in the CPH: ensure that the sputum smear positive MDR-TB and TB patients do not mix with the smear negative patients and the staff (administrative control measures) and the UV lights are maintained and used.	Prison	2014
16	Continue improving TB/HIV collaborative activities in the PS. Ensure co-trimoxazole treatment for all TB/HIV patients.	Prison	2015
17	Ensure appropriate support to and training of the newly appointed TB doctor in the CPH	Prison/NTP	As soon as possible
18	Ensure that each dose of anti-TB drugs is taken under observation	Prison/CPH	IMMEDIATELY
	Laboratory issues		
19	Continue implementing monitoring, proficiency testing and training of culture laboratory network in the country (the SOP distributed in 2014, the contamination rate of cultures and growth rate of cultures very low based on the patients' files. Example: Kuljab Q1 2014 - 21.7% (5/23) of patients with pulmonary TB whose sample was sent for culture had positive culture result (ideally 80-85%).	NTP/NRL	Continuous
20	To continue improving information exchange between clinicians and culture and DST	NTP/TB services	Continuous

	laboratories (the culture and DST results should be provided to the physicians without delay).		
21	Consider discussing with the NRL the plan to implement epidemiological surveillance of drug resistance (use of fingerprinting) in the future. The NRL has collection of the strains for the last few years (2013 recommendation).	NRL/SRL	2016 onwards
22	Consider planning for the implementation of the DST in the north of the country and /or to establish one more DST lab in case the NRL will fail to perform. (The available BSL-3 is the best available alternative)	NRL/ NTP/MoHSP	2015 onwards
	Treatment strategies and administration		
23	Provide more training to the health care staff on level of infectiousness of the sputum smear negative but Xpert MBT/RIF positive patients.	NTP/Partners	Continuous
24	Provide more training to the health care staff on the meaning of phenotypic culture and DST, which is pivotal in understanding the DR-TB.	NTP/Partners	Continuous
25	NTP and the Partners monitoring teams should undertake the cross checking of the TB03 and the laboratory files as this is part of the initiative to improve culture and DST coverage (currently the doctors report that culture has been sent, laboratory reports that cultures have been done but the culture confirmation is nevertheless very low)	NTP/Partners	Continuous
26	Provide further training of the regional Consiliums/TB coordinators is needed to successfully implement the change from the standardized to individualized treatment regimens. The TB coordinators should be empowered to implement effective monitoring and support to the facilities/health care staff treating M/XDR-TB patients. There is a severe lack of personnel because the TB coordinator is also the main and/or the only TB doctor of the region/rayon.	NTP/Partners	Continuous
27	All changes in the treatment regimen and all missed doses should be reflected on the	NTP	Continuous

	M/XDTR-TB treatment cards and other relevant forms, otherwise it is difficult to find out the reasons for failing regimens.		
28	Ensure that the side effects are monitored and effectively managed in the rayons, including all relevant treatment sites also and particularly in rural areas.	NTP	Continuous
29	Provide further training (cascade training) on the up-to-date information (2014 WHO guidelines and updated national guidelines) for management of DR-TB.		
30	Improve information exchange between the HIV and TB services. The treating TB doctor should be informed about the HIV status of the patient (repeated recommendation).	MoHSP/NTP	2014
31	Continue decreasing hospitalization of sputum smear negative (could be Xpert MTB/Rif positive) TB patients. The consultant remarks that in fact there is very good progress in that respect (partly because of the severely dilapidated TB facilities).	MoHSP/NTP	continuous
32	Consider establishing closer monitoring of the diabetic patients with TB (implement the international/national recommendations for control of diabetic patients).	Macheton	2015
33	Ensure provision of co-trimoxazole to HIV-infected TB and M/XDR-TB patients.	NTP/HIV services	2014
34	Ensure that the information is available for the NTP on isoniazid preventive therapy (IPT) among the HIV-infected persons.	NTP/HIV services	2014
	Infection control		
35	Although there is good progress in the implementation of the IC plan additional activities and funding is necessary to further implement the IC plan.	MoHSP/NTP/ Partners	2015
36	Continue training of the health care personnel in IC issues countrywide.	NTP/GSES	Continuous
37	Implement appropriate IC measures in the Macheton XDR-TB department	Macheton/NTP	2014
	Drug supply		
38	Ensure additional funding to procure more group 5 drugs (besides the currently planned 30). The current procurement includes linezolid and clofazimine for 30 XDR-TB	MoHSP/NTP/ Partners	Continuous

	already on the waiting list. The procurement does not include pre-XDR-TB patients, future (after October 2014) diagnosed XDR-TB patients and does not include bedaquiline.		
39	Once the procurement of the FLDs will be done by the MoHSP, it is of pivotal importance that the FLDs will be procured through the GDF / WHO prequalified suppliers. Currently there are no differences of opinions, however the recommendation is nevertheless re-iterated.	MoHSP	End 2015
40	Ensure the step-wise takeover of the procurement of anti-TB drugs by the government. The first procurement of 50% of FLDs in 2016 is of pivotal importance.	MoHSP	2015
	Information system and data management		
41	Consider finding possibilities to strengthen and expand the electronic recording reporting system countrywide. The central level of the TB register has to be strengthened: the database finalized to be able to generate reports, the IT persons contracted to finalize the software and carry out maintenance, the IRD TA provided to train the IT person to work on the software, the staff employed to enter the data (at least three at the central level). The oblast (rayon) levels should be strengthened by ensuring sufficient data entry staff, constant electricity supply, monitoring and on-job training (previous recommendation).	NTP/MoHSP/ Partners	2015
42	Continue training on new recording and reporting forms and definitions (2013 WHO definitions) (previous recommendation).	NTP/MoHSP/ Partners	2015
43	Ensure that all TB cases are entered to the TB register (previous recommendation).	NTP/MoHSP/ Partners	2015
	Ethics		
44	Implement palliative TB care guidelines and plan, including for the penitentiary system.	MoHSP/NTP/ Partners	2015

5. General country/region profile

Table 2. Country data (selected)

	2014[2]
Population, total (millions)	8,051,512 (July 2014 est.)
Population growth rate	1.75%
Life expectancy at birth, total population (years)	66.06
Life expectancy at birth, female (years)	70.32
Life expectancy at birth, male (years)	63.96
Health expenditures	5,8% of GDP (2011)
Education expenditures	3.9% of GDP (2011)
Unemployment rate	2.5% (2012 official est.)
Administrative division	2 provinces, 1 autonomous province, 1 capital region and 1 area referred to as Districts Under Republic Subordination Administration (DRS); Dushanbe, Khatlon (Qurghonteppa), Kuhistoni Badakhshon [Gorno-Badakhshan Autonomous Oblast (GBAO)] (Khorugh), Nohiyahoi Tobei Jumhuri, Sughd (Khujand)
	2012
GDP per capita (PPP)	$2,300
GDP real growth rate	7.4%
Population below poverty line	35.6% (2013 est)
Inflation, consumer prices	3.7%

Tajikistan is landlocked with Pamir and Alay Mountains dominating landscape; western Fergana Valley in north, Kofarnihon and Vakhsh Valleys in southwest. Ethnic groups: Tajik 79.9%, Uzbek 15.3%, Russian 1.1%, Kyrgyz 1.1%, other 2.6% (2000 census)

Tajikistan became independent in 1991 following the breakup of the Soviet Union, and experienced a civil war between regional factions from 1992–97. Attention by the international community since the beginning of the NATO intervention in Afghanistan has brought increased economic development and security assistance, which could create jobs and strengthen stability in the long term. Tajikistan is seeking WTO membership and has joined NATO's Partnership for Peace.

The country remains the poorest in the former Soviet sphere. Because of a lack of employment opportunities in Tajikistan, as many as a million Tajik citizens work abroad, almost all of them in Russia, supporting families in Tajikistan through remittances. Less than 7% of the land area is arable. Cotton is the most important crop and its production is in many cases controlled by the government. The natural resources: hydropower, some petroleum, uranium, mercury, brown coal, lead, zinc, antimony, tungsten, silver, gold. Industry consists only of a large aluminium plant, hydropower facilities, and small obsolete factories mostly in light industry and food processing.

Tajikistan's economic situation remains fragile due to uneven implementation of structural reforms, corruption, weak governance, seasonal power shortages, and the external debt burden. Electricity output

[2] World Fact Book, assessed 28 January 2014 https://www.cia.gov/library/publications/the-world-factbook/geos/print/country/countrypdf_ti.pdf

expanded with the completion of the Sangtuda I hydropower dam - finished in 2009 with Russian investment. The smaller Sangtuda-2, built with Iranian investment, began operating in 2011.

