The Global Fund
To Fight AIDS, Tuberculosis and Malaria

STANDARD CONCEPT NOTE

Investing for impact againstHIV, tuberculosis or malaria

A concept note outlines the reasons for Global Fund investment. Each concept note should describe a strategy, supported by technical data that shows why this approach will be effective. Guided by a national health strategy and a national disease strategic plan, it prioritizes a country's needs within a broader context. Further, it describes how implementation of the resulting grants can maximize the impact of the investment, by reaching the greatest number of people and by achieving the greatest possible effect on their health.

A concept note is divided into the following sections:

Section 1: A description of the country's epidemiological situation, including health systems and barriers to access, as well as the national response.

Section 2: Information on the national funding landscape and sustainability.

Section 3: A funding request to the Global Fund, including a programmatic gap analysis, rationale and description, and modular template.

Section 4: Implementation arrangements and risk assessment.

IMPORTANT NOTE: **Applicants should refer to the Standard Concept Note Instructions to complete this template.**

SUMMARY INFORMATION			
Applicant Information			
Country	**Cambodia**	**Component**	**TB**
Funding Request Start Date	**1 January 2015**	**Funding Request End Date**	**30 June 2017**
Principal Recipient(s)	**National Centre for Tuberculosis & Leprosy Control (CENAT)**		

Funding Request Summary Table

A funding request summary table will be automatically generated in the online grant management platform based on the information presented in the programmatic gap table and modular templates.

SECTION 1: COUNTRY CONTEXT

This section requests information on the country context, including the disease epidemiology,thehealthsystems and community systems setting, and the human rights situation. This description is critical forjustifying the choice of appropriate interventions.

1.1 Country Disease, Health and Community Systems Context

With referencetothe latest available epidemiological information inaddition to the portfolio analysisprovided by the Global Fund, highlight:

a. Thecurrent and evolving epidemiology of the disease(s)and any significant geographic variations in disease risk or prevalence.

b. Key populations that may have disproportionately low access to prevention and treatment services (and for HIV and TB, the availability of care and support services), and the contributing factors to this inequality.

c. Key human rights barriers and gender inequalities that may impede access to health services.

d. The health systems and community systems context in the country, including any constraints.

a. The current and evolving epidemiology of the disease(s) and any significant geographic variations in disease risk or prevalence.

Current epidemiology: Cambodia with a population of about 14.9 million (2013), is one of the 22 countries in the world with a high burden of tuberculosis (TB). The prevalence, incidence and mortality rates of TB in 2012 were 764, 411, and 63 per 100,000 populationrespectively(WHO Global TB Report 2013, p118). The mortality rate is the highest among these countries, while the prevalence rate is the second-highest among them (ibid, p10). The country still missed about 34% of the TB cases of all forms in 2012 (ibid, p272).

Evolving epidemiology: Cambodia has conducted two national TB prevalence surveys (2002; 2011). These surveys showed a decline of 38% among smear positive prevalence rate (4.2% annual reduction) between 2002 and 2011; additionally, the surveys showed a decline of 45% among bacteriologically positive prevalence rate or 5% annual reduction (Second National TB Prevalence Survey, Cambodia, 2011; p8).The decline of HIV prevalence among the general population and HIV positive TB may in part have contributed to the reduction in TB prevalence.However,HIV has been a limited factor in the TB epidemic in Cambodia (ibid, p72). The percentage of tested TB patients who were HIV positive fell from 8.2% in 2005 to 4.4% in 2012 (WHO Global TB Report 2013, p282). The MDR-TB rate rose from ~10.5% in 2006 to ~15% in 2013 among retreatment cases (Drug Resistance Survey, 2006-2007).

Geographic variations: Both prevalence surveys found geographic variations between urban and rural clusters. They showed statistically significant lower TB prevalence in Phnom Penh and provincial towns as compared to rural clusters. The main reasons for that could be the higher proportion of elderly people and poorer access to health services in rural areas. (Second National TB Prevalence Survey, Cambodia, 2011, p68).Elderly people had smear-positive TB prevalence rate of ~1,000 cases per 100,000populationand bacteriologically-positive TB prevalence rate of ~3,000 cases per 100,000population. These are about four times that of the general population(ibid, p58).The proportion of smear-positive TB among bacteriologically positive TB was higher in rural areas than in urban areas (35% vs 23%)(ibid, p56).Even within the provinces, districts and villages there are wide disparities. Hence,the program needs to target geographical areas that have the poorest access to healthcare by scaling upmeasures to address transportation and related

barriers, through micro-planningand geo-targeting.

b. Key populations that may have disproportionately low access to prevention and treatment services (and for HIV and TB, the availability of care and support services), and the contributing factors to this inequality.

According to a recent Cambodian study (Wong MK, WPSAR Volume 4, No 1, 2013), operational districts (ODs) that had high proportion of household poverty rates showed a significantly lower sputum-positive TB case notification rates (relative risk [RR] = 0.95 per 5% increase in poverty rate). The study suggested that the case notification rate could be low in poverty afflicted areas due to poor access to TB care, high costs associated with seeking healthcare and low awareness about TB. Among the 24 provinces, poverty incidence ranges from 11.6% in Phnom Penh to 35.5% in PreahVihear(Small Area Estimation of Poverty and Malnutrition in Cambodia, NIS MoH and UN WFP, 2013, p66).

Key affected populations (e.g.elderly, TB contacts including children, pregnant women, PLHIV, migrants, prisoners and indigenous people) face a number of barriers:

Economic barriers (cost factors): The key affected populations that have the highest poverty incidence have the poorest case notification rates due to low access to TB care. The general pattern of the poverty estimates in Cambodia is that poverty is comparatively low in Phnom Penh, slightly higher in the plains, river valleys, around the shores of the Tonle Sap and on the sea coast, but rises to higher levels in the northeast and in the internal areas away from the shore to the southwest of the TonleSap(Small Area Estimation of Poverty and Malnutrition in Cambodia, NIS MoH and UN WFP, 2013, p66).

Physical barriers (access factors): Percentage of women aged 15-49 years who reported that they have serious problems in accessing health care for themselves, when they are sick, ranged from 28.3% in Phnom Penh to 98.2% in Pursat. The contributory factorsincluded getting permission to go to the health centre, getting money for treatment, distance to health facility and not wanting to go alone (CDHS, 2010, p131). In addition, the prevalence survey showed that those who are 65 years and above have the poorestratio of prevalence and notification rates among all age-groups. This indicates a need for improving access and TB awareness among all age-groups, but especially among the elderly (65 years and above), because although they constitute about 4% of the population, they carryabout 24% of the bacteriological TB burden.

Structural barriers: A series of focus group discussions among key affected populationsin five provinces that have ahigh proportion of “missing cases” revealed that those withmost structural barriers are people living with HIV (PLHIV), the elderly, diabetics, pregnant women, prisoners and deported migrants (Country Dialogue for Concept Note Development, 2014). This indicates a need to work collaboratively across differentministries,departments, programs and agencies.

c. Key human rights barriers and gender inequalities that may impede access to health services.

Human rights barriers: Over 100,000 irregular cross-border migrants are deported to Cambodia every year from neighboring countries, mostly through the deportation point at Poi Pet. About 15-20% of them are detained for more than one month in other countries before deportation to Cambodia (Migration Health Project Cambodia: Information Sheet, 2013). This population often faces human rights issues, other populations that have similar challenges are those who are imprisoned across 27 prisons in the country. (Country Dialogue for Concept Note Development, 2014). This indicates a need to work across ministries at the highest levels and with NGOs.

Gender inequalities: One study found a stronger negative association between case notification rates and household poverty rates among males than females (RR = 0.93 versus 0.96 per 5% increase in poverty rate). This could be driven by the difference in

health-seeking behaviors between males and females since females tend to visit government health facilities more often as a result of their closer association with these facilities during pregnancy and childbirth (Wong MK, WPSAR Volume 4, No 1, 2013). The 2011 prevalence survey also indicated that more males sought medical care from pharmacies than females, while more females chose HCs than males(Second National TB Prevalence Survey, Cambodia, 2011; p59). In 2013, the ratio of TB notifications among malesand females was 1.2 although the ratio of prevalence rates among them was 1.5.

d. The health systems and community systems context in the country, including any constraints.

Health systems context

The National Tuberculosis Programme (NTP) uses the entire public health care delivery system. It includes the National Centre for Tuberculosis and Leprosy (CENAT) at the national level and all 25 provinces, 82 operational districts and 1,325health facilities. The health facilities include 86 referral hospitals and 1,215 health centers (HC) and health posts. In addition, there are 5 national hospitals, 5 military/police hospitals and 3 non-government organization (NGO) hospitals. Each level of the NTP has designated TB staff who are responsible for specific functions of the TB programme as described below:

Central level: Leadership and managerial responsibility for the NTP lies with the CENAT, which is manned by around 200 staff, of which 30 are working full-time for the NTP headquarters. There are focal points responsible for developing policies and plans, training, supervision, monitoring and evaluation, drug procurement for the whole country and coordinating with other partners supporting the NTP. The NTP is financed directly by the Ministry of Health and directly and indirectly by external partners. CENAT also houses a referral chest hospital with 130 beds and the National TB Reference Laboratory (NTRL).

Provincial level: Every province has two Provincial TB Supervisors, one Medical and the other for the laboratory. They are responsible for all TB services in the province, especially planning, training, coordination and providing oversight through regular supervision of the Operational Districts (OD), TB microscopy centres and HCs. In some provinces they are directly involved in the clinical care provided in MDR-TB Treatment Units.

Operational District level: Every OD has an OD TB Supervisor whose main responsibilities are to maintain the OD TB registry, and plan, train, coordinate and supervise HCs every month, and interact with the clinical teams caring for TB patients. ODs have referral hospitals, which have TB units with beds and TB microscopy centres. In all, there are 215 microscopy centresacross the country.

Health Centre level: In the HCs, cross-trained general health staff implement the DOTS strategy. Usually, at least two health staff in each HChave received three-day training on DOTS, including smear-making and are designated as TB health staff. Over 10% of all HCs, mostly former district hospitals, have TB microscopy centres. These HCs are staffed with 3-4 TB health staff including at least one responsible for the microscopy work.

Laboratory network: The National TB Reference Laboratory (NTRL) is considered part of the NTP and is located in the CENAT premises, under the authority of the Director. It has about 21 staff and is capable of isolation and culture of specimens, together with drug susceptibility testing (DST) for first-line drugs, and is responsible for planning, training and supervision of TB laboratory services. It is also responsible for the External Quality Assurance (EQA) of sputum microscopy services, at 215 microscopy centresnationwide. As well as the NTRL, the microscopy centres at Battambang and Kampong Cham perform TB cultures; but only NTRL and Kampong Cham perform DST.

Health systems constraints

Based on the country dialogue with all technical partners in April-May 2014, one major constraint that cut across all levels is the low morale of the staff due to low salaries, which affects supervision and service delivery. Other key constraints are listed below:

Central level: The NTP has not regularly discussed supervisory findings and program

performance at different levels, especially at the central level. Quarterly analytical feedback and follow-ups from the national level for improving program at the sub-national levels are inadequate.

National and referral hospitals: Collaboration with national hospitals is weak. The X-ray machines in referral hospitals often are either not working or have low quantities of consumables. GeneXpertmachines are not available widely for MDR-TB, PLHIV and other high risk groups. Infection control is a matter of concern in some MDR-TB treatment sites.

Laboratories: Turnaround time is often too long for reporting results of sputum (about 19days) and culture and DST (about 2 months). The programme under-diagnoses smear negative TB and over-diagnoses extra-pulmonary TB due to lack of access to X-ray and GeneXpert facilities. Eligibility criteria for diagnostic testing for drug-resistant TB needs to be expanded as, in theory,two-thirds of the estimated cases are considered “missing”.

Provincial and OD levels: They have inadequate funds for travel and telephone costs, which causes challenges with communication and liaising with community structures.

Health Centers: Monitoring of the program at HCs is inadequate due to lack of on-site supervisory support to promote use of key indicators for local decision-making. HCs have limited capacity for screening, sputum collection and smear preparation due to inadequate on-site guidance by TB supervisors (medical and laboratory). Outreach services to the communities including supervision of DOT watchers are critical but inadequate. Transportation of sputum and patients are critical, especially in areas with high poverty incidence and low healthcare access, but inadequately funded. Contact tracing is a national policy but it is insufficient. While two health stafffrom each HC have beentrained on TB using classroom training, midwives and other staff at HCs are often left out of such training. If the TB staff is absent, other staff may not assist TB symptomatics. Thereare no tools like simple posters and integrated flipcharts to help them to do TB awareness.

Community systems context

The NTP has mobilized support from a number of development partners (Sub-Recipients) for implementation of services at the most peripheral levels. Through Community DOTS (C-DOTS) and Private-Public Mix (PPM) initiatives, a network of community volunteers, usually members of the Village Health Support Groups (VHSGs), and private providers, especially pharmacists in urban and peri-urban areas, have been engaged to refer TB symptomatics to public health facilities and serve as treatment supporters (DOT watchers) for patients in their own communities.