6. Epidemiology, Case finding and Program performance data

Table 3. Key indicators of TB control in Tajikistan, WHO Global TB Report 2013

	2012[3] Estimates
The estimated Population	8 miljon
Incidence (SS+/100 000/yr)	8,600/108
Prevalence (incl HIV/100 000 pop/yr)	13,000/160
Mortality (deaths/100 000 pop/yr) excludes HIV+ TB	610/7.6
Incidence HIV+ TB only (all cases/100 000 pop/yr)	NA
Of new TB cases, % MDR-TB	490/13
Of previously treated cases, % MDR-TB	420/54
Surveillance and DOTS implementation	2009
DOTS coverage (%)	100
Treatment success (new SS+ 2011 cohort, %)	80
Re-treatment success (2011 cohort, %)	71

Table 4. Incidence, prevalence and mortality rates of TB per 100,000 population, 2009–2012[4]

Year	Notification rate new cases	Notification rate New and relapses	Mortality[1]
2010	80.3	92	WHO: 9.0; NTP: 6.3
2011	78.7	90	WHO: 8.3; NTP: 6.5
2012	NTP: 69.4 (5,484/ 7,897,300)	WHO:81; NTP: 73.6 (5,811 / 7,897,300)[2]	WHO: 7.6; NTP:5.1
2013	NTP: 65.7 (5,306/8,074,300)	NTP: 74.3 (5,576/8,074,300)[3]	NTP: 4.9 (399/8,074,300)

[1] *Mortality data do not correspond to the data provided by the NTP in 2012.*
[2] *NTP: Number of relapses 327.*
[3] *NTP: Number of relapses 270.*

Table 5. Case notification, 2013 WHO Global Report

		New cases						Re-treatment cases				
Year	New and relapses	SS+	SS-/ NA	Extra-pulm	Total new	Pulm	SS+ out of new pulm	Relapses	Re-Tx excl relapse	Total re-Tx	Unknown	GRAND TOTAL
2010	6.994	2.290	2.038	1.631	5.959	4.328	53	338	647	985	697	7.641
2011	7.035	2.174	2.148	1.613	5.935	4.322	50	355	574	929	745	7.609
2012	6.508	2.041	1.911	1.532	5.484	3.952	52	327	421	748	697	6.929

[3] TB country profile, Tajikistan. http//apps.who.int/globalatlas/predefinedReports/TB/PDF_files/tjk.pdf
WHO. Global Tuberculosis Report 2013. WHO/HTM/TB/2013.11. Geneva: World Health Organization; 2013.
[4] Data source- National TB Programme

Table 6. TB case notification total TB programme, 2009–2013

Case notifications	2009		2010		2011		2012		2013	
	n	%	n	%	n	%	n	%	n	%
New cases, of them:										
Smear-positive / % of pulm new	1,972	47.1	2,290	52.9	2,174	50.3	2,041	51.6	2,205	57.2
Smear-negative / % of pulm new	2,212	52.9	2,038	47.1	2,148	49.7	1,911	48.4	1,647	42.8
Smear unknown										
Extra-pulmonary TB/ % of new	1,683	28.7	1,631	27.4	1,613	27.2	1,532	27.9	1,454	27.4
Other										
Total new / %of all	5,867		5,959		5,935		5,484	79.8	5,306	81.7
Retreatment cases. of them:										
Relapse	263	16.3	388	22.4	355	21.2	327	23.6	270	22.7
Treatment after failure	168	10.4	220	12.7	198	11.8	146	10.5	133	11.2
Treatment after lost to follow up	100	6.2	99	5.7	87	5.2	93	6.7	58	4.9
Other	1,082	67.1	1,025	59.2	1,034	61.8	818	59.1	728	61.2
Total retreatment/ % of all cases	1,613	21.6	1,732	22.5	1,674	22	1,384	20.2	1,189	18.3
Grand Total	**7,480**		**7,691**		**7,609**		**6,868**		**6,495**	

Table 7. TB case notification in penitentiary system, 2010–2012

Case notifications penitentiary system	2010		2011		2012		2013	
	abs	%	abs	%	abs	%	abs	%
New cases								
Smear-positive / % of pulmonary new	71	91	66	55.5	61	48.0	71	64.5
Smear-negative / % of pulmonary new	7	9	53	44.5	66	52.0	39	35.5
Extra-pulmonary TB / % of new	15	16.1	20	14.4	20	13.6	8	6.8
Total new / % of all	93	60.4	139	71.3	147	71.4	118	76.1
Retreatment cases								
Retreatment smear-positive cases	58	95.1	31	55.4	38	64.4	26	70.3
Retreatment smear-negative cases	3	4.9	25	44.6	21	35.6	11	29.7
Total re-treatment / % of all cases	61	39.6	56	28.7	59	28.6	37	23.9
Grand Total	**154**		**195**		**206**		**155**	

Table 8. Number of children notified with TB, 2005-2012[5]

	2006	2007	2008	2009	2010	2011	2012	2013
No. new SS+ among children	32	34	32	16	35	39	24	27
No. children with TB	470	585	547	455	491	569	360	389

Table 9. Data on TB and HIV

	2005	2006	2007	2008	2009	2010	2011	2012	2013
HIV notified	189	204	339	376	437	1004	989	828	876
Receiving ARV therapy of all HIV positive						247	291	1044	1401
HIV notified among TB patients	0	10	15	48	21	64	69	88	88
TB notified among HIV patients	12	5	39	31	28	38	49	NA	47
Total TB /HIV	12	15	54	79	49	310	118[6]	88	135
Receiving ARV therapy of TB/HIV co-infected diagnosed						54 (17.4%)	66 (55.9%)	78 (89%)	162
TB notified	4675	5917	7689	7961	7479	7691	7609	6929	6426
Tested for HIV among TB			306	2545	3714	5356	6241	6375	5850
Proportion (%) tested for HIV out of notified TB	0	0	4,0	32,0	49,7	69.6	82.0	92	90.1
Number of patients on Cmx from all TB/HIV patients	NA	NA	NA	NA	NA	NA	NA	70	NA
Number of HIV patients on IPT	NA	NA	NA	NA	NA	NA	NA	157	329

BCG policy

According to the 2010 National guidelines, the BCG vaccination is recommended once, at birth and the isoniazid preventive therapy (IPT) for non-HIV infected (mainly children) as well as HIV infected persons is currently 6 months. The procurement of the BCG vaccine is ensured by the state budget. In general, the NTP is reporting high BCG coverage, up to 95-98%. The BCG coverage in Kuljab, visited this time, was approximately 96% in 2013 (Table 10). Among 154 TB patients registered in 2013 at the Republican Children TB hospital in Dushanbe 22 (14.2%) had no BCG vaccination indicating necessity to further expand the vaccination coverage.

Table 10. BCG coverage among new born children in Kuljab, 2013

2013	Total children born		Born in the Hospital	
	n	%	n	%
Total children	2636		2322	
BCG done	2528	95.9	2236	96.3

Contact tracing and Latent TB infection

According to the national guidelines, the contact tracing among children is done using X-ray to exclude active TB disease and Mantoux test (Mx). However, due to the lack of tuberculin the Mx is underutilized. In 2013, TGF supplied the tuberculin for all 0-6 years' old children, the MoHSP procured 21,000 doses of

[5] The 2013 WHO Global TB report data for 2011-2013 does not coincide with the data provided by the NTP, the WHO report is obviously mission smear-negative pediatric TB cases.

[6] The WHO report: 115 TB/HIV cases

tuberculin and additional 300 doses were provided by MSF. The total need is approximately 50,000 doses (only for the children). In 2014, the TGF planned to procure additional 6,000 doses of tuberculin, which has not happened because the price increased. Currently, the negotiation is ongoing to obtain 5,000 doses of tuberculin by the end of the year, meaning that there is continues deficit of tuberculin. The contact tracing among adults is done only by X-ray; tuberculin and interfere gammy release assay (IGRA) tests are not available for adults, including pregnant women. There is a need in continuous efforts to improve diagnosis of LTBI by making more use of Mx.

Given the described shortcomings, the policy is to treat all 0-6 years' old children who have been in contact with a pulmonary TB patient (regardless if the index case is smear positive or negative) after TB is excluded for 6-months with isoniazid. Sometimes the children are hospitalized to the sanatorium for the LTBI treatment.

The TB and M/XDR-TB case-finding

During the last years the absolute number of TB cases as well as the TB notification and incidence rates in the civilian and the penitentiary systems have decreased (Tables 4-7).

From 2014, revised flowcharts for TB and M/XDR-TB case fining are used. That means that all patients undergo sputum smear microscopy and Xpert MTB/Rif (or HAIN) test simultaneously. If any of the mentioned methods is positive for TB the sample is collected for phenotypic culture and drugs sensitivity testing (DST). The confirmation of the pulmonary TB cases by sputum smear has increased, being 57.2% and 64.5% and among new cases and 53.6% (637/1189) and 70.3% among previously treated cases in the civilian and penitentiary system, respectively.

The radiologic methods are used as necessary/available. The Macheton TB Hospital has computer tomography, which is generally free of charge for the TB patients. The chest x-ray is available in the rayons during summer. However, the quality of the x-rays is not good and the electricity cuts during the winter (from 8:00 to 16:00) disrupt the work, even if generally the medical facilities enjoy better access to electricity.

The NTP with partners has successfully applied to TB REACH grants in 2013 and 2014. Based on the preliminary data the 2013 project has been very successful increasing bacteriological confirmation of pulmonary TB cases up to 77% (use of Xpert MTB/Rif) in the project area.

According to the WHO 2012 estimates[7], there are approximately 490 MDR-TB cases among never previously treated patients and 420 among previously treated patients in Tajikistan. Total estimated number of MDR-TB cases among notified pulmonary cases is 910. The drug resistance survey (DRS) carried out in 2011 revealed 13% of MDR-TB among new and 54% among previously treated pulmonary TB cases, which was somewhat lower compared to 2009-DRS. (The drug resistance patterns summarised by the NRL in 2013 were presented in the previous report)

The available data on resistance to SLDs are limited. The 2010-2011 DRS revealed 10% of XDR-TB among MDR-TB cases that were tested for resistance to SLDs. In 2013, 50% (345) had DST to SLDs (fluoroquinolone and second-line injectable) done out of confirmed MDR-TB cases (belonging to different years). Among the patients diagnosed with MDR-TB in 2013, any resistance to ofloxacin was 21.2% (65 out of 306 tested), moxifloxacin 10.8% (33/306), kanamycin 23.2% (71/306), amikacin 18.3% (56/306),

[7] Source: TB country profile, Tajikistan. www.who.int/tb/data Generated: October 7, 2014

capreomycin 12.4% (38/306), prothionamide 37.3% (114/306), linezolid 2.0% (6/306).[8] The data on resistance to cycloserine, PAS and pyrazinamide were not available. In 2014, the data available from the DST done in the SNR, Gauting showed similar proportion of resistance to SLDs (Table 11).[9]

Table 11. Resistance to second-line anti-TB drugs among the samples tested in the SRL in 2014

	Total tested	Resistant		Sensitive in higher concentration	
	n	n	%	n	%
Ofx	257	58	**22.6**	2	0.8
Mfx	257	25	**9.7**	15	5.8
Pto	257	16	**6.2**	17	6.6
Cm	257	16	**6.2**	24	9.3
Am	257	41	**16.0**	1	0.4
Km	257	57	**22.2**	32	12.5
E	254	99	**39.0**	25	9.8
Lzd	257	23	**8.9**	2	0.8

The burden of drug resistance in prisons is high. In 2013, 26.9% (56/208) were diagnosed with MDR-TB. In 2012, 7.2% (15/206) of TB patients in prisons were HIV-positive, and in 2013 this proportion increased to 14.8% (23/155).

Previously, not all diagnosed MDR-TB cases were notified to avoid the discontent of the public for limited availability of the drugs. The notification has improved in 2014, however, there is still space for improvement.

Table 12. Estimated and notified number and proportion of MDR-TB cases, 2011-2012[10]

Estimates of MDR-TB burden 2011	New	Retreatment	Total
% of TB cases with MDR-TB	13 (9.8-16)	54 (48-59)	
MDR-TB cases among notified pulmonary TB cases	540 (420-670)	500 (450-550)	
Reported cases of MDR-TB in 2012 (belong to different years)			
Cases tested for MDR-TB	919 (17%)	469 (66%)	1388
Laboratory-confirmed MDR-TB cases			668
Patients started on MDR-TB treatment			911
Reported cases of MDR-TB in 2013 (belong to different years)			
Cases tested for MDR-TB	NA	NA	NA
Laboratory-confirmed MDR-TB cases			559[‡]
Patients started on MDR-TB treatment			405[#]

[‡] *During quarter 1-2, 2014*
[#] *By October 1, 2014*

At the time of the visit only 4 rayons did not have access to MDR-TB management. During the first half of 2014, 405 M/XDR-TB cases started treatment out of all diagnosed 559 cases (although cases could belong

[8] Source: Supranational Reference Laboratory
[9] Source: Supranational Reference Laboratory
[10] TB country profile, Tajikistan. http//apps.who.int/globalatlas/predefinedReports/TB/PDF_files/tjk.pdf
WHO. Global Tuberculosis Report 2012. WHO/HTM/TB/2012.6. Geneva: World Health Organization; 2013.

to different years/notification cohorts). At the time of the visit 127 M/XDR-TB patients were on the waiting list, however, there is no lack of SLDs. The waiting list was said to be composed of patients who are lost, meaning the NTP has not been able to identify where they are. The explanation was that some of the patients have left the country (migrant workers) and some of them have faked their identity due to the stigma. The total number of XRD-TB patients on the waiting list for 5th line drugs was 40 and out of them 30 were chosen for the future treatment.

The treatment success rate of sputum smear positive cases started treatment with FLDs in 2012 was 72.9% (Table 13). A total of 15.1% failed and 6.6 % died - both categories included M/XDR-TB patients. The system is not yet able to report the number of MDR-TB among notified cases per cohort.

Table 13. Treatment outcome of sputum smear positive pulmonary TB cases, 2002-2012

Year		Cured		Compl		Died		Failed		Def		Tr out		Total	Dgn Not-conf	Tx SS
	n	*N*	*%*	*n*	*%*	*n*	*%*	*N*	*%*	*n*	*%*	*n*	*%*	*N*	*n*	*%*
2002	106	86	81.1	0	0.0	5	4.7	13	12.3	2	1.9	0	0.0	106	0	81.1
2003	343	293	85.4	2	0.6	14	4.1	17	5.0	16	4.7	1	0.3	343	0	86.0
2004	599	492	82.3	9	1.5	28	4.7	31	5.2	33	5.5	5	0.8	598	1	83.8
2005	1,296	1,078	83.8	30	2.3	48	3.7	81	6.3	41	3.2	8	0.6	1,286	8	86.2
2006	1,757	1,413	80.6	66	3.8	73	4.2	102	5.8	72	4.1	27	1.5	1,753	4	84.4
2007	2,075	1,618	78.1	95	4.6	96	4.6	117	5.6	114	5.5	33	1.6	2,073	0	82.6
2008	2,044	1,549	75.9	133	6.5	79	3.9	152	7.4	108	5.3	20	1.0	2,041	3	82.4
2009	1,972	1,487	75.5	117	5.9	87	4.4	160	8.1	94	4.8	25	1.3	1,970	2	81.4
2010	2,290	1,747	76.4	87	3.8	111	4.9	246	10.8	72	3.1	24	1.0	2,287	3	80.2
2011	2,174	1,607	74.0	125	5.8	104	4.8	242	11.1	74	3.4	21	1.0	2,173	1	79.7
2012	2,643	1,774	67.2	150	5.7	175	6.6	400	15.1	123	4.7	16	0.6	2,640	3	72.9

	Recommendation	**Responsibility**	
1	Ensure sufficient supply of tuberculin.	MoHSP/NTP/Partners	Continues
2	Continue improving diagnosis and management of latent TB infection (LTBI), particularly among children, but also among adults, including pregnant women (implementing Mantoux test, making use of IPT among persons 6-35 years old in case of infection).	MoHSP/NTP/Partners	Continues
3	Continue building sputum induction units for paediatric TB cases linked to the departments for paediatric TB as planned.	MoHSP/NTP/ Republican Children TB hospital/ Partners	2015
4	Improve routine surveillance of the drug resistance in the country.	NRL/NTP monitoring center	2014

7. Coordination of the program and financing

The chapter touches only upon the changes compared to the visit 6 months ago. As summarised earlier in the report (Background information), the MoHSA has develop and approved (August 2014) the NSP on TB for the years 2015-2020. The M/XDR-TB Response Plan (2015-2020), has been updated in July 2014. The M/XDR-TB Plan as well as the National Strategic Plan are aligned with the WHO/EURO Roadmap for the European Region 2011-2015 and the 67th World Health Assemble adopted Global strategy and targets for tuberculosis prevention, care and control after 2015 (Post-2015 TB Strategy). The new study for the National TB Subaccount (supported by the WHO) was carried out in 2014, before the development of the NSP and the CN.

Following the NSP the concept note (2016-2017) to the NFM of TGF has been prepared. The A total of 2,597 drug-resistant (DR) TB patients will be treated during the two years; out of them 1,866 with MDR-TB and 100 with XDR-TB. The important achievements is that the government has assigned funding to procure 50% of the needed first-line anti-TB drugs (FLDs) in 2016 and 100% in 2017.

The NSP as well as the M/XDR-TB plan have ambitions targets:

- Reducing the proportion of MDR-TB among previously treated TB cases by at least 25%;
- Ensuring universal access to diagnosis and treatment of all forms of TB, including M/XDR-TB, so that:
  - At least 90% of estimated MDR-TB cases are diagnosed;
  - At least 80% of all notified MDR-TB cases are successfully treated.

The budget of the NTP has increased yearly; however, it is far from being sufficient to cover basic needs of TB programme. In 2014, according to the estimates provided in the NSP, the governmental contribution to disease control over the next 5 years is 40.5%. The NTP is supported by TGF, the KfW, USAID (through the Quality project, Project HOPE and KNCV), MSF and other partners.

In July 2014, the country launched the Stop TB Partnership to ensure broad coalition of the partners, which will be instrumental in capacity building (know how, managerial skills, etc.) of the NGOs and community-based organisations (CBOs). The Stop TB Partnership includes 76 members, including 32 NGOs and 6 (ex)TB patients. The members of the Partnership participated in the development of the NSP and the CN. In addition to the available Partners funding, it is planned to advocate for the system of small grants/funding from the government as to ensure the sustainability in the future.

There is plan to further decrease the number of hospital beds. Currently the number of beds has decreased to 1,545 beds. There is a preliminary discussion with the KfW to refurbish one and close two Degmai TB facilities in coming years. The paediatric TB department for 50 beds is planned (from 2017 onwards) to be built in Macheton (KfW) while the hospital in Dushanbe will be closed.
The provision of the DOT has been strengthened by establishing the legal framework for the DOT points.

There is a problem of covering routine running costs of the hospitals. The TB as well as M/XDR-TB departments have very little governmental funding for food. Despite 30% increase in 2014, the cost per one patient per day, which is now 1.3 USD, is still low. Currently additional food support to TB patients hospitalized in the prison TB hospital in the south and in Macheton hospital is provided by TFM. The WFP is providing minimal food support to TB patients and their families 3 times during the treatment until 2015 but is ready to continue after 2015 if the government shows contribution of estimated 100,000 – 300,000 USD per year. There is no governmental funding at the moment. However, TGF is looking into the

possibility to find additional funding for 2015 (savings) through the re-allocations of TFM. The Caritas Luxemburg is supporting the prison with the food in the north and TFM in the south (for 46 MDR patients per months) of the country. Actually the mentioned food support under TGF is shared among all TB patients in the south. There are some subsidiary farms supporting the hospitals with vegetables, fruit, meat, eggs, milk and koumiss (fermented mare milk) in Macheton, Deghmoi, Zargar, Kulyab.

The human resource management plan has been developed in 2014 and approved. The next step is to seek the 100% increase of the salary for the TB-related health care workers as stated in the 2006 law but never implemented. Meanwhile, based on the regulations of the NFM the top-ups of the salary has been significantly decreased/cut which is feared to have negative effect on the recruitment/retaining of the trained staff in TB.

The NTP is aiming at becoming the PIU for the next TGF grant for the years 2016-2017. It is a real challenge as the current team is not very strong. There is a need to establish the PIU unit at the NTP. Currently the NTP has 16 staff for managing and supervising TB control activities at national and 38 at oblast and rayon levels. There is an M/XDR-TB coordinator at the National level. Oblast and rayon MDR-TB coordinators are working closely with the NTP central level, however, their clinical skills in M/XDR-TB management are weak.