Community-based TB activities are integrated with other health interventions such as maternal and child health and malariathat are supported by different technical and financial partners. These are conducted in line with the Community Participation Policy for Health (MoH,2003) through the VHSGs and Health Centre Management Committees (HCMCs). Two VHSG members per village were trained to refer TB symptomatics, collect and transport sputum specimens, conduct community sensitization, support patients on treatment, and collect drugs from the HC. The routine monthly or bi-monthly meetings of HCstaff with VHSGs at HCs are used for refreshing the basic knowledge and skills of the VHSGs about TB screening, diagnosis and treatment.

Community system constraints

Based on a series of focus group discussions (FGDs) with key affected populations and community representatives in April-May 2014 during the on-going Country Dialogue, the key community systems constraintsare briefly summarized below.

Community structures: VHSGs and HCMCsare not engaged adequately in community-based monitoring, advocacy and social mobilization. VHSGs have high workload due to silo-approaches and competition between different national programs and agencies for their time and efforts. VHSGs often have high turnover, which necessitates the continuous need for sensitizing them on the basics of different topics at their regular monthly or

bimonthly meetings at HCs. They are not adequately motivated. They do not have tools like flipcharts to help them.

TB symptomaticsand patients: People who have the highest TB risk are contacts of TB cases (including young children), PLHIV, and the elderly. Those who are the poorestoften incur catastrophic costs to travel to distant hospitals for X-rays, GeneXpert tests and clinical follow-ups. Elderly TB symptomaticsoftenface mobility problems or neglect their symptoms as "part of old age". Drug- resistant TB cases also face challenges of time and travel to distant diagnostic centres(GeneXpert sites) and MDR-TB treatment sites for multiple clinical follow-ups. The FGDs, mentioned earlier,highlighted the issues that key affected populations faced, such as: "the health staff were not friendly and responsive";"they demand money", and "they do not provide adequate information". Another fact was very few commune councils and health facilities have suggestion boxes.

Private pharmacists and clinics: They werethe first contact for about 43% of TB patients, as found during the 2011 prevalence survey. Unfortunately, they refer only about 2% of the TB patients despite past efforts with the private sector involvement (Tuberculosis Report 2012). This is because the people who participate in meetings and trainings are not usually the ones who are present in the pharmacies. Besides, the TB symptomatic referred by themalsoface some hassles at health facilities. Although the MoH has banned sale of drugs from private clinics and pharmacies, some pharmacies still have them, although in negligible quantities.Often providers at public and private facilities are the same and thus TB symptomaticsand patients are sometimes pushedfrom the public sector to private sector(Country Dialogue for Concept Note Development, 2014).

Prisoners and migrants: Migrants, especially those detained for more than one month in overcrowded detention centres, are not screened for TB symptoms on arrival at the two major deportation points in the country. The referral system between prisons and health facilities is weak.

Indigenous populations: They live in sparsely populated remote areas, usually in the North-Eastern provinces,where access to healthcare may bemore difficult. The remoteness is also a challenging factor for supervisors.

1.2 National Disease Strategic Plans

Withclearreferences to the current **national disease strategic plan(s)**and supporting documentation (include the name of the document and specific page reference), briefly summarize:

a. The key goals, objectives and priority program areas.
b. Implementationto date, including the main outcomes and impact achieved.
c. Limitations to implementation and any lessons learned that will inform future implementation. In particular, highlight how the inequalities and key constraints described in question1.1are being addressed.
d. The main areas of linkage to thenationalhealth strategy, including how implementation of thisstrategyimpacts relevant disease outcomes.
e. For standard HIV or TB funding requests[1], describe existing TB/HIV collaborative activities, including linkages between the respective national TB and HIV programs in areas such as: diagnostics, service delivery, information systems and monitoring and evaluation, capacity building, policy development and coordination processes.
f. Country processes for reviewing and revising the national disease strategic plan(s) and results of these assessments. Explain the process and timeline for the development of a new plan(if current one is valid for 18 months or less from

[1]Countries with high co-infection rates of HIV and TB must submit a TB and HIV concept note. Countries with high burden of TB/HIV are considered to have a high estimated TB/HIV incidence (in numbers) as well as high HIV positivity rate among people infected with TB.

funding request start date), including how key populations will be meaningfully engaged.

a. The key goals, objectives and priority program areas

The vision of the National Tuberculosis Program (NTP) is to improve the health of the Cambodian people by reducing the morbidity and mortality due to TB in order to contribute to the socio-economic development and poverty reduction in the country. The overall goal is to reduce the prevalence of bacteriologically positive TB cases by at least 5% and reduce the TB mortality by at least 5% for each year of the plan period(National Strategic Plan for Control of Tuberculosis, 2014-2020).

The key principles and the foundations on which the National Strategic Plan (NSP) for TB Control in Cambodia, 2014-2020 (NSP) was developed are closely aligned to global, regional and national strategies including the principles of aid effectiveness outlined in Paris and Accra. The NSP describes the linkages from the goals to objectives to strategic interventions to activities. The objectives related to the "three pillars" of the NTP are described below with strategies:

1. TB care and prevention: to scale up high quality integrated patient-centred TB care and prevention and respond to priority challenges to TB control including prisoners,PLHIV, pregnant women and children,contacts, diabetics, elderly, internal and external migrants as well as indigenous populations in order to achieve universal access for all patients.

Under the above objective, briefly the strategies are: (a) to ensure quality assurance of the basic DOTS services nationwide; (b) enhancement of laboratory performance and access to chest radiography; (c) nationwide expansion of systematic screening for all high risk groups; (d) expansion of infection control measures; (e) implementation of the full range of TB/HIV activities; (f) nationwide availability of programmatic management of drug-resistant TB; (g) improvement in TB services for pregnant women and children; (h) improvement of TB services in hospitals for seriously ill TB patients.

2. Policies and supportive systems:to provide strong leadership with clear policies and supportive systems including monitoring and evaluation, strong partnerships necessary to expand TB control, contribute to health and community systems strengthening, resource mobilization, and ensure adequate and competent human resources for TB control.

Under the above objective, briefly the strategies are: (a) to advocate for support from MoH and commitment from all levels of the health system; (b) engagement with partner agencies; (c) mobilize resources for human resources development; (d) nationwide engagement with community resources for an integrated community-based health care package of services; (e) consolidating Public-Private-Mix DOTS; (f) drug management; (g) health information management system and (h) surveillance, supervision and monitoring.

3. Intensified research and innovation: to promote the use of new diagnostic tools, interventions and strategies; and enhance operational research and innovation to generate evidence for policy formulation and implementation.

Under the above objective, briefly the strategies are: (a) to develop national research agenda for the TB Control Program; (b) capacity building on operational research; (c) carry out operational research to gather evidence-based information for decision-making.

These strategies will continue to reducethe prevalence of TB in Cambodia, byusing high impact interventions to enable service delivery to key affected populations. The main priority is to improve case-finding of drug-susceptible and drug-resistant TB among high risk groups (HRGs) including PLHIV. In order to achieve this, the NTP needs to address the barriers that TB symptomatics and patients face, especially economic, physical and structural barriers. This would be done using several approaches including a fast-track mechanism linking communities with diagnostic facilities and rapid reporting of results including using automated SMS technology for GeneXpert machines.

The total costed NSP (2014-2020) for seven years is estimated to be around US$ 200 million and the total need for three years (2015-2017) would be around US$ 87.4 million. Domestic contribution would be US$ 8.3 million and from partners, around US$ 17.8 million for three years (2015-2017).The proposed funding request to the Global Fund for two and a half years (January 2015-June 2017) is for around US$ 29 million.

b. Implementation to date, including the main outcomes and impact achieved.

Decentralization of DOTS from Hospitals to Health Centres(HCs) to Community-DOTS:

- The rapid expansion of DOTS to all existing HCs during 2001-2004, witnessed the highest number of TB symptomatics examined with the population screening rate going up from 0.43% to 1.04% and the peaking up of the case notification rateof smear positive TB cases in 2005 to 157/100,000 population. Prior to that DOTS was available only in referral hospitals and at a few HCs.
- This strategy to decentralize DOTS, with increased case finding efforts, played a huge role in Cambodia's achievement of the WHO global targets in 2005, namely 70% case detection rate, 85% treatment success and 100% DOTS coverage.
- By 2013, DOTS was available at 1,314 health facilities in the country, including 1,089 HCs. The national average population TB screening rate was 1.1% with the number of TB symptomatics examined by smear microscopy reaching 168,493.
- In 2013, C-DOTS activities contributed to the referral of 46,000 TB symptomaticsfor screening which yielded 4,717 cases of TB (all forms) including 3,206 new smear positive TB cases. Both the above strategies to decentralize TB services led to significant doubling of case notifications between 2001 and 2011 (Joint Review of the National TB Programme 2012, p10).
- In 2013, the number of TB cases (new and relapse) notified to the NTP reached 37,743 which included 14,082 new bacteriologically confirmed cases. The treatment success rate has been sustained over the years and remains above 90% (Tuberculosis Report 2013, Kingdom of Cambodia, Ministry of Health).

TB/HIV collaboration: TB/HIV collaboration started in 2003 with four pilot projects. The 2004 WHO Interim Policy for TB/HIV Collaborative Activities and the Memorandum of Understanding signed in 2006 between the two programmes, clarified the respective responsibilities and facilitated the implementation of joint activities. The National AIDS Programme (NAP) has 61 Pre-ART/ART sites in 50/82 ODs in 21/25 provinces. Since 2009, the number and percentage of HIV positive TB patients has consistently decreased every year, demonstrating the impact of TB/HIV collaborative activities. In 2013, number and percentage of HIV positive TB patients was 1,241 and 3.8% respectively and the percentage of TB patients with known HIV status was 82.7%; 88% of TB/HIV co-infected patients were put on ART and number of PLHIV on IPT was 1343.(Tuberculosis Report 2013, Kingdom of Cambodia, MoH).

Private-Public Mix DOTS: The PPM-DOTS model involved referral of symptomatic TB cases by private providers, e.g., pharmacies and clinics, to public health facilities for diagnosis and treatment. By 2013, PPM-DOTS had been implemented in 35 ODs and contributed to the referral of 6,000 TB symptomatics, out of which 660 were diagnosed as TB cases (Tuberculosis Report 2013, Kingdom of Cambodia, MoH)

TB in Prisons: In 2008, the SOP for implementing TB in prisons was developed. Apilot project was startedin the same year at the main prison in Phnom Penh with capacity building of the prison health staff. In 2013, TB services were available in 22 prisons out of 27 covering almost 15,000 prison inmates and 299 TB cases among them were notified to the NTP (Tuberculosis Report 2013, Kingdom of Cambodia).

MDR-TB: Since 2006, pilot projects on MDR-TB, approved by the Green Light Committee (GLC) were implemented in a few sites by NGOs jointly with CENAT. The GLC approved CENAT for procurement of concessionally-priced second line drugs. In 2011, the National MDR-TB project was launched by CENAT with support from its partners at 11 MDR-TB

treatment sites. In 2013, the proportion of all eligible MDR-TB symptomatics from all notified cases that receive DST was over 80% while the number of RR/MDR-TB cases notified to the NTP was 121. The treatment success rate was 68% in 2012 for the 2010 cohort.Management Sciences for Health (MSH), under the TB CARE I project funded by USAID, has supported the e-TB manager as the current M&E tool for PMDT.

Childhood TB: In 2008, the national guidelines for childhood TB were developed. Pilot projects were implemented in 6 ODs with training of health staff, streamlining the referral process, systematic contact tracing, intensified supportive supervision anda grant of anti-TB drugs fromthe Global Drug Facility (GDF). The proportion of children notified under the NTP increased from around 1% in 2000 to nearly 10 % of the total cases notified in 2009. In 2013,27 ODs are implementing Childhood TB services and a total of 6,916 children had been diagnosed and treated with active TB.

TB in migrants: Under the TB-REACH funded project, the International Organization for Migration (IOM) conducted active case finding among irregular migrants deported from Thailand between 2012 and 2013 (I year). The project screened 11,604 migrants and found 140 cases of all forms of TB and 50 cases with smear positive TB.

TB in diabetics: Those with diabetes are three times as likely to have active TB disease as are non-diabetics and TB patients with diabetes are likely to have poor treatment outcomes. A cross-sectional survey was conducted by CENAT and URC to determine the TB prevalence among diabetic patients in Prey Veng and Siem Reap provinces; active TB was identified in 0.7% and 4.4% of the diabetics in respective sites.