The guidelines and plan for the palliative TB care has been drafted by the NTP. Two facilities are assigned for the provision of palliative care, however, there is no funding to refurbish them. The training has been planned under the NFM.

The NTP has established a pool of monitoring groups that are quarterly supervising TB-related services in the regions.

No	Recommendation	Responsible	Timeframe
5	Continue improving recording and reporting to ensure that all TB and DR-TB cases are notified, not only those who started treatment.	MoHSP/NTP/Partners	Continuous
6	Continue implementation of the human resource development plan (developed in 2104) for TB-related services.	MoHSP/NTP MoJ	Continuous
7	Implement the salary increase of the staff working in TB services according to the 2006 law for infectious diseases. The salary top-off is not planned in NFM and if no changes in the basic salary of the staff the TB programme will suffer major loss of human resources.	MoHSP	2015
8	Continue providing on-job training and technical assistance on DR-TB issues to the oblast M/XDR-TB Consiliums and MDR-TB coordinators.	NTP/Partners	Continuous
9	Continue finding possibilities to ensure sustainability (local funding) of the TB-related	MoHSP, Partners	Continuous

	NGOs and CBOs (2013 WHO review).		
10	Ensure funding to implement plan for palliative care (guidelines drafted in 2014)	MoHSP/NTP/Partners	2015
11	Although an obvious effort has been done to increase provision of food in the TB hospitals (increase by 30%) it is still not sufficient. Continue increasing the governmental funding for the food in the TB hospitals for the further sustainability.	MoHSP, Partners	Continuous
12	Continue making an effort to institutionalize the funding for provision of the out-patient DOT (regular sustainable funding for food incentives and transportation support from the MoHSP)	MoHSP, Partners	Continuous
13	To consider forwarding the findings and recommendations of the review to the attention and further actions of the MoJ via Country Coordination Mechanism (CCM) platform.	CCM (NTP/WHO)	Continuous

TB services in the PS

The Medical Department of the PS is under the MoJ and is implementing PMDT in collaboration with the NTP/MoHSA and with the support of the Caritas Luxemburg and TGF. The MDR-TB management started in 2010 and has expanded all over the PS. There are 19 penitentiary institutions including 6 SIZOs, 3 colony-settlements, 1 Central Prison Hospital (CPH) and 9 colonies (including 1 female and 1 young offender's colony). The total number of the inmates is approximately 9,000. Approximately 70% of inmates are situated in the south of Tajikistan in 14 facilities out of the total 19. The Medical Services of the south and the north (Sughd) region of the PS are independent of each other and report to the Medical Unit of the Department of the PS under the MoJ.

The CPH is located 11 km from the capital Dushanbe and is serving 13 PS facilities. The CPH has 350 beds, including isolated building for TB and DR-TB patients which is able to accommodate maximum 100 beds (1 floor for MDR-TB and 1 floor for DOTS). The water drainage is not functioning, therefore the water pipes are closed and water is available only in the yard. Furthermore, the electricity is temporarily brought from the neighbouring facility. These issues need to be fixed before the winter.
The UV lamps in the new CPH TB department are not maintained. The infectious TB and MDR-TB patients are mixing in the halway as the administrative IC control measures are not followed. However, there is a separate small house lodging those arriving to the CPH as TB suspects and none of them is allowed to enter their barrack without being screened for TB with Xpert MBT/RIF. This location is refurbished by the Caritas Luxemburg and is excellently managed.

The previous TB department has a space for the XDR-TB patients (3) and the refurbishment is ongoing to accommodate space for the palliative TB care. At the time of the visit 33 MDR-TB patients and 21 drug-sensitive TB patients were hospitalised. The PS has been part of the TB REACH project on early case fining from 2013; within this project all symptomatic persons have been screened with Xpert MTB/Rif and X-ray. The sputum has been mostly transported to the civilian TB services for testing. During 9 months of

2014, a total of 135 patients with pulmonary TB have been diagnosed, all of them have Xpert MTB/RIF result. Unfortunately, only 33 subsequent culture and DST were available because of high contamination rate. The option is to use the mouth-wash liquid before sputum collection (good experience from then ICRC project in Kyrgyzstan). In total there were 57 M/XDR-TB cases in the PS, all on treatment. During Q1 2014, 6 MDR-TB cases were diagnosed out of 26 (19 new and 7 re-treatment) pulmonary TB cases, in Q2 16 out of total 57 (37 new, 20 re-treatment), in Q3 12 out of total 52 (40 new and 12 re-treatment). All diagnosed with Xpert MBT/Rif and all on treatment.

There are two smear microscopy laboratories in the PS in the colonies 3/2 and 3/5, the rest of the facilities are served by the civilian laboratories. The south of the PS is served by the NRL, which is performing culture, DST and rapid diagnostics (Xpert MTB/Rif (Dushanbe) and HAIN (Macheton)). The north of the PS is served by the oblast culture laboratory in Sughd, which is performing culture and rapid tests (Xpert MTB/Rif). The DST for the north is also performed by the NRL. Vehicles for sputum transportation to and from the civilian labs are provided by TGF. In 2013, 400 sputum samples were referred to civilian labs for examination, out of them 142 (35.5%) for treatment monitoring and 258 (64.5%) for diagnostics. Among diagnostic samples 152 were DS-TB and 60 DR-TB (among them 58 notified in 2013).

The X-ray equipment is available in the colonies 3/5 and 3/4. The rest is covered by the mobile X-ray equipment procured with the TGF support or by the mobile X-ray equipment of the civilian services (Kuljab, Khorok). In accordance with the National Code on Punishment Execution, all inmates should be ensured with twice-a-year screening for TB, which is actually performed. The prison facilities have also the cough-books to identify TB suspects during the stay in the prison.

At the time of the visit there were 12 TB/HIV co-infected patients, all on ARV, none on co-trimoxazole therapy. The Caritas Luxemburg supported follow-up of released prisoners project has been very effective, not a single TB patient has defaulted after release in 2014.

The treatment regimens were generally fine. The problem is that as the experienced TB doctor is leaving within a month and the young doctor replacing him has very little experience and less managerial skills than the previous one. The change was observed in many small mistakes that were not there before.

Challenges

- The health-care related budget of the MoJ is limited. The funding of the TB-related activities is donor-depending.
- There is major lack of human resources (medical and nonmedical staff). There are 35 positions for health care workers in the CPH. Out of them 18 positions are for doctors and 17 for nurses; out of them half are not filled. The TB doctor is one of the 18 doctors and is taking care of the TB department. Current experienced TB doctor is resigning within a month.
- The recommendations related to the provision of TB-related care in the PS seldom reach the key decision makers in the PS (MoJ).
- Due administrative infection control, i.e. segregation of patients in accordance with bacteriological status as well as “clean zones” for personnel should be ensured in newly established hospital.

No	Recommendation	Responsible	Timeframe
14	Consider using mouth-wash liquid before sputum collection to improve the quality of the phenotypic culture and DST.	Prison	2014

15	Continue improving IC measures in the CPH: ensure that the sputum smear positive MDR-TB and TB patients do not mix with the smear negative patients and the staff (administrative control measures) and the UV lights are maintained and used.	Prison	2014
16	Continue improving TB/HIV collaborative activities in the PS. Ensure co-trimoxazole treatment for all TB/HIV patients.	Prison	2015
17	Ensure appropriate support to and training of the newly appointed TB doctor in the CPH	Prison/NTP	As soon as possible
18	Ensure that each dose of anti-TB drugs is taken under observation	Prison/CPH	IMMEDIATELY

Partners

There are many governmental structures involved in TB control, such as GSES, University, MoJ and Ministry of Defence etc. The NTP/MOHSP is collaborating with the governmental institutions. By law the guidelines developed by the MOHSP should be followed by all governmental structures.

The Partners Coordinating body – Coordination council for TB under the MOHSP of RT with WHO technical support

Major Donors - TGF, USAID, German Development Bank, the WFP.

Partners - UNDP, Project HOPE, MSF, Caritas Luxemburg, KNCV, FIND (finishing in 2015), and others.

NTP established an efficient collaboration with partners.

Under the TGF support small grants were given to NGOs for provision of TB-related care (see previous report for details).

8. Treatment strategies and administration

The national guidelines on DR-TB have been updated in 2014, just before the 2014 WHO guidelines were published. However, most of the changes have been introduced to the guidelines. The protocol for the management of the pre-XDR-TB and XDR-TB cases has been also developed in 2014 in line with WHO recommendations. The MSF has conducted training of the national central team on the 2014 WHO guidelines and a short training was conducted during the current mission. Further training is needed (regions, oblasts, rayons).

At the time of the mission, there was sufficient amount of FLDs and SLDs for all TB and DR-TB patients, except for pre-XDR-TB and XDR-TB patients. The 5th group of anti-TB drugs (Lxd and Cfz) will arrive in January 2015 (TGF funding) for 30 patients. Bdq has not been procured as the country was planning to apply for the companionate use of Bdq but has not managed to do so. Nevertheless, when the order was done for the 5th group of drugs under TGF then it was believed that Bdq will be available via the companionate use arrangement and therefore Bdq was not procured.

The MSF project has Lzd, Cfz and Amx/Clv for their patients and is planning to bring Bdq for 5 kids with XDR-TB. The MSF is ready to loan Lzd for 5 XDR-TB patients until the NTP/TGF shipment arrives to the

NTP. However, there were more than 40 XDR-TB patients and 30 of them have been selected already for the treatment, not to speak about the pre-XDR-TB patients and those who will be diagnosed in addition. No further procurement is planned before 2016 (under NFM).

The time to the diagnosis and from there to treatment of DR-TB in the MDR-TB pilot sites has become significantly shorter after the implementation of the rapid techniques in 2012. However, the available rapid techniques are not utilized in full, the use of the phenotypic culture and DST is still a problem (see clinicians' and lab issues). However, the Macheton is effectively using rapid techniques to isolate the patients immediately to appropriate department. Furthermore, the unnecessary hospitalisation of sputum smear negative but Xpert MBT/RIF positive patients has significantly decreased compared to the previous mission.