Active case finding (ACF) in high riskgroups (HRGs): Since 2005, ACF among the HRGs(PLHIV, contacts of TB, elderly) including diabetics, migrants and prison inmates is being done. Recently, the NTP has used multi-symptom screening, smear microscopy, chest X-rays and GeneXpert. A study showed that more than half of *actively* detected patients were older than 55 years of age compared to around one third of *passively* detected patients being older than 55 years of age (*Eang et al. BMC Public Health 2012, 12:469).*ACF hasbeen contributingto about 7-10% of the cases by targeting hard-to-reach populationsusing mobile X-ray and laboratory facilities.The success of ACF indicates that lack of access to diagnostic facilities is a major barrier.

Laboratory network: The laboratory network comprising of 215microscopy centres is supervised by the National TB Laboratory under CENAT. The proportion of laboratories achieving acceptable performance on external quality assurance (EQA) has been maintained at 90% for a number of years. The GeneXpert MTB/RIF technology was introduced in 2011 and is being used for diagnosis of TB in HRGs and MDR-TB symptomatics. Currently, in 11 sites, GeneXpert machines are being used in routine services. In 2013, 168,493 TB symptomaticswere examined by smear microscopy with a smear positivity rate of 7.9%. The conversion rates at 2/3 months and 5 months were 95% and 98%, respectively.

Drug management: Adequate mobilization of resources, both external and domestic, and timely procurement has ensured uninterrupted supply of quality-assured anti-TB drugs for adults, both first line and second line anti-TB drugs and for children, through direct procurement from WHO pre-qualified suppliers through Global Fund, as well as grants from the GDF. There have been no national “stock-outs” so far.

Impact achieved: The two National TB Prevalence Surveys (2002, 2011) provided an accurate assessment of the health impact of TB control by HC-DOTS and C-DOTS during 2002-2011; the prevalence of smear-positive TB fell from 440 to 272 per 100 000 population in those 15 years of age and above, a reduction of 38%, while the prevalence of bacteriologically positive TB declined from 1497 to 820 per 100,000 population, a reduction of 45%. By 2011, Cambodia had achieved the Millennium Development Goals (MDG) of reducing TB prevalence and mortality by 50%, four years earlier than the target date of 2015 (Global TB Report, 2012). Prevalence of HIV among TB patients fell from 11.8% in 2003 to 6.3% in 2009 as the general population prevalence of HIV declined from 2% in 1996-1999 to 0.6% in 2011-2012. However, MDR-TB rates among retreatment

cases rose from 10.5% in 2006 (DRS, 2006-2007) to 15% in 2013 (routine data), which necessitates rapid expansion of GeneXpert testing.

c. Limitations to implementation and any lessons learned

Among the programmatic challenges to case detection, three factors that emerged from the survey (Second National Tuberculosis Prevalence Survey Cambodia, 2011, p9) are:

1. Smear negative/culture positive TB cases are more than twice as prevalent as smear positive TB cases. This necessitates rapid expansion of GeneXpert as the first diagnostic tool for the highest risk groups of elderly, contacts and PLHIV, and X-ray for those who are not among the highest risk groups.
2. Atypically symptomatic patients, i.e. those without cough>2weeks, or hemoptysis, were less likely to seek medical care, but account for 56% smear positive TB cases and 77% of smear negative/culture positive TB cases. This necessitates multi-symptom community-based screening of the highest risk groups of elderly, contacts and PLHIV followed by use of a fast-track mechanism for linking communities and peripheral health facilities with diagnostic centres and rapid reporting including using automated SMS technology with GeneXpert machines.
3. Prevalence rates were high in middle-aged and elderly, particularly the latter, for males and females alike, but case notifications were relatively lower in them. Mobility and negligence of symptoms are the two main reasons for poor prevalence-notification ratios among the elderly. This necessitates use of the existing community structures of village health support groups, health centre management committees and pagodas to reach out to the “missing” TB cases.

Based on the findings of 2011 prevalence survey, the NTP conducted a nationwide training in late 2013 to use the multi-symptom approach or the “four-symptom screening approach” to screen TB symptomatics, namely cough, fever, night sweats and loss of weight, to capture missing cases. Besides screeningHRGs(PLHIV, contacts of TB patients and the elderly), the high proportion of extra-pulmonary TB cases (EPTB) notified in children is being addressed by the NTP through supervision and onsite training of TB staff. Active case findinghas been implemented in a limited manner in the past with encouraging results.

Addressing health system constraints:

Central, provincial and OD levels: Using Herzberg theory of motivation, the NTP will continue to address factors of low motivation by topping the salary (through performance-based incentives)and cascade-supervision from all levels to all levels. The NTP also plans to providetrue motivators throughsupportive leadership, recognition for good work, decentralizing and delegating full units of work and opportunities for advancement and growth. The NTP top level management will conductregularlyinternal staff meetings to address these issues collectively, as suggested during Country Dialogue.

National and referral hospitals: The NTP will continue to supply consumables for X-ray units and expand the use of GeneXpert machinestoall referral hospitals.Diagnosis of TB in PLHIV has been a problem because access to GeneXpert site is limited to only 11 sites in country.The NTP plans to improve accessandfast-track the process through community and health facility transportsystems for sputum andsymptomatics.

Laboratories: Mobile phones were used in twoODs to expedite the turnaround time for reporting sputum results. This reduced the delays between sputum collection and starting treatment in the pilot areas from about 19 days to about 10 days. NTP plans to address this issue further by using fast-track transportsystemsand GeneXpert SMS Automated reporting of results, while maintaining patient confidentiality.

Health Centers (HCs): An internal review had shown that only 74% of HCs are visited by OD supervisors at the recommended frequency. NTP plans to train all supervisors during their quarterly meetings to delivera package of services at HCs during their supervisory visits including on-site mentoring not just to the two TB staff in each HCbut to all

staffincludingmidwives. Provincial Laboratory Supervisors,besides working on quality assurance,will also address issues related to sputum collection, smear-making and on reducing the turnaround time for reporting. NGO Coordinators have been liaising between HCs and communities for TB awareness. However, now CSS Coordinators, hired by NGOs, will be responsible for more strategic areas includingconductingFGDs with KAPs, setting up fast-track community and health-facility transport mechanisms, troubleshooting these mechanisms and empoweringVHSGs, HCMCs and pagoda monks.

Addressing community system constraints through integrated activities

Community structures: Currently, VHSG volunteers receive on-site orientation for symptom screening, referring TB symptomaticsfor testing, providing DOT to patients and monitoring treatment compliance. Now they will also be responsible for arranging the community transport of sputum and symptomaticsfor theHRGs. Currently, VHSGs are sensitizedon basic TB topics in separate meetings. Now these meetings at HCs would give opportunities to include other topics (e.g. maternal and child health, nutrition, immunization) as well. Currently, pagodas and HCMCs are minimally involved. NowCSS Coordinators (NGOs) willsensitize them about TB and request them to reach out to the elderly and male populations, who have more number of missing cases.

TB symptomatics and patients: Active case finding (using mobile laboratory and Xray facilities) and enhanced case finding (using community awareness and specimen transport) among TB contacts and the elderly are being done by the NTP on a limited scale in difficult-to-reach areas. One-off ACF help to mop-up missing prevalent TB cases but they do not have sustained impact. Hence, CSS Coordinators with assist the OD TB Supervisors and HC staff to work with VHSGs, HCMCs and pagodas to focus more on sustained enhanced case-finding. This will entail four-symptom screening of the three HRGs mentioned earlier followed by sending sputum directly to GeneXpert sites using community-based transport systems and rapid reporting of results from GeneXpert machines linked to automated SMS technology.

Private pharmacists and clinics: In 2011, the MoH banned the sale of anti-TB drugs from private clinics and pharmacies which has pushed the availability to a negligible level after 2012, according to GDF missions to Cambodia. The 2011 Prevalence Survey showed that although about 43% TB patients had contacted the private sector, only about 10% of them had received TB treatment from them. Despite many years of PPM activities, only about 2% of the TB patients are documented to have been referred by them. The rest either remain missing from case notifications or arrive late at public facilities through self-referrals, rather than PPM referrals. Hence, direct engagement with the communities and introduction of community-based transport systems are required to minimize delays and difficulties of accessing public health facilities.

Prisoners: The NTP needs to continue to support the prison inmates with the facility-based transport system to refer specimens to HCs and referral hospitals. In addition, ACF in prisons using mobile X-ray and laboratory units must continue to mop-up prevalent cases.

Migrants: The international Organization for Migration (IOM) under the TBREACH project has piloted the medical screening of irregular migrants, especially those detained for more than 1 month. The project screened 11,604 migrants and found 140 cases of all forms of TB and 50 cases with smear positive TB. Asdeportations happen usually at night, IOM is seeking funds from the USAID to set up a day-night clinic at Poipet near the Thai border.

Indigenous populations: In 2012-2013, the government increased the number of health posts in provinces where indigenous people reside. Although their populations are small, the NTP will continue to reach out to them through local community-based organizations and community volunteers to increase TB awareness and to improve access to TB care.

d. The main areas of linkage to the national health strategy, including how implementation of this strategy impacts relevant disease outcomes.

The TB control policies and strategies in Cambodia stated in the NSP (2014-2020), are closely aligned with the communicable disease priorities of the Second National Health

Strategic Plan (HSP), 2008-2015 and within the wider National Strategic Development Plan (NSDP), 2014-2018 of the country.

The policy directions stated in the HSP related to national ownership, coordination and accountability are reflected in the leadership provided by the CENAT and the coordination with partners through the Sub-Technical Working Group for TBpreviously known as the Inter-Agency Coordination Committee (ICC), which meets on a regular basis. Decentralization of health services close to the people, including improved quality of health services, pro-poor financing through the Health Equity Funds and community engagement in service delivery are reinforced in the NSP through the provision of Community DOTS, free TB care, financial support for poor TB symptomatics and patients and the use of community structures, e.g.,Health Centre Management Committees (HCMC) and Village Health Support Group (VHSG) members for providing free DOTS.

Strategies in the HSP that integrate and coordinate vertical approaches of the national health programs (TB, HIV, malaria, etc.) are related to joint planning process (through the Technical Working Group under the Director General, MoH); reinforcing health legislation (e.g. ban on sale of TB drugs in the private pharmacies), establishing new health facilities for un-reached populations (to facilitate DOTS expansion to new HCs), human resources (distribution of health staff, capacity building, payment to TB staff); HIMS (electronic data management, disease surveillance, supervision and M&E); procurement of quality assured drugs (QA tests for TB drugs through the DDF and CMS); and supply chain management (delivery of TB drugs to health facilities through the central medical stores of the MoH) and strengtheningcommunitystructures in providing DOTS.

e. For standard HIV or TB funding requests, describe existing TB/HIV collaborative activities,

Policy development and coordination process: Guided by the 2004 WHO interim policy for TB/HIV collaborative activities and guidelines, a memorandum of understanding (MOU) was signed in 2006, which clarified the responsibilities between the two programs and facilitated implementation of joint activities. The TB/HIV Framework and the TB/HIV Clinical Guidelines, followed in 2010 by the Standard Operating Procedures (SOP) on the 3"I"s strategy namely, Intensified TB case-finding among PLHIV, Isoniazid Prophylactic Therapy (IPT) and Infection Control,gave a further boost to TB/HIV collaboration.

Screening and diagnostics: The 3"I"s strategy was implemented in mid-2010 in a gradually phased manner to cover all the 61 Pre-ART/ART sites. Since the installation of GeneXpert machines, recommended by WHO as the first test for PLHIV, TB diagnostic workup for PLHIV has been conducted since 2012 at two sites (supported by US-CDC) where GeneXperts were located (Battambang and BanteayMeanchey).The above training for physicians and nurses on TB diagnosis and management at the Pre-ART/ART sites would be expanded to all sites.Point of care testing for HIV using finger prickwill be started in 2015 at the HC level; this will obviate the need to transport blood samples of TB patients from HCs to VCCT centres.

In 2013, the proportion of registered TB patients with known HIV status was the highest at 82.7%; however, the proportion of registered TB patients with known HIV statusat the national hospitals was only 59.2%.The NTP plans to strengthen the hospital linkages by identifying one doctor and one nurse in each hospital as focal persons for 'institutional' intensified case finding, quality in-patient care and all TB-related coordination activities, by paying nominal incentives. The number of PLHIV screened for TB was 3,287 and those who diagnosed with TB was 856 (26%).The number and percentage of HIV positive TB patients was 1,241 and 3.8% respectively (Annual TB Report 2013, Cambodia).

Treatment and service delivery:In 2013, the percentage of HIV-associated TB cases receiving CPT and ART were both around 89% and the number of PLHIV on IPT was 1,343.The inclusion of a TB physician in most Pre-ART/ART teams has helped in expediting the early initiation of DOTS for co-infected patients. NTP plans to conduct clinical discussions on a quarterlybasis before an expert panel to help resolve problems related to diagnosis, co-morbidity issues and treatment outcomes.

Information systems and monitoring and evaluation: Since both programs have different data management systems, Joint Program Reviews have recommended the harmonization of data collection, validation and analysis at all levels. To address this, joint supervision by the supervisors from both programmeswill be scaled upto improve quality of data collection, cross-programme verification and analysis, along with onsite mentoring to improve recording and reporting of TB/HIV activities at health facilities. Previously, joint supervision was limited to few provinces supported by US-CDC.

f. Country processes for reviewing and revising the national disease strategic plan(s) and results of these assessments.