The Central Medical Consilium (Consilium), a body to review the cases with DR-TB for the start and progress of treatment is convening regularly and rifampicin resistant (RR) cases are recommended for treatment as soon as the Xpert MTB/Rif or HAIN test result shows resistance to rifampicin (R) or to R and isoniazid (H), respectively. There are six Consiliums, one in Macheton (central Consilium) and one in each oblast. The DR-TB cases diagnosed in the prisons are referred to the respective Consiliums in the civilian services. MDR-TB Consilium meetings on oblast and central levels are performed twice a week. MDR-TB Consilium meetings on oblast and central levels are performed twice a week. To strengthen PMDT on regional level Central level Consilium carries out weekly telemedicine consultations with oblast Consiliums and the NTP central team joins the regional Consiliums regularly. This has improved compared to the previous visit, however, more training of the regional Consiliums is needed to successfully implement the change from the standardized to individualized treatment regimens.

The country uses combination of standardized treatment regimen followed by individualized regimen after the DST to FLDs and SLDs becomes available. The standardized treatment regimen includes as minimum pyrazinamide (Z), a fluoroquinolone (commonly Lfx), injectable (amikacin (AM) or kanamycin (KM), protionamide (Pto), cycloserine (Cs) and PAS. Ethambutol (E) is added if there is still sensitivity to it. The clinicians pointed out that PAS is badly tolerated by the patients and quite often dropped from the regimen. However, the stopping of PAS (or any other drug) is not reflected in the TB forms, so that the person coming to monitor the treatment can easily be misled. This causes also confusion when assessing the patients for progress of the treatment.

The injectable is generally kept in the regimen until four consecutive negative cultures have been obtained, but not less than eight months (several deviations found). The total duration of therapy is approximately 20 months, that means intensive phase plus 18 (12) months of continuation phase after culture conversion. The injectable is kept in the regimen until the completion of treatment in case of resistance to fluoroquinolones (several deviations found).

The treatment success among patients with DR-TB enrolled on treatment with CAT IV treatment regimen was 71.2%, 61.6% and 65.8% in 2009, 2010 and 2011, respectively (Table 14). The results are good and comparable to the treatment success of the other MDR-TB projects world-wide,[11,12] particularly as the cohort in Tajikistan is a picture of all Rifampicin-resistant patients (MDR-TB, XDR-TB and pre-XDR-TB).

[11] Orenstein EW, Basu S, Shah NS, Andrews JR, Friedland GH, Moll AP, et al. Treatment outcomes among patients with multidrug-resistant tuberculosis: systematic review and meta-analysis. Lancet Infect Dis. 2009;9(3):153–161.

[12] Johnston JC, Shahidi NC, Sadatsafavi M, Fitzgerald JM. Treatment outcomes of multidrug-resistant tuberculosis: a systematic review and meta-analysis. PLoS One [Internet]. 2009;4(9):e6914. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19742330.

Table 14. Treatment outcome of M/XDR-TB cases 2009-2013

Year	Enrolled	Tx success	%	Failed	%	Died	%	Def	%	Still on Tx	%
2009	52	37	71.2	6	11.5	7	13.5	2	3.8	0	0.0
2010	245	151	61.6	34	13.9	35	14.3	25	10.2	0	0.0
2011	380	250	65.8	38	10.0	57	15.0	34	8.9	1	0.3
2012	535	173	32.3	14	2.6	56	10.5	45	8.4	233	43.6
2013	668	NA	0.0	NA	0.0	NA	0.0	NA	0.0	NA	0.0

The treatment outcome of the XDR-TB cases for the years 2009-2011 shows very low treatment success (Table 15). As expected, the treatment success among the pre-XDR-TB patients was higher compared to the XDR-TB patients in 2011. The relatively high treatment success for the 10 XDR-TB patients who started treatment in 2009 can be explained by the highly selective cohort as it was the first GLC-approved treatment cohort.

Table 15. Treatment outcome of XDR-TB patients during the period 2009-2011 and pre-XDR-TB patients started treatment in 2011

	MDR-TB tested to SLDs/out of all MDR-TB	Of MDR-TB XDR-TB	Cured		Tx compl		Tx SS		Fail		Died		Def.		Still on Tx	
	n	n	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2009																
	52 / 52	16					10	**62.5**	5	31.3	1	6.3				
2010																
	131 / 131	30					7	**23.3**	18	60.0	5	16.7				
2011																
pre-XDR-TB		53	27	50.9	1	1.9	28	**52.8**	13	24.5	6	11.3	5	9.4	1	1.9
XDR-TB		41	11	26.8	1	2.4	12	**29.3**	11	26.8	14	34.1	4	9.8	0	0.0
Total	210 / 380	94	38	40.4	2	2.1	40	**42.6**	24	25.5	20	21.3	9	9.6	1	1.1

The following paragraph is from the previous monitoring visits: The NTP is worried by comparably high default rate and suspects it is the consequence of switching to predominantly out-patient treatment. Prior to making any principal decisions NTP should consider analysing the data on treatment default comparing results for the patients who have been hospitalized at start of treatment versus those who have been not hospitalized (possible method – *propensity* score matching). Current comment: No action to clarify the situation has been taken so far.

The sputum samples from the areas covered by MDR-TB programme, including PS facilities, are transported to laboratories in accordance with the established timetable weekly: in Khatlon oblast by TGF funded RCTC cars, in Sughd oblast supported by Project HOPE, in Tursunzode, Gisor, Rudaki, Nurobod, Tajikobod districts and Dushanbe supported by TB Reach Project, Rasht district supported by the KNCV Project.

DR-TB among children

There are no major changes compared to the previous visit. In 2011, the treatment of the paediatric MDR-TB cases started with the support of the TGF in that year 19 cases started treatment. From 2012, the management of DR-TB among children is supported by the MSF. The MSF provides the SLDs for the children with confirmed or suspected MDR-TB as well as for their contacts diagnosed with TB during contact tracing around the paediatric index-case. The MSF is supporting the laboratory diagnostics (including the rapid tests, Xpert MTB/Rif) in Dushanbe and providing the psycho-social support. A total of 12 DR-TB paediatric cases had been enrolled to the MSF project in 2013, out of them 9 were MDR-TB, 1 XDR-TB and 1 PDR-TB cases. Cumulatively, there are 4 XDR-TB paediatric cases treated with Lzd. The country standard treatment regimen was used for treatment of paediatric TB cases.

The MSF has also supported Paediatrics TB Hospital with sputum induction unit, which has considerably helped to improve the diagnosis among paediatric TB cases. The MSF has also support the NTP to open 2 additional units (Kuljab and Dushanbe) and is planning to open 2 more (Kurgan-Tupe and Dushanbe).

The TB department in Macheton was visited during the mission. The department is supported by the MSF and there are 20 beds and 7 patients with DR-TB. Excellent management of the cases in all respects.

Follow-up of treatment

The national DR-TB guideline lists the test to be taken for follow-up of the progress of the treatment as well as for the monitoring of the side effects. The follow-up is done by monthly smears and cultures during the intensive phase and then quarterly until the end of treatment. According to the policy, the DST is always repeated in case culture is still positive. The reason for so frequent DST is the confusion of the clinicians in the lab techniques. The clinicians are unable to decide when the culture and the DST should be asked for, resulting in the lab deciding for them. That could be done only by following the flowchart. The lab has no information if the test is for diagnoses, follow up of which month of treatment the patient is in or if there is any diagnostic/treatment challenge. Furthermore, the clinicians still do not understand the meaning of the cultures and DST. The rapid techniques are more understandable for the clinicians, there was no confusion if to treat or not and if to start category 4 is the rapid technique provided positive test on TB or R(H)-resistance. Chest X-ray is done every six months or more often if necessary.

The tests for monitoring of the side effects of the anti-TB drugs include all recommended by the 2014 WHO except for the test of the level of the thyroid stimulating hormone, which is done based on symptoms and complains because that test is not supported by the TGF. The change was that this time there were 22 cases of hypothyroidism compared to zero in 2013 (Table 16). The side-effects for the anti-TB treatments were well recorded and analysed as to be able to plan the procurement of the auxiliary drugs. The auxiliary drugs are procured mainly by TGF but also by the MoHSP. The auxiliary drugs and tests for follow-up of the side effects are free of charge for the patients during hospital as well as out-patient treatment, procured under TGF. However, no auxiliary drugs were available in the rayons visited. It was also observed that there is no actual management of side –effects in the rayons.

Table 16. Side effects of the anti-tuberculosis drugs recorded during treatment of the MDR-TB cases, 2010–2013

Side-effects	Year			
	2010	2011	2012	2013
Gastrointestinal side-effects				
Nausea, vomiting	120	263	428	786
Diarrhoea	10	33	78	174
Abdominal pain		49	137	291
Gastritis		31	160	283
Hepatitis		7	16	22
Anorexia		35	53	147
Renal toxicity	5	15	17	4
Toxicity on the central nervous system				13
Sleep disturbances		19	110	262
Headache	32	81	368	626
Arthralgia	92	93	254	509
Depression	18		41	64
Seizures	10		7	23
Psychosis	5		36	52
Ototoxicity				
Hearing impairment	8	20	113	233
Vertigo	92		220	439
Tinnitus	17		114	242
Electrolyte disturbances / Electrolyte wasting	0		0	
Allergic reactions				173
Allergy	39	52	73	
Rash		25	53	100
Peripheral neuropathy	63	9	85	105
Visual impairment	1	21	23	43
Hypothyroidism		0	0	22
Cardio-vascular disturbances	2	4	11	13
Pain at the site of injection	0		33	
other	372	899	2430	13
Total				4626

The modality of treatment

The national guidelines on DR-TB include the hospitalization and discharge criteria for patients with DR-TB. Furthermore, due to the poor physical conditions of the hospitals and therefore high likelihood of

nosocomial infection due to the impossibility to implement the IC measures, the MoHSP issued a Decree № 571 dated 16/07/09 "Out-patient treatment of MDR-TB patients".