The draft of the National Strategic Plan (NSP) for TB control (2014-2020) has been through several rounds of consultation with the TB Inter-agency Coordination Committee (TB-ICC), to validate its technical soundness. In February 2014, Cambodia conducted a national consultative meeting with many international, national and subnational partners, including many representatives from key affected populations to discuss the draft NSP.

In addition, the WHO conducted a Joint Assessment of the National Strategy (JANS) using the JANS tool and guideline of IHP+ (12-16 May 2014)through an external consultant, who worked with the local team. The main recommendations of the JANS were as follows:

- Provide more details and explanation on each intervention and flow of activities
- Mention cost-effectiveness analysis to document selection and prioritization of interventions
- Describe regulation and possible gaps, governance, civil society inputs and participation, RDQA implementation and vital registration
- Review indicator on “presumed case indicator” and indicators on case finding and treatment outcome by each risk group
- Highlight innovative approaches like GeneXpert, electronic recording and reporting, short MDR course, digital X-ray+CAD, and mobile health team with digital X-ray
- Mention HSS interventions suchasannual operational planning, digital X-ray, laboratory courier transport, vital registration, web-based HMIS

The in-depth analysis using JANS attributes resulted in proposed improvements of the NSP, made in parallel with the concept note development. The TB-ICC will review it again in late June 2014, before submission to the MoH/Council of Ministers for endorsement.

SECTION 2: FUNDING LANDSCAPE, ADDITIONALITY AND SUSTAINABILITY

To achieve lasting impact against the three diseases, financial commitments from domestic sources must play a key role in a national strategy. Global Fund allocates resources whichare far from sufficient to address the full cost of a technically sound program. It is therefore critical to assess how the funding requested fits within the overall funding landscape and how the national government plans to commit increased resources to the national disease program and health sector each year.

2.1 Overall Funding Landscape for Upcoming Implementation Period

In order to understand the overall funding landscape of the national program and how this funding request fits within this, briefly describe:

a. The availability of funds for each program area and the source of such funding (government and/or donor). Highlight any program areas that are adequately resourced (and are therefore not included in the request to the Global Fund).

b. How the proposed Global Fund investment has leveraged other donor resources.

c. For program areas that have significant funding gaps, planned actions to address

these gaps.

Availability and source of funds for each program area (current and future)

Domestic funding from the government will continue to support salaries of government staff at all levels directly. In addition, domestic funding will continue to support the general health system, in which the NTP is embedded. The NTP is an integral part of the general health system for many aspects of program delivery, including human resources, infrastructure, logistics, hospital care, laboratories, distribution of drugsand service delivery.

TB CARE project of USAID will end in 2014. The USAID has reassured the NTP of its continued support in the future, although the detailed plans for the new project (called Challenge TB)are still being worked out and hence remain unclear. In addition, the USAID is likely to continue helping at health centre and community levels in nine provinces (18 ODs) through local and international NGOs. Hence, funding for these ODs is excludedfrom this Concept Note – to avoid duplication for activities related to NGO involvement,fast-track diagnostic services and involvement of VHSGs, HCMCs and pagodas,.

US-CDC, another partner, provides TA and related support for the laboratory and TB/HIV activities in four provinces.Their budget line is merged with the USAID budget line in the Financial Gap Analysis and Counterpart Financing Table of the online tool.

MSF-F will continue to support the Kampong Cham Hospital and Laboratory, especially by providing technical assistance and mentorship to the hospital staff and conducting limited number of community-activities, especially related to MDR-TB in one province. This is adequately resourced in 2014-2015 but their funding is uncertain after 2015. NTP takes care to avoid any duplication.

Operation Asha may continue to support community-based activities in a limited number of operational districts of one province besides providing technical support to the health staff of that area. Their funding is small and uncertain because they depend on small philanthropic donors.

The WHO will continue to provide technical leadership, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support and monitoring and assessing health trends. The WHO will continue to provide technical support through its in-country Medical Officer (Stop TB) and two local consultants (one for MDR-TB and another for quality assurance of laboratories).The USAID TB CARE project, which will end in 2014, provides about 50% of the cost of these positions. These positions have no other earmarked source of funding. Hence, this Concept Note includes the costs of these positions on a cost-sharing basis of about 50% using above allocation amountbecause of the vital support that they provide to Global Fund grant implementation.

Currently, the WHO, through its TB REACH project, is also providing funds for active case finding in a few operational districts. This will end in 2014, and future funding is uncertain. If TB REACH continues, the NTP will encourage its NGO partners to seek funds from there for active case finding to complement passive case finding.Active case finding is not included in this Concept Note except for ACF in prisons.

The Global Drug Facility (GDF) has been providing grants in the past for pediatric and adult anti-TB drugs.The funding from the current GDF grant will be adequate to cover procurement of first-line drugs for adults for use during the period from 2015 to mid-2017. However, we need to purchase drugs in mid-2016 for use during the period after mid-2017. We have put this in the above-allocation.GDF support for pediatric drugs ended in 2013.We will seek funds from different sources including the government in 2016 for the procurement of childhood TB drugs to be used in 2017.

How Global Fund has leveraged other donor resources

As mentioned above, other donors continue to fund innovative activities in limited areas, in a project-mode rather than program-mode. The outcomes of those projects serve to inform

the NTP with evidence, and helps in decision-making and for mainstreaming the successful ones.Some activities in this Concept Note were tried and tested in such projects, funded by other donors, e.g., ACF for TB in prisons, SMS technology for rapid reporting. Training for piloting Patient Centred Care (PCA) was carried out by KNCV under the TB CARE project. Its results have helped to design the National Strategic Plan and this Concept Note. The use of digital X-rays in one provincial referral hospital is being pilot-tested from mid-2014 through another partner (JATA).

Program areas that have significant funding gaps and plans to address these gaps

The program areas that have significant funding gaps are:TB care and prevention, TB/HIV, MDR-TB,community system strengthening, health information system and M&E, and program management. USAID will provide support for some community-related activities in 18 ODs only, while some partners will provide support for TA and related activities in other areas. Hence, relevant activities of partners in those areas have been excluded from this concept note to avoid duplication.

The threecore and three support modulesstated above andproposed in this Concept Notereflect the national priorities as outlined in the NSP (2014-2020) and therefore the funding request to the Global Fund is for a strategic investment. The modules include the prioritized highest impact interventions that need additional support through both allocation amount and above allocation amount from the Global Fund to battle against TB more aggressively and get Cambodia off the list of those countries that have the highestTB prevalence and mortality rates in the world.

The total costed NSP (2014-2020) for seven years is estimated to be around US$ 200 million and the total need for three years (2015-2017) would be around US$ 87.4 million. Domestic contribution would be US$ 8.3 million and from partners, around US$ 17.8 million for three years (2015-2017). The total funding gap is US$ 61.3 million (70%). The proposed funding request to the Global Fund for two and a half years (January 2015-June 2017) is for around US$ 29 million.

2.2Counterpart Financing Requirements

Complete the Financial Gap Analysis and Counterpart Financing Table (Table1). The counterpart financing requirements are set forth in the Global Fund Eligibility and Counterpart Financing Policy.

a. Indicate below whether the counterpart financing requirements have been met. If not, provide a justification that includes actions planned during implementation to reach compliance.

Counterpart Financing Requirements	Compliant?	If not, provide a brief justification and planned actions
i. Availability of reliable data to assess compliance	☐√Yes	Availability of reliable information when the National Health Accounts (NHA)arefinalizedby August-September 2014
ii. Minimum threshold government contribution to disease program (low income-5%, lower lower-middle income-20%, upper lower-middle income-40%, upper middle income-60%)	☐√Yes	The minimum threshold (5%) has been met

iii. Increasing government contribution to disease program	☐√Yes	2015-US$ 3.6 million (*includes additional amount for building construction*) 2016-US$ 2.3 million 2017-US$ 2.5 million

1. Compared to previous years, what additional government investments are committed to the national programs in the next implementation period that counts towards accessing the willingness-to-pay allocation from the Global Fund. Clearly specify the interventions or activities that are expected to be financed by the additional government resources and indicate how realization of these commitments will be tracked and reported.
2. Provide an assessment of the completeness and reliability of financial data reported, including any assumptions and caveats associated with the figures.

b. As mentioned earlier, domestic funding supports salaries of government staff at all levels. These specifically include the salaries of 161 staff members in CENAT (central level), 50 provincial medical and laboratory supervisors, 44 MDR-TB staff members in 11 treatment sites, 82 OD supervisors, over 430 laboratory technicians in 215 laboratories and over 2,000 health staff posted at HCsand health posts. In addition, many other government staff members provide their time and efforts for TB control on a part-time basis.

   The NTP is an integral part of the general health system for many aspects of program delivery, including human resources, infrastructure, logistics, hospital care, laboratoriesand service delivery. Hence, the government continues to spend significant amounts on the program indirectly. The government has been spending about USD 1.5-1.9 million per year in the past few years.

   In 2015, the government budget for the NTP includes the construction of a building at the CENAT. The total government commitment, in addition to the regular contribution for TB staff salaries and operational costs at the central level, would be about US$ 3.6 million in that year.

   Thereafter, for the subsequent two years, the government budget for the NTP at the central level for salaries of TB staff and operational costs would be about US$ 2.3 million in 2016 and US$ 2.5 million in 2017, respectively.

   Thus, the government will contribute USD 3.18 million additional amount,as “direct” domestic funding for the program in 2015-2017 compared to that in 2012-2014, as its willingness-to-pay.

c. Theabove figures were obtained from the CENAT based on communication from the MoH. However, once the production of the National Health Accounts (NHA) which has been carried out over the past several months is completed, more information would be available. The NHA includes a breakdown by disease and by source (e.g. government, donors, households, health insurance).The MoH is planning to produce NHA on an annual basis.

SECTION 3: FUNDING REQUEST TO THE GLOBAL FUND

This section detailsthe request for funding and how the investment is strategicallytargeted to achieve greater impact on the disease and health systems**.**Itrequests an analysis of the key programmatic gaps, which forms the basis upon which the request is prioritized. The modular template (Table 3) organizes the request to clearly link the selected modules of interventions to the goals and objectives of the program, and associates these with indicators, targets, and costs.

3.1 Programmatic Gap Analysis

A programmatic gap analysis needs to be conducted for the three to six priority modules within the applicant's funding request.

Complete a programmatic gap table (Table2) detailing the quantifiable priority modules within the applicant's funding request.Ensure that the coverage levels for the priority modules selected are consistent with the coverage targets in section D of the modular template (Table3).

Foranyselectedprioritymodulesthatare difficult to quantify (i.e. not service delivery modules), explain the gaps, the types of activities in place, the populations or groups involved, and the current funding sources and gaps.

Programmatic gap analysis for core modules

The threecore modules that we have chosen are:

1. TB care and prevention
2. TB-HIV
3. MDRTB

These are described below:

1. TB care and prevention

Programmatic gaps:Cambodia is missing about 34% of the estimated TB patients, although those patients who are put on treatment have a very high treatment success rate (over 90%). Most of the missing cases are bacteriologically positive but smear negative (about two-third of all pulmonary cases), which makes it challenging to find the cases using sputum microscopy alone. They are also those who have atypical symptoms of TB (about two-third of the cases), which makes it challenging to find the cases using the traditional screening of cough of more than two weeks alone.

Types of activities in place: With the current amounts of funding, Cambodia is able to run only routine activities of passive screening, diagnosis and treatment.

Populations or groups involved:As mentioned earlier, a study conducted in Cambodia showed that most of these missing cases are in communes that have the highest household poverty rates, and especially among the elderly males of these communes. Every province has pockets of such poor communes, but some of them have more such communes.

Current funding sources and gaps:Current funding is inadequate for systematic screening of high risk and vulnerable populations. Projects funded by TB REACH and TB CARE have helped to do some systematic screening in the past, with net yields of as much as 18% compared to comparator populations. However, their funding has been for short-term projects only rather than for mainstream programs.Such projects generate useful evidence and then expect the National TB Program to mainstream the activities using Global Fund and domestic funding.

2. TB-HIV

Programmatic gaps:The HIV testing of TB patients and TB screening of people living with HIV are very high (about 80%). However, the main challengesare that the TB symptomatics and patients have to spend considerable time and money to access care because the HIV and TB facilities are usually not co-located (e.g.,Xpert testing).

Types of activities in place: HIV testing of TB patients may improve from about 80% to over 90% very soon, for lesser time and cost to patients, because of rapid expansion of

point-of-care testing. However, the challenge that remains is the diagnosis of TB among those PLHIV who are screened for TB and found to be symptomatic. Xpert testing is still difficult to access for most of them because the country has about 60 pre-ART / ART sites but only about 11 Xpert testing sites. Transporting patients and the or specimens for testing is very challenging.

Populations or groups involved: People living with HIV and TB patients, who are enrolled at health facilities.

Current funding sources and gaps:Currently, we have only the Global Fund, and a very small amount from TB CARE for TB-HIV activities. The main funding gap is for expansion of Xpert testing, and for overcoming the barriers of time, distance and cost to the affected groups.

3. MDR TB

Programmatic gaps:The main programmatic gap is that we have not conducted a drug resistance survey (DRS) since 2006. The WHO estimates that we may be missing about two-third of the MDRTB cases. The program is already testing about 80% of the eligible MDRTB symptomatics. We plan to expand this criteria to other high risk groups (e.g., prison inmates, drug addicts, sputum non-converters at any time after two months of treatment) when we scale-up Xpert testing. Thereby we may be able to find more MDRTB cases.

Types of activities in place: Currently, we use passive case finding for drug resistant TB.

Populations or groups involved: We screen the eligible MDRTB symptomatics from the notified cases.

Current funding sources and gaps:The Global Fund has been the main source. TB CARE has funded one NGO (CHC) in the past for community-based programmatic management of drug resistant TB (PMDT). However, TB CARE will end in 2014. They have suggested to the program to mainstream this aspect of PMDT into the National TB Program. Just like all project-based funding, TB CARE also encourages experimentation followed by mainstreaming.

Programmatic gap analysis for priority support modules

The three priority support modules which are difficult to quantifyare described below:

1.Health information system and M&E

2.Community system strengthening (CSS)

3.Program management

1. Health information system and M&E

Programmatic gaps

Based on findings of the country dialogue, one important challenge that TB symptomatics and patients face is the delays in getting diagnostic results for drug-susceptible as well as drug-resistant TB. This gap is because of challenges of transportation to distant facilities and related costs. Another gap emphasized during the community dialogue is the need to focus on quality aspects of recording and reporting. The reporting still uses paper-based methods combined with use of emails from some provinces. This does not allow for micro-analysis and micro-planning, which are essential to geo-target resources.

Types of activities in place

Currently, the Global Fund has been supporting routine recording and reporting. In the recent past, USAID had supported a successful innovation that used SMS technology to

reduce the time interval between sputum smear collection and TB treatment considerably, in a limited geographical area. The turn-around time from sputum collection to starting treatment reduced from about 19 days to about 10 days in the pilot areas. This needs to be shortened further.

Populations or groups involved

The groups that the HIS and M&E module covers are the supervisors and health staff at different levels.

Current funding sources and gaps

Currently, the Global Fund is the main source of funds for this module. However, it does not fund mobile communications and internet connections that are required for rapid sharing of diagnostic results from Xpert and sputum microscopy facilities with health staff and TB symptomatics. e-TB manager has been set up with support from MSH in 11 MDRTB treatment sites using USAID TB CARE.. In about 2-3 years, USAID may support case-based TB reporting using integrated health information system.

2. Community System Strengthening (CSS)

Programmatic gaps

Based on program data and a series of focus group discussions with key affected populations and community structures in April-May 2014, the most challenging programmatic gaps are the economic, physical and structural barriers that the most vulnerable populations face in seeking health services in general and TB care in particular. TB symptomatics and patients especially those who are poor and near-poor, face catastrophic costsincluding transport, especially thosewho are above 65 years of age).They also face delays in receiving diagnostic results and delays in initiation of treatment. As also mentioned in the Portfolio Analysis of the Global Fund, community structures exist, but different national programs and agencies engage with them using “silo-approaches”. NTP has designed a new package of services under CSS based on an innovative approach, moving towards cross-cutting HSS and away from the narrow scope of Community-DOTS. This initiative will meet the need to engage communities and other programmeswith greater harmonization and integration which will be beneficial to all.

Types of activities in place

Cambodia already has a network of community structures in the form of village health support groups (VHSGs) and health centre management committees (HCMCs). Government policies require them to meet at HCs every month and every quarter respectively to discuss health programs. However, funds are often limited for this and hence HCs conduct them only when they have funds.

To overcome the economic and physical barriers, the Global Fund has been hiring NGO coordinators (SRs) who liaise with these community structures to transport sputum from communities to HCs and drugs from HCsto the communities (once in a fortnight). In addition, the NTP has been collaborating with different programs, agencies and sectors to screen PLHIV, migrants, prisoners, people who seek care from private facilities and indigenous populations. This needs to continue and intensify. Cambodia also has a huge network of pagodas and monks down to the level of villages. The NTP will initiate activities through them to target the elderly populations that gather in pagodas regularly.

Populations or groups involved

As mentioned above, the new package of services under CSS will target people who are poor and near-poor, especially contacts of known TB cases and people who are 65 years and above. The NTP also aims to help PLHIV, women and children, diabetics, migrants, prisoners, indigenous populations who seek care from public and private health facilities; that requires collaboration with different programs, agencies and sectors beyond CSS.

Current funding sources and gaps

Currently, Global Fund has been supporting DOTS aspects of the community system

strengthening in about 55% of the population. In the past, USAID had been supporting it but they discontinued, leaving the rest of the country uncovered in 2013-2014. USAID has reassured that it will restart the support for community system strengthening from 2015 in 18 ODs in nine provinces for limited activities. The other 16provinces would have no or minimal support from other sources for intensive TB case finding efforts and management of DOTS through a package of community systems strengthening activities.

3. Program management

Programmatic gaps

In the past, the NTP has been focusing on classroom training for previously trained workers. However, from historical experience and findings from the ongoing country dialogue, classroom trainingsare expensive besides missing out key people who actually implement the program, e.g., midwives and smear-makers in HCs rather than the officers-in-charge; people who run private pharmacies rather than those who own them. Hence, there is a needto bridge the gap by reaching out to the actual implementers through onsite support and training. However, classroom training would still be essential for new recruits and for introducing new approaches and tools. Another significant gap is that the supervisors and health staff do not get adequate salaries, which affects their morale and work considerably.

Types of activities in place

The Global Fund has been supporting the following activities: annual and quarterlymeetings, workshops, conferences and training. Recently, the Global Fund agreed to support performance-based incentives for key NTP staff.

Populations or groups involved

The groups that program management module covers are the supervisors, and other health staffat different levels.

Current funding sources and gaps

Currently, the Global Fund is the sole source for incentives for managerial staff and activities, while the domestic funding supports their salaries.However, laboratory staff and frontline TB health staff do not get any financial incentive yet from any source.

3.2 Applicant Funding Request

Provide a strategicoverview of the applicant's funding request to the Global Fund,including both the proposed investment of the allocationamount and the request above this amount. Describehow it addresses the gaps and constraints described in questions1, 2 and 3.1. If the Global Fund is supporting existing programs, explain how they will be adapted to maximize impact.

This Concept Note was shaped by a series of important events in Cambodia, starting with the Joint Program Review (2012);successive program reviews through TB-ICC quarterly meetings and TWGs (2012-2013); National Strategic Plan development and related country dialogue (2013-2014) followed by JANS (May, 2014). The development of the Concept Note (April-June 2014) led by the active participation of CCC and CCC-OC members, involved the most inclusive and transparent country dialogue ever in the history of the NTP in Cambodia. It consisted of focus group discussions in five different regionswith key affected populations including PLHIV, cured TB patients, indigenous people, activists, transgender, VHSG and HCMC members, village leaders, health staff, etc.At the same time, thematic group meetings were held with stakeholders, technical partners (WHO, USAID, US-CDC, etc), other national programmes, other ministries (including police, military and prisons), implementing agencies (NGOs) and culminated in a 2-day national consultative workshop to endorse the prioritized high impact interventions and the essential activities (Community Engagement in the Country Dialogue for the Concept Note Development in Cambodia, 2014).Furthermore, the relevant issues raised

in the Portfolio Analysis of the Global Fund have been considered and appropriately addressed.

The funding request to the Global Fundfor two and a half years(January 2015-June 2017) is for a strategic investment as it reflects the national priorities outlined in the NSP (2014-2020) and includes the prioritized highest impact interventions that need additional support through both allocation amount and above allocation amount. CENAT will use the above allocation amount to expand and accelerate the existing gains by investing strategically in areas with high potential for impact. The funding request covers the following priority program areas to address the gaps and constraints and move ambitiously towards cross-cutting CSS, which would contribute to HSS, asmentioned earlier:

1. TB care and prevention (core module)

CENAT plans to use the allocation amount to cover basic activities like screening, diagnosis and treatment and the above allocation amount to cover special activities to overcome the barriers at each stage of the patient pathway.

Allocation amount will cover basic activities. These basic activities will include “passive” (patient-initiated) case-finding and treatment among non-high risk groups, as in the past. This will entail four-symptom screening, sputum collection and smear-making at the health centres, followed by transport of smear-slides to the nearest laboratories using *facility-based transport system*to address physical and economic barriers. If the TB symptomaticsare found to be smear-positive, they will be started on treatment at the HCs. If they are found to be smear-negative, they will receive general antibiotics followed by referral for X-rays to the nearest X-ray facility, if the symptoms persist. Existing health equity funds will continue to help TB symptomatics if they have an ID-poor card, thus contributing to funding additionality. Allocation amount will be used to buy conventional diagnostics every year and pediatric TB drugs in 2015. (More on drugs is explained earlier, in Section 2.1.)Allocation amount will be used to provide enablers to HC staff for integrated outreach activities, which would include trips to the communities for drug distribution, awareness on TB, patient tracing, and sputum transport. Allocation amount will also support facility-based transport system for routine case finding fromhealth centres to microscopy centres.

Quality of sputum smear-making at peripheral health facilities has been a key concern. Sputum microscopistsfrom neighboring laboratories will use allocation amount to visit all health centres systematically to provide onsite guidance to the right persons on collecting good sputum and making good smears. Allocation amount will also assist insome of the training activities (for diagnosis and treatment).

Above allocation amount will cover special interventions related to expansion of case finding activities in HRGs using fast track mechanisms to access diagnostic services using latest molecular technology such as GeneXpert machines, digital Xray machine and some laboratory consumables.

Above allocation amount would help to expand use of GeneXpert as the initial diagnostic test, replacing sputum microscopy for the two highestrisk groups from the community: elderly and contacts.Known PLHIV could benefit from this community-based transport mechanism too. However, most of them would benefit from a similar facility-based transport mechanism, described later.

Above allocation amount will be used for procurement of GeneXpert machines with automated SMS technology to instantly relay GeneXpert results to the concerned HCstaff, VHSGs and TB symptomatics, while maintaining confidentiality by designing the right message. The VHSGs will then visit the HCs to collect the drugs and start the diagnosed patients on treatment within a total turnaround time of five days.

In addition, above allocation amount will cover the special activityof*facility-based transport*

systems for sputum and TB symptomaticsfrom pre-ART/ART sites to GeneXpertsites and X-ray facilities, as required. GeneXpertwill be used as the initial diagnostic test, replacing sputum microscopy for this highest-risk group too. According to NTP policy, Xpert test will be the initial test for them.

Besides, the other high-risk and vulnerable groups who will benefit from *facility-based* systematic screening(using above allocation amount) would be prisoners in 27 prisons, diabetics in eight diabetic clinics, children in under-five clinics and pregnant women at antenatal clinics, nationwide. All TB symptomatics from these groups residing in the cluster areas of GeneXpert sites will benefit from Xperttesting as the initial diagnostic test.

The "four-symptom screening approach" combined with fast-tracking of GeneXpert diagnosis using community and facility transport systems and automated SMS reporting followed by rapid initiation of treatment for the three highest-risk groups will help to overcome multiple barriers (distance, cost and time).One CSS coordinator will be hired using USAID funds (for 18 ODs), allocation (for 28 ODs) and above-allocation(for the remaining 36 ODs) (by the NGOSRs and SSRs) to assistthe OD TB supervisor in setting up this system, to monitor turnaround time and trouble-shoot to ensure flawless performance.

Above allocation amount will also support transport of TB symptomaticsthat require X-ray diagnosis using the community and facility transport systems described above. In addition, above allocation amount will be used to supply X-ray consumables and maintainX-ray machines, as required.

Above allocation will be used to procure surgical masks for TB symptomatics in waiting areas, wards, MDRTB. For other infection control measures in hospital settings, including MDR-TB treatment sites andlaboratories, above allocation amount will be used.

Above allocation amount will be used to buy adult TB drugs in 2016 (for use from mid-2017). Allocation amount will be used to buy Isoniazid for Isoniazid Prophylactic Treatment (IPT) among PLHIV and young child contacts of known TB cases.

2. <u>TB/HIV (core module)</u>

The active involvement of the TB/HIV coordinators and staff from CENAT and NCHADS during the country dialogue reiterated their commitment to the TB/HIV collaboration at all levels. Both programmeswillstrengthen the implementation of the 3"Is" (intensified case finding, isoniazid prophylactic treatment and infection control) and focus on the issues stated in the Portfolio Analysis. For example, address the significant differences at sub-national levels for HIV testing among TB patients; improve the access for PLHIV to GeneXpert facilities; strengthen the capacity in clinical management of TB/HIV co-infected patients; and intensify collaborative efforts to reach more than 90% ART coverage.