Table 17. Proportion of patients hospitalized for the start of DR-TB treatment, 2009–2013

Year	2009	2010	2011	2012	2013
Hospitalized for the start of treatment (%)	9.4	73.5	60.8	54.7	51.8
Out-patient treatment from the day one (%)	9.6	26.5	39.2	45.3	48.2

In 2013, 63.4% of the new drug-sensitive TB patients were hospitalised, among all drug sensitive TB cases the 64.8% (4207 / 6495) were hospitalised (Table 17). Based on the preliminary data, 54.0% of M/XDR-TB cases were hospitalised in 2014.

There are three modes of DR-TB treatment delivery in Tajikistan. It may be carried out using a hospital-, clinic- or community-based approach. The community-based care provided by trained lay and community health workers (CHWs) has been successfully implemented in pilot rayons.

Hospitalization of DR-TB cases is decided case-by case by the Central or Regional Consilium for DR-TB. In case the DR-TB case is sputum smear negative, then he or she could be hospitalized for short period (1-2 weeks) as to provide TB-related education and initiate the management of side-effects. In case the patient is sputum smear positive the patient could start treatment immediately as out-patient or could be hospitalized based on the hospitalisation criteria (see previous report). For the *criteria for discharge from the hospital please also see the previous report.*

Out-patient treatment
The NTP/MOHSP has issued an order promoting the out-patient DR-TB care. Various approaches have been piloted by the NTP and the Partners in order to ensure adherence of the patients to the lengthy and difficult treatment with the SLDs. The challenge for all approaches is the sustainability of the activities because they are mostly donor depending.

Macheton Hospital was visited during the mission (please see previous report for the detailed description of the structure of the hospital). During the hospital visit but also during the site visits it was observed that the co-trimoxazole is not used for TB/HIV patients. However, the TB coordinator of the Dushanbe city TB services mentioned that co-trimoxazole is provided in Dushanbe. The ART is still sometimes delayed when patients is diagnosed with TB and tested HIV-positive. It was noticed that TB doctors are not necessarily informed about TB patient's HIV status and vice versa HIV-service is not always aware about the PLWH's TB status. Similarly to the previous visit, blood glucose level is checked 2-4 times per months or in case of obvious signs hyper or hypoglycemia. This should be done daily in case rapid glucometers are not available for the use for each patient. The training should be provided to the TB doctors on management of diabetes mellitus

Department for drug resistant TB patients. The department has capacity of 80 beds, out of which 50 are assigned for MDR-TB patients and 30 have been assigned for XDR-TB patients (previous department for sputum smear negative MDR-TB patients). The number of the patients was 38 and 22, respectively. The creation of the department is very recent and the appropriate administrative controls have not been

implemented. The department is just next to the staff rooms. It would be necessary to install an anteroom to the department and enforce the administrative control measures. There are seven doctors (incl. the head doctor) and one vacancy. It was told that there are a total of fourteen nurses but the number of positions was 21.

Social support

In 2013, the RT Ministry of Health was re-organized to the MoHSP. By doing so, the MoHSP is able to define and expand the list of social benefits for TB patients. In addition there are plans to allocate a work place for social workers in each PHC centre. From 2015, the unemployed TB patients are eligible for disability support equally with employed persons.

Please see the previous report for the detailed description of the living support provided by different partners.

	Recommendations	**Responsible**	**Timeframe**
23	Provide more training to the health care staff on level of infectiousness of the sputum smear negative but Xpert MBT/RIF positive patients.	NTP/Partners	Continuous
24	Provide more training to the health care staff on the meaning of phenotypic culture and DST, which is pivotal in understanding the DR-TB.	NTP/Partners	Continuous
25	NTP and the Partners monitoring teams should undertake the cross checking of the TB03 and the laboratory files as this is part of the initiative to improve culture and DST coverage (currently the doctors report that culture has been sent, laboratory reports that cultures have been done but the culture confirmation is nevertheless very low)	NTP/Partners	Continuous
26	Provide further training of the regional Consiliums/TB coordinators is needed to successfully implement the change from the standardized to individualized treatment regimens. The TB coordinators should be empowered to implement effective monitoring and support to the facilities/health car staff treating M/XDR-TB patients. There is a severe lack of personnel because the TB coordinator is also the main and/or the only TB doctor of the region/rayon.	NTP/Partners	Continuous
27	All changes in the treatment regimen and all missed doses should be reflected on the M/XDTR-TB treatment cards and other relevant forms, otherwise it is difficult to find out the reasons for failing regimens.	NTP	Continuous
28	Ensure that the side effects are monitored and effectively managed in the rayons, including all relevant treatment sites and rural areas.	NTP	Continuous
29	Provide further training (cascade training) on the up-to-date information (2014 WHO guidelines and		

	updated national guidelines) for management of DR-TB.		
30	Improve information exchange between the HIV and TB services. The treating TB doctor should be informed about the HIV status of the patient (repeated recommendation).	MoHSP/NTP	2014
31	Continue decreasing hospitalization of sputum smear negative (could be Xpert MTB/Rif positive) TB patients. The consultant remarks that in fact there is very good progress in that respect (partly because of the severely dilapidated TB facilities).	MoHSP/NTP	continuous
32	Consider establishing closer monitoring of the diabetic patients with TB (implement the international/national recommendations for control of diabetic patients).	Macheton	2015
33	Ensure provision of co-trimoxazole to HIV-infected TB and M/XDR-TB patients.	NTP/HIV services	2014
34	Ensure that the information is available for the NTP on isoniazid preventive therapy (IPT) among the HIV-infected persons.	NTP/HIV services	2014

9. TB Laboratory

The country has a network of smear microscopy centers (88) and bacteriological laboratories (3). Furthermore, there are 14 Xpert MBT/RIF machines and 34 additional ones are planned under the NFM.

All TB patients are taken sputum or any other biological material for smear microscopy (done at the TB laboratory at a site) and the material is sent for Xpert (HAIN) test. The material is sent to the oblast culture laboratory for culture and from there to the NRL for the DST. From February to May 2014 the biosafety hoods were broken in the NRL and it stopped working. The cultures were performed in the BSL-3. Unfortunately the KfW/SRL did not allow to perform DST in the BSL-3 during the period. (The NRL team was ready to move to work in BSL-3 and all safety measures/working conditions are available there), which is unfortunately more of a person(s) connected issue than anything else and has disastrous result on the treatment and lives of the patients.

Following this event the NTP has started negotiation with the donor (Kfw) to install an alternative DST possibility in case the NRL will fail to perform. There might be an option to upgrade one of the existing culture labs but it is not understandable for the consultant why the existing high-tech BSL-3 in Dushanbe (built and equipped with L-J and MGIT with the support of the TFM) cannot be used to perform DSTs, although it performs cultures. Furthermore, given the number of population, distance and geographical challenge (mountains, bad road) the DST should be planed for in the North of the country.

The ***laboratory network*** is composed of:

- Level III: NRL situated in Macheton Hospital, Dushanbe performing sputum smear microscopy, culture, molecular investigation (HAIN), as well as drug sensitivity testing to FLDs and SLDs. Xpert MBT/RIF is available but is used for training. The Macheton lab serving as NRL was re-built with

the support of the KfW and opened in 2012. NRL capacity includes 4 doctors / 4 vacancies, 6 laboratory technicians / 6 vacancies, 2 junior nurses and 2 computer operators. The NRL has a smear microscopy / monitoring department in Dushanbe performing smear microscopy and Xpert MBT/RIF.

- Level II: 3 laboratories in Sughd/Dekhmoy (L-J, Xpert, MGIT), Khatlon/Kulyab (L-J, MGIT, HAIN), Dushanbe/NRLOZ performing smear microscopy, culture (equipped with MGIT 960) and HAIN, Xpert MTB/Rif testing. Laboratory in GBAO/Khorog – L-J, Xpert performs cultures.
- Level III: 88 sputum smear microscopy centers.[13]

Microscopy proficiency testing is performed by SNRL, Gauting. Internal quality assurance (QA) of the smear microscopy is performed by RCTC. The 2013-proficiency testing of the DST was acceptable for FLDs and SLDs on both, MGIT and L-J (see previous report).

The transportation of the samples to the labs is well established only in case of the penitentiary system and around Dushanbe. The rayons are struggling to send the sputum because of the bad roads (particularly in winter) and availability of transportation. The culture and DST reports are still reaching the clinicians with undue delay. The plan is to develop an electronic report form which will be send by usual e-mail to the clinicians. However, there is no electricity in rayons from October to April-May, thus the electronic form will not be of great help.

All diagnostic sputum samples are cultured - one on MGIT and two on L-J. The head of the NRL told that the contamination rate in the NRL was within acceptable rates (up to 5% on MGIT and LJ)[14] However, the frequency of contaminated culture result in the patient's files was not acceptable. It has come to that that there are no culture results for up to one year in M/XDR-TB patients files!!! Making it impossible to evaluate/manage patients. The x-ray is the only tool how one can charge if the patient is improving, which is not acceptable! The NRL told that the contamination rate in other culture lab was high. The quality assurance of the culture labs has been recently launched by distributing the SOPs.

The rapid diagnostic techniques have become more accessible. However, as said before, even if all prerequisites are there for phenotypic culture and DST, the culture and therefore DST coverage is relatively low; unfortunately, no exact data for 2014.