As mentioned above, the NTP will use above allocation amount to launch a fast-track mechanism using community-based and facility-based transport systems for referral of specimens and symptomatics to diagnostic centres, which will benefit PLHIV. By using automated SMS technology, the turnaround time of laboratory results will be reduced to enable prompt treatment. Allocation amount will continue to help in intensified case finding of TB among PLHIV, but that would be insufficient to overcome the barriers that PLHIV face. Infection control (IC) will continue tobe implemented through IC committees for triaging coughing patients in OPDs; strengthening IC at Pre-ART and ART sites and emergency wards, and provision of masks.

<u>The components of the TB/HIV collaborative activities covered by the National HIV/AIDS Program (NAP) using their grants are</u>:

- Supervisingfor co-sharing of information and triangulation of data
- Training on the 3"I"s (NAP and NTP)

- Screening of PLHIV for the four symptoms of TB
- Providing IPT
- Providing CPT and ARV at Pre-ART/ART sites to all co-infected (TB/HIV) patients regardless of CD4 counts
- Supplying HIV tests (rapid finger-prick tests at HCs and confirmatory tests at VCCTs)
- Ensuring infection control (training, implementation)

The components of the TB/HIV collaborative activities that theNTP plans to continue and introduce are:

Using allocation amount

- Supervisingfor co-sharing of information and triangulation of the data
- Training on TB diagnostic work up for PLHIV and clinical management of co-infected TB/HIV patients
- Provide Xray films and consumables for TB diagnosis among PLHIV
- Counselling TB patients for HIV testing through point of care testing services at HCs and refer those who are positive for confirmatory tests to VCCT
- Coordinating TB/HIV patients to access CPT and ARVfrom Pre-ART/ART sites.
- Supplying Isoniazid to NCHADS for IPT
- Ensuring infection control (through on-site training, implementation)
- Conducting TB/HIV quarterly meetings at OD levels (as an integral part of the regular quarterly TB meetings)

Using above allocation amount

- Conducting clinical case studies/discussions with expert panel to resolve issues
- Installing GeneXperts machines with SMS technology at referral hospitals
- Testing of PLHIV specimens by GeneXpert machines and reporting results rapidly

3. MDR-TB (core module)

The main programmatic gap has been MDR-TB case-finding. NTPCambodia is already testing 70-80% of the estimated eligible cases, as per the current eligibility criteria. This would be expandedby using Xpert testing for more number of people from the highest risk groups. The allocation amount will be used for case detection, procurement of SLD and prevention, and food and transport support for 50% of the MDRTB cases. It also includes the annual payment of the GLC fees. The above allocation amount will be used for home care activities, infection control, providing enablers to caregivers and for food and transport support for the remaining 50% of the MDR-TB patients. Referral of drug resistant-TB symptomaticsto GeneXpert sites will be through specific referral and transport systems for MDR-TBin line with the infection control policy of the NTP.

Above allocationamount will be used to test TB symptomatics from the HRGs using GeneXpert as the initial diagnostic test, in order to find more MDR-TB cases. Above allocation amount will also help to makeGeneXpert MTB/RIF more accessible for all TB patients who remain positive at *any stage of treatment* after the first two months of DOTS.For the non-HRGs, allocation amount will continue to be used for sputum microscopy, which would still be the initial diagnostic test for them. Some of the non-HRGs will also benefit from Xpert testing but the access will continue to be challenging without further Xpert expansion using above allocation funds.

To overcome the barriers that key affected populations face, NTP will use above

allocation amount to run specific referral and transport systems for MDR-TB using GeneXpert, culture and DST in line with the SOP for MDR-TB referrals and infection control policy.Clinical management of MDR-TB patients would be initially at the designated MDR-TB Treatment sites. After discharge, their home care by DOT Watcherswould be supervised intensively by contracted clinicians and field nurses using above allocation amount. CENAT would also provide the MDR-TB patients with food and transport support using above allocation amount to eliminate catastrophic costs incurred due to loss of wages during the prolonged treatment.

Allocation amount will be used for supplying N95 masks to MDRTB sites and caregivers of MDRTB patients for personal protection. Above allocation amount wlll be used to provide and maintain UVGI fixtures at all MDRTB treatment sites.

The allocationamount will support the procurement of quality-assured second-line drugs from the Global Drug Facility (GDF) for the period of one year. It will also support payment of GLC fees of USD 25,000 per year for technical assistance and advice.

4. Health Information System and M&E (support module)

Aggregate reporting using paper-based system will continue while plans to activate integrated electronic-HMIS will be tested and evaluated using USAID funding before any decision is taken for scaling up. Meanwhile, CENAT will invest in improving the quality ofthe paper-based reporting system.

One of the main constraints identified during the country dialogues was the inadequacy of forums to discuss supervisory findings and program performance. This will be addressed by starting a monthly staff meeting at CENAT in which the central supervisors could make short presentations oftheir supervisory findings on program performance. This forum may also provide opportunities to invite guest speakers to enhance capacity of supervisors to provide “supportive supervision” and “innovative data analysis” for creative decision-making. Assistance of the WHO will be sought for this. These monthly meetings at CENAT would cost very little or nothing. Hence, we have not included this activity in the budget plan.

Inadequacy of quarterly and annual feedback in a timely manner and follow-up is the other major constraint. The NTP will use allocation amount to hire an officer for assisting in coordinating and expediting reporting from the sub-national levels, analyzing the data, providing written feedback and following up with the provincial and OD supervisors on actions taken. Monitoring trends is one of the core functions of the WHO. Hence, their assistance will be sought for this, as part of their collaborative role in the NTP. The WHO MO position will be supported on a cost-shared basis using above allocation amount.

The NTP will use allocation and above allocation amounts for supervision by all levels to all levels, as enlisted in the detailed budget plan. The NTP will use above allocation amount for its supervisory teams from different levels for internal program reviews on an ongoing basis to cover randomly selected ODs. The findings of these reviews will be used for internal purposes only, for fact-finding rather than fault-finding, besides helping to build the capacity of its junior supervisors through twinning with senior supervisors. This will also address the gap of inadequacy of quality of supervision, as pointed out during the country dialogue. Above allocation will also be used for a drug resistance survey in 2015.

5. Community Systems Strengthening (support module)

As part of Community Systems Strengthening, CENAT will use allocation and above allocation amounts for implementing CSS interventions and related activities through NGO Sub-Recipients in each of the ODs, except the 18 ODS supported by USAID. The Royal Government of Cambodia is already moving in the direction of increased de-concentration and decentralization of powers to the commune councils, whose representatives are part of the HCMCs. The NTP will empower the HCMCs (consisting of a few representatives

from VHSGs, commune councils and HCs) using interventions mentioned below.

CSS Coordinatorswill be hiredunder the SRs to assist the OD TB supervisorsfor capacity building of the existing community structures of VHSGs, HCMCs and monks,for community-based monitoring for accountability, advocacy and social mobilization. Allocation amount will be able to support only 28 CSS Coordinators (one per non-USAID OD). Above allocation amount willhelp to support additional 36 CSS Coordinators so that NTP could have one of these Coordinators foreach of the 64 non-USAID ODs. Above allocation amount will be used to sensitize these community structures about TB every quarter usingvery simple tools. Simpleindicators will be used during these quarterly meetings to monitor program performance, identify barriers and troubleshoot them. In addition, allocation amount will be used to involve these community structures for enhanced case finding activities in 30% of the villages and pagodas of non-USAID ODs using the "four symptom screening approach" among HRGs (mainly, the TB contacts and the elderly). Above allocation amount would be required forthe remaining70% of the non-USAID ODs with enhanced case finding. They will be also sensitized using TB Patients' Charter on the rights and responsibilities of patients.

As mentionedearlier, above allocation amount will be used to set up fast-track community transport systems for transporting sputum and TB symptomatics from among the highest risk groups of elderly and contacts (including children) to diagnostic centres. GeneXpert machines with SMS technology will help to reduce the total turnaround time of results from 19 days to 5 days which will help to initiate early diagnosis and treatment. VHSGs and health centre staff would also receive enablers to support their operational costs for case finding and for patient support during intensive and continuation phase, but above allocation amount would be needed for that.

VHSGs, HCMCs and monks will receive an updated NTP phone directory that would havecontact details of the CSS coordinators and OD TB supervisors, for building strong linkages between communities and health facilities and for rapid trouble-shooting. Key NTP staff at all levels would also get support for communication costs related to patient care and data management. They will be provided with integrated flipcharts and leaflets that would cover basic facts on TB, maternal and child health, nutrition, non-communicable diseases,etc. relevant for the community. Usingan integrated approach would maximize resources and minimize competition between programs. Above allocation amount will be used for all these tools.

6. Program Management (support module)

Inadequacy of supportive supervision and onsite "mentorship" training is another major constraint. Classroom trainings are useful for new staff members while refresher trainingwill be provided during onsite visits. Hence, supervisors from all levels will use allocation amount to visit all levels, using twinning of supervisors from different levels as much as possible. These supervisors will be encouraged during their quarterly and annual meetings to provide supportive supervision and onsite "mentorship" training, not just to TB staff members but also to all other staff members in all health facilities (including midwives) to facilitate cross-program linkages. Such onsite "mentorship" trainings will be frequently repeated and brief, focusing on only the key things that the health staff need to know based on their program performance.

Supervisors will also provide simple, innovative and interesting tools to health staff to analyze their data quickly and usefully for local decision-making in selected HCs where computers exist. Over the next few years, this is likely to expand with the introduction of computers to other HCs using other sources of funding. Such simple tools could be designed for no or minimal cost.

Allocation amount will be used to hire one key national coordinator. Allocation amount will also help in key meetings (at different levels) and trainings (of new staff).

Allocation amount will support PR, SR and SSR costs.PR will manage the overall grant besides overseeing the grant implementation by government agencies and SRs.The five SRs will cover 5-6 contiguous provinces each. These five SRs will manage SR-grants besides overseeing grant implementation by one SSR each. The SRs and SSRs will exclude the 18 ODs covered by USAID grant for community system strengthening. In the remaining 64 ODs, these five SRs and five SSRs will hire CSS coordinators, 28 of which would be from allocation amount, and 36 would be from above allocation amount.

Above allocation amount will be used for hiring a few national coordinators. This amount will also be used to pay for 50% of the cost of TA provided by the Medical Officer of the WHO.

In addition, the program will focus on the following aspects to address gaps and constraints besides maximizing impact**:**

Risk management: In order to avoid fiduciary risks, the NTP has already put in place control measures as suggested by the GF. External audits are conducted regularly, and arrangements for internal audits would be implemented. Cash transfers will be through bankingchannelsfor large amounts and mobile phone payments for small amounts.The PR will monitor the SRs and provide onsite training as required.

Coordination and integration: GF grant will be used to integrate and coordinate vertical approaches of the TB program through joint planning with partners, 4-PR Coordination Committee, other national health programs and national institutions at different levels. The National HIV/AIDS Programmewill soon introduce a point of care service using finger prick for HIV testing of TB patients atHCs which will override the earlier practice of sending blood samples from HCs to the voluntary confidential, counseling and testing (VCCT) centresusually located at referral hospitals.Existing MoH facilities such as laboratories, X-ray units and Central Medical Stores (for storage and distribution of drugs and health products) will continue to be used.

Strengthening implementation capacity: The funding request includes above allocation amounts for technical assistance (TA) from the WHO (both international and local TA), on cost-shared basis) to achieve strengthened capacity and high quality services. These TAs will continually assist NTP supervisors of all levels to strengthen their oversight capacities, program-level management and implementation capacity, programmatic activities and health and community systems strengthening in addition to support for the PR and sub-recipients. These TAswill also address long-term local capacity building and provide guidance on human rights, gender equality, community systems strengthening andcontinuedengagement of key populations for ongoing country dialogue. The WHO will engage other short-term TAs using other sources of funds, on need basis.

Collaborative approaches: The NTP will widen the membership of its TB Inter-agency Coordination Committee (TB-ICC) to collaborate across different programs, departments and agencies. This would be in line with the second pillar of the post-2015 Global TB Strategy. The membership would now include those who work with pregnant mothers, children, prisoners, migrants, diabetics, PLHIV and elderly populations, besides those who work in governmental and non-governmental organizations, national and private hospitals and development agencies.

Strengthening Monitoring and Evaluation (M&E) systems: Sufficient funds are being proposed to strengthen national data systems including the innovative use of data analysisand a drug resistance survey.

Reproductive, Maternal, Newborn and Child Health (RMNCH) Interventions: As mentioned earlier, the NTP will use GF grant for community system strengthening, which will not only benefit the program but also help women and children. For example, the VHSG and HCMC meetings that NTP will support,may also be used by health centres for reviewing and discussing other topics such as maternal and child care. The integrated

flipchart that the NTP will have topics of maternal and child care, nutrition and hygiene. The community and facility transport systems may also be used for transporting other specimens for laboratory testing.

Human resource support: Incentives are critical for the success of the program because the current salaries are very less, causing low motivation. The Ministry of Health has approved payment of performance-based incentives to all levels of human resources by different development partners. Thus, the proposed financing of incentives is consistent with existing incentive schemes as agreed between the government, donors and civil society organizations. Currently, a small number of supervisors and those working at the MDR-TB sites receive incentives but not the frontline TB health staff at HCs and laboratory technicians.

Public-Public-Private Mix: The NTP will continue to engage the private health sector through PPM projectusing other sources of funding. In addition, the NTP will also continue to engage pharmacy, nursing and medical associations. Those private agencies that would like to participate as diagnostic and treatment centres will be trained onsite and supported to do so, as per NTP protocols. Besides, the NTP will engage large public hospitals by identifying and incentivizing two focal persons in each hospital: one doctor and one nurse. These two focal persons will visit and sensitize the doctors and nurses in every unit concerned including OPD and the triage unit of their hospital. They will also encourage their hospital authorities to include TB in their agenda, and discuss progress and concerns in all possible forums. Their names and contact details will be mentioned in the NTP directory that will be shared with all VHSGs, HCMCs and monks.

Quality of services: The NTP is increasingly focusing on quality of TB care services. This will continue in the form of using annual focus group discussions with key affected populations (KAP), during supervisory visits, as the program reassured the representatives who attended the country dialogue recently. The NGO coordinators will assist the OD Supervisors to monitor the turnaround time between sputum collection and initiation of treatment besides understanding the barriers that affect quality and timeliness. Using allocation amounts for routine supervision, the Provincial Laboratory Supervisors will extend the quality assurance of diagnostic tests beyond the laboratories to the sites were smears are made and sputum are collected, through visits of sites where the quality is poor. The program has already started clinical and death audits for MDR-TB during TWG meetings. The program will use above allocation amount to invite clinicians from MDR-TB sites to these TWG meetings.In addition, the program will use above allocation amount to conduct internal reviews to assess quality using RDQA tool of the WHO, as also recommended during the JANS recently.

3.3 Modular Template

Complete the modular template (Table3).To accompany the modular template, for both the allocation amount and the request above this amount, briefly:

a. Explain the rationale for the selection and prioritization of modules and interventions.

b. Describe the expected impact and outcomes, referring to evidence of effectiveness of the interventions being proposed. Highlight the additional gainsexpectedfrom the funding requested above the allocation amount.

The rationale for the selection and prioritization of modules and interventions is related to the country context; reflects the national priorities outlined in the National Strategic Plan for TB Control in Cambodia (2014-2020) and includes the prioritized highest impact interventions endorsed by the CCC. It takes into consideration the current and the anticipated funding landscape including domestic resources as well.

The interventions and activities were also shaped by the country dialogue consisting of

thematic group meetings and focus group discussions whichwas inclusive, open and transparent. The participation from CCC, CCC-OC, CENAT, NCHADS, other national programmes, technical partners, implementing agencies, representatives of key affected populations, PLHIV, cured TB patients, commune and village leaders, helped to address critical enablers,e.g., human rights, gender equity and community systems strengthening. The funding request covers the priority program areas under the three core modules: TB care and prevention, TB/HIV and MDR,backed up by three support modules:Health Information System and M&E, CSS and Program Management.

Core module: TB care and prevention

Rationale for selecting this module: Since Cambodia has the highest mortality rate of 63/100,000 population and the second highest prevalence rate of 764/100,000 population (WHO Global TB Report 2013), among the 22 high TB burden countries, it is reasonable to prioritize the TB care and prevention module. Selection of this core module was also guided by the fact that though it covers all the basic routine interventions for TB control from case finding to delivery of DOTS, there is scope for including innovative high impact interventions to target the high risk groups that harbor TB and thus find the “missing” TB cases through this funding request.

Rationale for selecting **Case detection and diagnosis**

Finding all the TB cases and curing them successfully are the two most important and critical interventions of any National TB Programme.However, passive or patient-initiated, case-findinginterventions used in the pastareinadequate due to the challenges of “missing cases” and various barriers faced bythe TB symptomatics and patients. The “four-symptom screening approach” will be promoted as a simple tool for case-finding by health staff and VHSGs among HRGs to maximize resources.CENATwill use three interventions using above allocation amountto find more TB cases among the HRGs:

- Intensified case finding among PLHIV using fast-track transport systemsto send sputum specimen from pre-ART/ART sites to GeneXpertsites linked to SMS automated reporting of results to expedite initiation of prompt treatment while maintaining patient confidentiality.
- Active case finding among prison inmates using mobile X-ray unit and GeneXpert machine for on the spot diagnosis and prompt initiation of treatment.
- Enhanced case finding among the elderly and TB contacts including childrenusing “four symptom screening approach” to identify TB symptomatics and send theirsputumto GeneXpert sites using community-based transport systems.

In order to comprehensively and successfully carry out the above interventions, the NTP will use above allocation amount to scale up GeneXpert, while improving the quality of existing laboratory andradiology services. TB symptomatics who do not have any known high risks will continue to benefit from the routine or passive case-finding method supported by allocation amount. Sputum microscopists will use allocation amount to provide onsite training to HC staff on sputum collection and smear making to ensure quality of diagnosis and supervise microscopy centers as part of external quality assurance (EQA).

Thus, the **above allocation** amount would be used for the following:

- Procurement of GeneXpert machines and installation at referral hospitals in a gradual stepwise manner.The GeneXpert machines with automated SMS technology to reduce the turnaround time for results will be used as the initial diagnostic test for the HRGs and as an add-on test after smear-negative results for the other HRGs.

- Procurement of a digital Xray machine
- Maintenance and repair of laboratory, Xray machines and other health equipment.
- Introduction of fast-track facility-based transport system to access GeneXpert sites for prison inmates after the active case finding has mopped up all the prevalent TB cases.

The expected impact and outcome of these efforts would be that active, enhanced and intensified case finding among the HRGs would yield more bacteriologically confirmed and clinically diagnosed TB cases and help reduce the number of "missing" cases.

Additional gains from above allocation amount: The biggest challenge for the NTP is that the estimated percentage of missing cases is as high as 34%. Therefore,the NTP faces the urgency to take effective steps for early and rapid diagnosis of TB amongthe HRGs. Through the establishment of community-based and facility-based transport systems for specimens and symptomaticsand the wider use of GeneXperts installed in every referral hospital from the above allocation amount, the additional gains would be that the TB cases identified would rise from 64% in 2013 to 74% by 2017.

Evidence of effectiveness: When used as an initial diagnostic test replacing smear microscopy, Xpert MTB/RIF achieves an overall pooled sensitivity of 88% and a pooled specificity of 99% (Source: *Xpert MTB/RIF assay for the diagnosis of pulmonary and extrapulmonary TB in adults and children*. WHO Policy Update. 2013).By use of the most conservative threshold for positivity of more than nine acid fast bacilli (AFB) per smear, conventional microscopy detects on average 54% and fluorescence microscopy detects 55% of specimens found to be positive for M. tuberculosis on culture. (Source: *Fluorescence versus conventional sputum smear microscopy for tuberculosis: a systematic review*. Steingart, Karen R, The Lancet Infectious Diseases, 2014).

Rationale for selecting **Treatment**:

The rationale being that mobilization of resources in advance safeguards theprocurement from the Global Drug Facility of quality-assured anti-TB FLD for adult patients including pediatric formulations for childhood TB cases and ancillary drugs with timely delivery. Also, guarantees that TB patients would complete their DOTS without any interruption. In line with the GF policy, the **above allocation** amount would be used for sending samples of randomly selected drugs from the central and OD levels to the Quality Control Laboratory in Vietnam.

The expected impact and outcome: NTP would be able to maintain its stock levels of quality-assured anti-TB drugs with sufficient shelf-life without fear of expiry, according to its policy at central (9 months), OD (3 months) and HC levels (1 month).

Rationale for selecting **Prevention**:

This intervention will support the procurement of Isoniazid for latent TB infection (LTBI) in child contacts and for PLHIV as a prophylactic therapy (IPT). Infection control is an important aspect in the management of patients with TB, MDR-TB and TB symptomatics, hence preventive measures need to be implemented in health facilities, eguse of masks.

Hence, the **above allocation** amountwould be usedfor the procurement of surgical masks for TB symptomatics in waiting areas and for patients (TB and MDR-TB) in the wards in line with the Infection Control Policy of NTP.

The expected impact and outcome: Firstly, health staffparticularly those in TB clinics and wards who are at risk of getting TB, will be safeguarded and secondly, it will ensure the prevention of hospital-acquired infections which is of paramount importance.

Rationale for selecting **Community TB care delivery**:

Community TB care delivery is important because it demonstrates the responsiveness of the government primary health care servicestowards the people and promotes a healthy alliance between the health staff and the community. This intervention will support integrated outreach activities of health staff for TB awareness, sputum collection, smear making, distribution of drugs and assist patient tracing. It strengthens the relationship

between the health staff and the VHSGswho help in screening TB symptomaticsand alsoprovide DOT to TB patients.

The**above allocation** amountwould be used for training new health staff on TB services to ensure quality of care and patient-centred approach as this would increase the responsiveness of the health facility and meet the expectations of the community.

The expected impact and outcome: Case finding will be improved, catastrophic costs for patients avoided, delays minimized, high treatment success rate maintained and TB and MDR-TB patients will be empowered through the Patients' Charter for Tuberculosis Care.

Rationale for selecting **collaborative activities with other programs and sectors**:

Collaborative activities will continue to contribute towards health systems strengthening by promoting a harmonized and integrated service delivery platform. The above intervention will promote collaborative activities with other national programmes,ministries and international organizations, at different levels such as HCs, Hospitals, etc.

- Maternal, Newborn and Child Health Program:The vulnerable populations Ofpregnant women who attend Ante-Natal Clinics and child contacts who attend Well-Baby Clinics at HCs will benefit from the intensified case finding activities,including facility-based transport to diagnostic centres. No additional amount will be required for this.
- Hospitals (at all levels): Above allocation amount will be used to incentivize one doctor and one nursein each hospital to coordinate between different programs, OPDs and IPDs, especially for screen diabetics, PLHIV, pregnant women and children who visit the hospitals for TB. The nurse will act as a focal person to liaise with peripheral health facilities for referred patients. S/he will also serve as a "four symptom screening" nurse who would visit different OPDs and IPDs, and the triage unit, to remind the health personnel continually to screen people for the TB symptoms.
- International Organization for Migration (IOM): A day-night clinic to screen TB symptomatics among irregular migrants (deportees) will be setup by IOM in agreement with MoI, at one major deportation site using another source of funds (USAID).
- Prisons: A**bove allocation** amount would be usedfor active case finding in prisons,in collaboration with the Ministry of Interior (MoI), using mobile X-Ray unit and laboratory. In addition, facility-based transport system will be used for sending specimen from prisons to GeneXpert sites after ACF has mopped up all prevalent TB cases in the prisons.

The expected impact and outcome: Collaborations with other departments, programs and agencies will result in minimizing costs and maximizing outcomes.Case notifications of TB, TB/HIV or MDR-TB will increase as a result of screening of TB symptomatics using the "four symptom screening approach" and prompt referral to diagnostic centresincluding GeneXpert sites, using the community/facility-based transport system.

Core module:TB/HIV for high risk groups

Rationale for selecting this module:

Although the HIV prevalence among the general adult population in Cambodia has declined and the HIV prevalence among TB patients was 4% in 2012 (Global TB Report, 2013), this module was selected to focus onintensified case finding among PLHIV by facilitating access to GeneXpert machines which increases speed and quality of TB diagnosis and to increase the chances of TB/HIV co-infected patients to receive ARTand reduce mortality.Additionally, this module will address the challenges stated in the Portfolio Analysis, namely: (1) significant differences exist at sub-national levels for HIV testing among TB patients; (2) limited access for PLHIV to TB microscopy centres and GeneXpert facilities; (3) limited capacity in clinical management of TB/HIV co-infected patients; and (4) need to intensify collaboration to reach more than 90% ART coverage.

Rationale for selecting the**TB/HIV collaborative interventions**

Investment in TB/HIV collaborative interventions will strengthen joint supervision; sharing analytic feedback; clinical meetings to discuss TB/HIV case studies and training on TB diagnostic workup for PLHIV to improve capacity in clinical diagnosis and management.

The **above allocation** amount would be used for two important collaborative activities:

- The first one is related to strengthening joint supervision between the two programmes. Since both programs have different data management systems, the supervisors from both programmes will use joint supervisions for cross-programme verification to improve the quality of data. The teams will also study the issues related to HIV testing of TB patients at sub-national levels and find solutions. It will also assist onsite capacity building of health care staffand VHSGs to strengthen collaborative activities at all levels. Currently, joint supervision is limited to few ODs.
- The second is related to joint clinical meetings for case discussions on the co-management of TB/HIV cases that will help to resolve problems related to diagnosis, co-morbidity issues and treatment outcomes. Such clinical meetings arranged by national TB/HIV coordinators will be held on a bimonthly basis before an expert panel which will include representatives from national hospitals and international partners.