	Recommendation	**Responsibility**	
19	Continue implementing monitoring, proficiency testing and training of culture laboratory network in the country (the SOP distributed in 2014, the contamination rate of cultures and growth rate of cultures very low based on the patients' files. Example: Kuljab Q1 2014 - 21.7% (5/23) of patients with pulmonary TB whose sample was sent for culture had positive culture result (ideally 80-85%).	NTP/NRL	Continuous
20	To continue improving information exchange between clinicians and culture and DST laboratories (the culture and DST results should be provided to the physicians without delay).	NTP/TB services	Continuous

[13] Data provided by NTP
[14] Data provided by NRL

21	Consider discussing with the NRL the plan to implement epidemiological surveillance of drug resistance (use of fingerprinting) in the future. The NRL has collection of the strains for the last few years (2013 recommendation).	NRL/SRL	2016 onwards
22	Consider planning for the implementation of the DST in the north of the country and /or to establish one more DST lab in case the NRL will fail to perform. (The available BSL-3 is the best available alternative)	NRL/ NTP/MoHSP	2015 onwards

10. TB Infection Control

Most of the details on IC issues are to be found in the previous report. The changes compared to the mission 6 months ago are reflected below.

The National IC guidelines have been approved in 2011 by the MoHSP. The IC plan was developed in 2012 but still lacks the funding for implementation. The IC plans have been developed for most of TB facilities and implemented to the certain level. There is difference of the level of the implementation of IC measures in different facilities.

The NTP, MoHSP and the representatives of phtisio-pulmonolgy department of the University have established an excellence center for TB/MDR-TB training in the country in the Macheton TB hospital. The training was carried out on IC in 2014 with the high-level lecturers, such as P. Jensen (under the USAID support).

Traditionally, there was a structure of Sanitary Epidemiology Stations in Tajikistan. The GSES is under the MoHSP, but the head of the services is nominated directly by the President. The GSES is responsible for surveillance and infection control in health care facilities, including TB facilities. The GSES has central level and the oblast levels and is empowered for monitoring the IC measures in overall, including TB. It has been little cooperation between the NTP and GSES. Fortunately, this is changing in 2014 and the common platform has been developed. Minor differences of opinion still exists on the out-patient treatment of sputum smear positive TB cases.

However, the NTP should explain more clearly the level of the infectiousness of the sputum smear negative but Xpert positive patients to the clinicians. The sputum smear negative but Xpert MTB/Rif (HAIN) positive pulmonary TB patients should generally not be hospitalized, as these patients pose negligible risk to the others and on the contrary can be re-infected if placed among smear positive patients. Considering that the patients with extra-pulmonary TB regardless of their DST status are generally non-infections they should not be placed together with smear positive patients. In case there is a need in hospitalization and no available department for sputum smear negative MDR-TB patients, extra-pulmonary MDR-TB patients should be placed in extra-pulmonary TB department.

The palliative TB care guidelines have been developed in 2014 together with the implementation plan. Two facilities have been assigned for palliative care (20 beds each). However, there is no funding to refurbish them. The plan for training of the staff (PHC nurses and TB nurses) has not been developed.

	Recommendation	**Responsibility**	

35	Although there is good progress in the implementation of the IC plan additional activities and funding is necessary to further implement the IC plan.	MoHSP/NTP/ Partners	2015
36	Continue training of the health care personnel in IC issues countrywide.	NTP/GSES	Continuous
37	Implement appropriate IC measures in the Macheton XDR-TB department	Macheton/NTP	2014

11. Second line anti-TB drug management

The MoHSP has prohibited sales of FLDs in the country and is monitoring the implementation of the law. The MoHSP has issued a regulation for using prescription for SLDs (aminoglycosides and fluoroquinolones) in the pharmacies.

The FLDs used for the treatment of children are procured under the TGF/Project HOPE support and the SLDs under TGF support. The MSF is providing the SLDs and the anti-TB drugs of the 5th group for the children in their project areas and their sick contacts.

According to the plan, the RCC/Project HOPE will cover 2015 needs of FLDs. The country is committed to procure the FLDs from 2016 (50% government contribution in 2016, 100% in 2017). There is no disagreement in procuring the anti-TB drugs through the GDF / WHO prequalified suppliers. The personnel has been trained, forms developed, distributed and in use.

The Republican Medicines and Medical Commodities Procurement Center is responsible for clearance of drugs, as well as storage, recording, reporting and distribution. All places have cold room to keep PAS. PAS sodium has been ordered to avoid temperature-related storage problems. Quality assurance (QA) of the drugs is performed with TGF support based on QA SOP and Plan through random sampling of available stock twice a year in an ISO17025 certified laboratory in India.
Anti-TB drugs are monitored through CHANNEL software allowing monitoring of the drugs stock, consumption, expiration etc.

There is a need for 5th group SLD (Lzd, Cfz, Bdq, Imp/cln, Amx/Clv) should be ensured for proper management of pre-XDR and XDR-TB patients. It is estimated that there are up to 20% of pre-XDR-TB and XDR-TB patients among the MDR-TB patients.

	Recommendation	**Responsibility**	
38	Ensure additional funding to procure more group 5 drugs (besides the currently planned 30). The current procurement includes linezolid and clofazimine for 30 XDR-TB already on the waiting list. The procurement does not include pre-XDR-TB patients, future (after October 2014) diagnosed XDR-TB patients and does not include bedaquiline.	MoHSP/NTP/ Partners	Continuous
39	Once the procurement of the FLDs will be done by the MoHSP, it is of pivotal importance that the FLDs will be procured through the GDF / WHO prequalified suppliers. Currently there	MoHSP	End 2015

	are no differences of opinions, however the recommendation is nevertheless re-iterated.		
40	Ensure the step-wise takeover of the procurement of anti-TB drugs by the government. The first procurement of 50% of FLDs in 2016 is of pivotal importance.	MoHSP	2015

12. Information system and data management

The WHO country office and the UNDP (TFM PIU) with the assistance of the Interactive Research & Development (IRD), Pakistan has introduced OpenMRS system mostly at the central level. Unfortunately the system is not functioning because of lack of human resources and funding (lack electricity, access to internet, computers at the sites). There is no change compared to the previous monitoring visit. However, a bit of funding has been raised by the WHO to continue the development of the software and training in 2015. The NFM contains also the budget line to finalise the RR system.

	Recommendation	**Responsibility**	
41	Consider finding possibilities to strengthen and expand the electronic recording reporting system countrywide. The central level of the TB register has to be strengthened: the database finalized to be able to generate reports, the IT persons contracted to finalize the software and carry out maintenance, the IRD TA provided to train the IT person to work on the software, the staff employed to enter the data (at least three at the central level). The oblast (rayon) levels should be strengthened by ensuring sufficient data entry staff, constant electricity supply, monitoring and on-job training (previous recommendation).	NTP/MoHSP/ Partners	2015
42	Continue training on new recording and reporting forms and definitions (2013 WHO definitions) (previous recommendation).	NTP/MoHSP/ Partners	2015
43	Ensure that all TB cases are entered to the TB register (previous recommendation).	NTP/MoHSP/ Partners	2015

13. Ethics of TB prevention, care and control

The NTP as well as TGF grant application are targeting the risk groups for TB and socially disadvantaged population groups. The NTP is cooperating with the NGOs to better access the named groups, unfortunately this activity is heavily donor-depending. There is a good cooperation with the prisons.

At the mission date there were still 127 MDR-TB patients regardless of the availability of SLDs. The issue is thought to be connected to stigma as the patients give the sputum samples under a wrong name and address, making it impossible to identify them later on. There were approximately 30 XDR-TB patients (and many more pre-XDR-TB patients) on the waiting list for the 5th group of anti-TB drugs.

The guidelines for palliative TB care have been developed by the NTP but the implementation plan has not been developed and funding is not available. In general, the palliative care, including palliative TB care is mostly based on out-patient services and involves trained nurses. It is not recommended to establish a large palliative TB care facility (might end up being a shelter for the homeless, which is not its purpose due to the risk of nosocomial transmission of infection to otherwise non-infectious homeless).

	Recommendation	**Responsibility**	
1	Implement palliative TB care guidelines and plan, including for the penitentiary system.	MoHSP/NTP/ Partners	2015

14. List of people met

Meeting with National counterparts on TB control:
Oktam Bobokhodjaev - NTP Manager
Firuza Sharipova –Organizational methodological department
Khushvakht Ismonov –Coordinator on MDR
Kurbongul Zakirova –Coordinator on HIV/TB
Mohonim Abdullaeva –Coordinator on laboratory services
Gulnora Djalilova - Coordinator on Drug management

Republican TB Hospital (Macheton), Vahdat district, Shifo town
Saidahtam Rustamov- Head of the Hospital
Dr. Asoev R - Head of MDR-TB department for SS+ cases
Dr. Shopulotov S. - MDR-TB doctor
Dr. Boev A. - MDR-TB doctor
Dr. Lola Pulatova – Head of the pediatric TB department
NRL
Olim Kabirov – Head of the NRL

Prison
Rustam Nurov – Head of the Medical Unit department of penitentiary affairs MoJ
Saidkul Sharipov – Head of the Prison Hospital
Abdurakhmon Shokarimov –Medical Unit of the department of penitentiary affairs MoJ

UNDP
Flura Bikmetova- MDR-TB coordinator, UNDP

WHO
Sayohat Hasanova, STI/HIV/AIDS and TB Officer

15. Attachments

Annex 1. GLC Preparation form

Форма подготовки визита КЗС (заполненная собственником программы)

Результаты выявления и лечения в рамках национальной программы по борьбе с ТБ (согласно формата ВОЗ для различных групп) – за последние 2 года

Отчеты по работе лаборатории, включая отчеты по внешнему контролю качества (супранациональная референс-лаборатория, национальная референс-лаборатория) для посевов, ТЛЧ и мазков

Данные по закупкам и ПВР лекарственного склада: последний отчёт лекарственного склада (препараты, дозировки, сроки годности, количество, среднемесячная потребность, месячная оценка склада)

ФОРМА ПО ПОДГОТОВКЕ К ВИЗИТУ КЗС

Предоставьте до миссии следующую информацию:

1 Обзор выполнения рекомендаций, сделанных во время предыдущего визита.
2. Квартальные данные по выявлению больных туберкулезом за прошлый год и за настоящий, представленные в рекомендуемом ВОЗ формате.
3. Выявленные и результаты лечения за прошедшие 2 года, разделённые следующим образом в виде таблицы:

- Все выявленные
- Все лёгочные
    - Лёгочный ТБ, впервые выявленные МТ (мазок) «+» (положительные)
    - Лёгочный ТБ, впервые выявленные МТ (мазок) «-» (отрицательные)
    - Лёгочный ТБ, случаи повторного лечения:
        - МТ (мазок) «+» после неудачи по Категории I
        - МТ (мазок) «+» рецидивы
        - МТ (мазок) «+» взятые после перерыва в лечении
        - Все случаи легочным ТБ МТ (мазок) «-» среди повторно леченных
        -

Регистрация случаев

	Новые случаи легочной с МТ+	Новые случаи легочной с МТ-	Новые случаи внелегочной ТБ	Всего Новые случаи	Рецидивы +	Неуд+	Наруш+	Другие+	Всего повторные с МТ+	Наруш-	Другие-	Всего повторные с МТ-	Общее количество повторных (МТ+ и МТ-)	Общее количество всех больных (Впервые выявленные +Повторные
2012	2041	1911	1532	5484	327	146	58	217	748	35	662	697	1445	6929
2013	2205	1647	1454	5306	270	133	33	201	637	25	527	552	1189	6495
2013-УИД	71	39	8	118	9	5	-	12	26	2	9	11	37	155

Результаты лечения за 2011год

типы больных	Зарегистрировано	вылечен	завершил	умер	Небл. исход	отрыв от лечения	переведен	снят
Н.С. с МТ+	2174	1607	125	104	242	74	21	1
НС с МТ-	2148	-	1910	86	56	76	10	10
ExtrP	1613		1503	40	19	29	8	14
рецидив	355	206	21	34	73	18	3	-
Не/удача лечения	198	91	11	18	61	12	5	-
нарушения режима SS+	67	28	9	10	12	8	-	-
нарушения режима SS-	20	-	15	1	1	3	-	-
Другие МТ +	309	164	23	45	50	23	4	-
Другие МТ -минус	725	-	615	54	25	21	5	5

Результаты лечения за 2012год

типы больных	Зарегистрировано	вылечен	завершил	умер	Небл. исход	отрыв от лечения	переведен	снят
Н.С. с МТ+	2041	1475	102	110	268	74	12	-
НС с МТ-	1912	-	1713	78	51	65	5	-
Не/удача лечения	146	65	18	9	43	6	5	-
рецидив	332	198	23	36	65	11	-	-
нарушения режима	58	26	9	4	11	8	-	-
Другие МТ +	217	105	16	26	52	18	-	-
Другие МТ -минус	702	-	618	46	16	22	1	-

Результаты лечения за 6 мес. 2013год - УИД

типы больных	Зарегистр ировано	вылечен	завершил	умер	Небл. исход	отрыв от лечения	переведен	снят
Н.С. с МТ+	39	22	3	3 (1др.)	1	-	10 МЛУ	-
НС с МТ-	8	-	6	1др.	1	-	-	-
ВЛ	3	-	3	-	-	-	-	-
Рецидивы +	6	3	1	-	-	-	2 МЛУ	
Не/удача лечения	2	-	-	-	-	-	2 МЛУ	-
нарушения режима+(-)	-	-	-	-	-	-	-	-
Другие МТ +	5	2	-	-	-	-	3МЛУ	-
Другие МТ - минус	2	-	2	-	-	-	-	-

4. Все доступные данные ТЛЧ по когортам и/или результаты исследование по устойчивости к препаратам первого и второго ряда.

5. Все диагностированные МЛУ ТБ больные в настоящем и предыдущем годах МЛУ ТБ

Количество больных МЛУ ТБ, ШЛУ ТБ, выявленных лабораторно в течении последних 12 месяцев

	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**	**Total**
	2011	**2011**	**2011**	**2011**	**2012**	**2012**	**2012**	**2012**	**2013**	**2013**	**2013**	**2013**	
ШЛУ													
Всего МЛУ	197	102	50	168	148	186	260	179	195	226	190	300	2201

6. Больные МЛУ ТБ включённые в прект КЗС и получающие лечение последние 12 кварталов

Подтверждённые	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**	**Кв.**

МЛУ ТБ случаи	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Новые	15	17	4	36	21	34	45	31	34	35	84	79
Раннее лечённые ПТП 1-го ряда	70	66	7	165	87	98	135	85	91	53	150	188
Раннее лечённые ПТП (1-го ряда) и 2-го ряда	-	-	-	-	-	-	-	-	-	-	-	-
Внелёгочные	-	-	-	-	-	-	-	-	-	-	-	-
Случаи с подозрением на МЛУ ТБ	-	-	-	-	-	-	-	-	-	-	-	-
Итого	85	83	11	201	108	132	180	116	125	88	234	221

7. Когорта по исходам лечения больных МЛУ ТБ, включёных в проект КЗС

Таблица передставленная ниже, должна быть заполнена для каждой доступной годовой когорте.
Год: 2010

Группа пациентов	Вылечен	Лечение завершено	Неудача лечения	Лечение прервано	Умер	Преведён	Продолжает лечиться	Итого
Новый случай	18	4	1	2	6	-	-	31
Ранее лечённый только ПТП 1 -го ряда	113	16	33	23	29	-	-	214
Ранее лечённые ПТП 1-го и 2-го ряда	-	-	-	-	-	-	-	-
Всего	131	20	34	25	35	-	-	245
%	53,5	8,2	13,9	10,2	14,3	-	-	100

Таблица передставленная ниже, должна быть заполнена для каждой доступной годовой когорте.
Год: 2011

Группа пациентов	Вылечен	Лечение завершено	Неудача лечения	Лечение прервано	Умер	Преведён	Продолжает лечиться	Итого
Новый случай	56	8	1	4	2	-	1	72

Ранее лечённый только ПТП 1 -го ряда	173	13	37	30	55	-	-	308
Ранее лечённые ПТП 1-го и 2-го ряда	-	-	-	-	-	-	-	-
Всего	229	21	38	34	57	-	1	380
%	60,3	5,5	10,0	8,9	15,0		0,3	100

8. Промежуточные результаты:

		Бактериологические результаты на 5 и 6 месяцы лечения			Больше не лечится		
Укажите период	Количество больных начавших лечение	Отрицательный (все мазки и посевы отрицательные в течение 5-го и 6-го месяцев)	Положительный (любой мазок или посев положительный в течение 5-го и 6-го месяцев лечения)	Результаты посева мазка неизвесты	Умер	Лечение прерванно	переведён
Кв.1	85	60	15	-	**5**	**5**	**-**
Кв. 2	83	49	25	16	**7**	**2**	**-**
Кв. 3	11	10	-	-	**1**	**-**	**-**
Кв. 4	201						
Кв. 5	108						
Кв. 6	132						
Кв. 7	180						
Кв. 8	116	51	22	16	**5**	**4**	**-**
Кв. 9	125	64	21	6	**12**	**2**	**-**
Кв. 10	88	44	14	3	**7**	**5**	**-**
Кв. 11	324	n/a	n/a	n/a	n/a	n/a	
Кв. 12	220	n/a	n/a	n/a	n/a	n/a	

9. Данные по контролю качества (последние данные по контролю качества от СНРЛ по пепаратам первого ряда, соответствие по перапратам второго ряда; результаты контроля микроскопических лабораторий)

Annex 2. Agenda of the mission

Agenda

GLC mission

Dr Kai Blondal (Reykjavik Health Care Services)

09 - 14 October 2014

Tajikistan

Timing	Schedule	Venue	Remarks
Thursday, October 9			
	Arrival to Dushanbe airport	Airport pick-up	Hotel Atlas
Thursday, October 9			
14.00 – 14:30	Meeting in WHO CO Office: Dr. Pavel Ursu, the WR WHO CO TJK Dr. Tedla Mezemir UNDP/ GF PIU Manager Dr. Sayohat Hasanova, the National coordinator on STI, AIDS/HIV	WHO office	WHO car
14:40- 17:00	1) Meeting in Republican TB Center: Director of TB Center, D-r Oktam Bobokhojaev and his team *General situation with MDR TB; MDR TB project expansion, status of implementation of the previous mission*	TB center	
	2) NTP: – central TB register	TB center	
Friday, October 10			
9:15-12:30	Republican clinical TB hospital SHIFO: Dr Saidahtam Rustamov, Head of the Hospital - *MDR dep. Review of some Patients cards* - *TB department* - *Children department*	Matcheton	
12:30 – 13:30	Lunch:		

13:30 -17:00	Visit to NRL - *workload particularly cultures, DST MGIT, HAIN, Xpert* - *quality assurance for all lab network including NRL and culture labs,* - *proficiency testing,* - *lab database*	Matcheton	
Saturday, October 11			
09:00:12:00	Visit to central prison Hospital	Vahdat district	
Monday, October 13			
8:00 – 13:00	Kulyab city TB center, ambulatory management of MDR TB cases Khatlon TB Hospital, MDR department	Kulyab	
13:00-14:00	Lunch		
14:30-17:00	Vose DOTC Centre; MDR TB treatment	Vose	
Tuesday, October 14			
9:00 – 10:00	Debriefing in MoH: Dr. Deputy Minister of Health Dr. Oktam Bobokhojaev, NTP Manager		
10:20 – 12:30	Office work		
12:30-14:00	Lunch		

14:00-17:00	Debriefing with NTP team and partners (WHO, UNDP, Project HOPE, KNCV, HCQP, AFEW, MSF, Mersycorps, IOM, WFP, KfW) *Venue: NTP Office*	MoH	
From 15 to 17 October ToT training			
Saturday, October 18			
	Departure	Airport transportation	