This**above-allocation** investment will strengthen the quality of TB/HIV data and clinical management between the two programs.

The expected impact and outcome

Joint activities would strengthen the linkages at all levels; increase the uptake of PLHIV for TB screening; increase HIV testing of TB patients; ensure better clinical management of co-infected patients and reach closer to 90% ART coverage.

Rationale for selecting the **key affected populations**

This intervention includes intensified case finding and adapting diagnostic and treatment structures to meet the needs of key affected populations. To promote efficient and effective use of resources and ensure the provision of integrated TB and HIV services,

The **above allocation** amount will support the fast-track mechanismusing a facility-based transport systemwhichwill greatly assist PLHIV from Pre-ART/ART sites to access the GeneXpert machines which would be installed gradually at referral hospitals. These machines use automated SMS technology to instantly sendGeneXpert results while maintaining confidentiality, to the patients,care givers and concerned staff for follow up.

The expected impact and outcome

A fast track mechanism that supports transportation,ensures rapid diagnosis and prompt treatment, cuts down costs for both TB and HIV patientsand helps to reduce morbidity and mortality.

Core module: MDR-TB

Rationale for selecting this module:

This module has been selected as resources are needed to address the rising threat of MDR-TB in Cambodia, based on the estimation carried out on the re-treatment cases which was about 15% in 2013 (Tuberculosis Report 2013). There is also an urgent need to find more cases by expanding the criteria of eligibility for testing drug resistant TB as pointed out in the Portfolio Analysis. Further evidence will be provided by the proposed Drug Resistance Survey in 2015.In order to ensure the most effective use of the GeneXpert machines, referral of drug resistant-TB symptomatics to GeneXpert sites will be through specific referral and transport systems for MDR-TB in line with the infection control policy of the NTP. The use of automated SMS technology will reduce the turnaround time for results.

Rationale for selecting **Case detection and diagnosis**

This intervention is very important for the detection of more drug resistant TB cases as the criteria for eligibility would be expanded to include the missing cases. It would also support the specific referral and transport systems for MDR-TB cases to GeneXpert sites, culture/DST laboratories.

Rationale for selecting the**Treatment for MDR-TB**:

This intervention will ensure 100% coverage of second line drugs (SLD)for all bacteriologically confirmed drug resistant TB cases notified and payment of the annual fees to the GLC.After discharge from the MDR-TB treatment sites, provision of drugs to patients on home-care treatment will be monitoredthrough periodical visits by the clinician and nurse with regular support from the designated DOT watcher.

The **above allocation** amount would be used for supporting home care treatment of MDR-TB patients after discharge from the treatment centres which will be monitored through periodical visits by the clinician and nurse.

Rationale for selecting the **Prevention for MDR-TB**:

As infection control is an essential aspect in the management of MDR-TB patients, this interventionwill mobilize resources for supporting the preventive aspects.

The **above allocation** amount would be used for the procurement and maintenance of UVGI fixtures at all MDR-TB treatment sitesin line with the Infection Control Policy.

Rationale for selecting the"**Community TB Care**"

The rationale for selection of this intervention is that resources are needed to ensure that MDR-TB patients after discharge from the treatment centres are provided adequate home care, including follow up of drug side effects, through community efforts.

The **above allocation** amount would support clinicians and nurses who are required to provide periodicfollow-up of MDR-TB patients in their place of residence. In addition, enablers (to cover transportation costs)will be provided to care givers (VHSG) in the community with onsite training to act as DOT watchers.

Rationale for selecting "**key affected populations**":

This intervention will address the humanitarian aspects of providing living support to MDR-TB patients who have to bear the loss of daily wages due to the prolonged treatment.

Allocation amount would provide enablers to 50% MDR-TB patients to cover food support and transport cost for hospital visits,to offset the catastrophic costs borne by them due to the lengthy treatment andwage loss. Above allocation amount would provide enablers to the remaining50% MDRTB patients and all MDRTB caregivers who would provide injections and DOT in the community.

The expected impact and outcome

The above interventions will assist mobilization of resources to ensurethat MDR-TB patients will have the best treatment outcome and thereby help to reduce the morbidity and mortality related to MDR-TB.

Support module: Health Information Systems & M&E

Rationale for selecting this module

Selecting this module will ensure much needed resources to strengthen the routine TB surveillance system of the NTP.HIS and M&E arevery important to measure performance and progress of the programmecontinually. The targets and indicators in the National M&E Plan are aligned with the 2013 WHO TB definitions and the reporting framework have been fully implemented. CENAT will use the available resources to conduct systematic and integrated on-site supportive supervision to ensure services are on track and quality of data is improving.

Rationale for selecting **Routine reporting**

This intervention is required to strengthen the NTP health information system for cross checking routine data collection and recording and reporting at all health facilitiesincluding community activities by regular supervision from all levels of the health system, including onsite training. The printing of recording and reporting forms of all types is included while waiting for integrated electronic-HIS to be set up in the country using other sources of funding. Printing simple and short supervisory checklists for all levels is essential for documentation and quality-assurance of supervision.

The **above allocation** amount would be used for the following activities:

- Procurement of some IT equipment for recording and reporting data from all levels;
- Conducting quarterly joint supervision from central, provincial and OD levels for mentoring; and from OD to hospitals, prisons, HCs and patients
- Providing communication costs for all levels (Internet, telephone and automated SMS) as it is critical for rapid turnaround time for diagnosis and treatment.
- Providing communication costs to CSS Coordinators will also help to remind VHSGs, HCMCs and monks to refer more TB symptomatics or specimens in low performing areas. It will also help them to troubleshoot blocks in the fast-track community sputum transport mechanisms.
- Investment on one of the most innovative use of SMS technology will be to link it with the GeneXpert machines to reduce the turnaround time for results and alerting all concerned including the patients about their Xpert result, at the same time maintaining confidentiality.

Rationale for selecting **Analysis, review and transparency**

This intervention is very important as it will support the publication of quarterly and annual TB reports using routine and other datato inform partners, supervisors and peripheral health staff about comparative performance and trends, besides helping decision makers.

Rationale for selecting **Surveys**

This intervention is very important for the NTP as it will support the proposed Drug Resistance Survey in 2015 to update drug resistance surveillance data,(as recommended in the Portfolio Analysis of the Global Fund); the last one conducted in 2006 indicates very low coverage of DST (10.5%) while the current estimation done on retreatment cases shows higher figures (15%).

The **above allocation** amount would be used for conducting the Drug Resistance Survey.

Support Module: Community Systems Strengthening (CSS)

This intervention wasselected as community systems strengthening (CSS) plays an important role in not only promoting an environment for meaningful community engagement in health sector activities, but also to consolidate the existing community structures at the grass roots level.

As stated in the Portfolio Analysis of the Global Fund, while outreach and community-based care is a priority for Cambodia, all national health programs operate separately at every level, with little integration between them and the health system. To address this issue, NTP will use the existing community structures (VHSG and HCMC) related to Community-DOTS, to provide a more integrated package of services that would benefit other programmes as well. It would include the appointment of CSS Coordinators in each OD to assist OD TB supervisors in establishing community-based monitoringfor accountability, advocacy, building linkages between the community and the health

services and strengthening social mobilization. They would also address the barriers to access health services by organizing community transport systems for sending specimen and symptomatics to diagnostic facilities.

Rationale for selecting **Community-based monitoring for accountability**

This intervention is selected to act as a platform for advocacy and creation of demand for good quality health services that are responsive to the special needs of the community, in general and vulnerable populations, in particular. CSS Coordinators will be hired to assist OD TB Supervisors to promote initiatives that will remove the economic, physical and structural barriers to access health care for key affected populations, indigenous people and other vulnerable populations such as migrants and prisoners.

The **above allocation** amount would be used by CSS coordinators for the following:

- To facilitate integrated quarterly meetings at some HCs to bring together VHSGs, HCMCsand monks;review barriers to inequalities and document actions taken.
- Tosensitize participants in the quarterly meeting about the four-symptom screening approach for TB;about the objective of enhanced case finding in villages and pagodasand thePatients' Charter for Tuberculosis Care, on the rights and responsibilities of patients.
- To conduct monthly supervision and onsite training at HCs, prisons, pharmacies.

Rationale for selecting **Advocacy for Social Accountability**

The selection of this intervention provides the scope to include activities that the NTP needs to implement to raise awareness of TB in the community and promote advocacy for mobilizing support and resources to effectively reduce the burden of TB and related morbidity and mortality.

The above allocation amount is for the following activities:

- To arrange for designing and broadcasting spots on local radio and television.
- To arrange for designing and printing posters, leaflets, flip charts and annual directory
- To provide copies of the NTP Annual Directory with contact details of key people to VHSGs and HCMCs from whom they could seek assistance in case of hindrances. The meetings will also discuss important issues related to other programmes relevant to the community
- Support the VHSGs, HCMCs and monks by providing them with integrated flipcharts that would not only cover a few simple facts on TB screening, diagnosis and treatment but also,other important topics like maternal and child health, nutrition, non-communicable diseases, etc., as relevant for the community.

Rationale for selecting **Social mobilization, building community linkages, collaboration and coordination**

Selecting this intervention will help to establish an integrated community-based care model, for which the NTP plans to collaborate with the concerned Departments in Ministry of Health (MoH) in order to reduce duplication of efforts and better utilize the funding available for community system strengthening. Importance will be given to international health events such as World TB Day.Coordinate with other health programmes to promote such initiatives to maximize resources and minimize competition between them. CSS Coordinators and OD TB Supervisors will play an important role in actively engaging community structures and pagodas and providing oversight in CSS activities.

The **above allocation** amount would be used for the following:

- Printing of T-shirts, caps, etc. and distribution of advocacy materials for World TB Day.
- Conduct enhanced case finding in villages and pagodas to increase notifications using the four-symptom screening among household, TB contacts, and elderly. Although the elderly (65 years and above) constitute about 4% of the population, they carry about 24% of the bacteriological TB burden. Above allocation will cover 70% of this activity. While the remaining 30% will be supported by allocation amount.
- Facilitate the setting up of a fast-track community-basedtransport system for specimens and symptomatics to address the three main barriers: cost, distance and time and improve access for the three highest risk groups for TB.
- Oversee the fast-track reporting mechanism eg.promptreporting of results from GeneXpert sites using SMS technology to the HC workers, VHSGs and patients, thus reducing the turnaround time for sputum results and start of treatment.
- Provide enablers for travel of some VHSGs to HCs for collecting drugs, reporting patient's progress and submitting sputum for follow-up examinations.
- Provide enablers to VHSGs and health staff for each TB patient successfully treated.

Rationale for selecting **Institutional capacity building, planning and leadership development in community sector**

- Hire some CSS Coordinators to assist OD TB supervisors and HC staff for capacity building of VHSGs, HCMC and monks and for providing integrated oversight for community-based TB activities mentioned above.

Expected impact and outcome

By establishing fast-track systems, NTP expects to find about 10,000 TB cases among HRGs with minimum delay and negligible catastrophic costs to enable early diagnosis and prompt treatment. The same system may also benefit other programs for no additional costs, thereby contributing to integrated community system strengthening.

Rationale for Support Module: Program Management

The rationale for selecting the above module is to ensure that GF resources are invested strategically, with strong emphasis on value for money to maximize impact (i.e. to reach the most people). There aretwo key interventionswhich would play an important role in strengthening overall program management, namely (1) Policy, planning, coordination and management and (2) Grant management.

Rationale for selecting **Policy, planning, coordination and management**

This intervention was selected as it provides the scope to include essential activities for the PR-CENAT to manage the programme competentlyand efficiently. The activities under this intervention will cover funding required for administration and overhead costs; human resourceseg. hiring a coordinator for data management; meetings, trainings, annual conference; internal and external audits, procurementof some vehicles and payment of PSM costs (FLD, SLD, etc)through the allocation amount.As the allocation amount of GF TB grant is not sufficient to cover all the critical activities under program management, the additional activities listed below need support from the **above allocation** amount.

The **above allocation** amount will be used for the following essential activities:

- Human resources: hiring national coordinators (MDR-TB; Community Systems Strengthening; Childhood TB; PPM; Lab networking; GeneXpert; and DST;

- Incentives for staff at laboratories and hospitals
- Maintenance costs for IT infrastructure, non-health equipment and vehicles including insurance for vehicles
- Meetings: quarterly meetings of XRay staff for quality assurance; quarterly clinical meetings of staff from MDR-TB sites; quarterly assessor workshops for EQA; quarterly provincial meetings on TB topics with hospitals; monthly meetings with hospital and HC staff
- Procurement: some vehicles and motorbikes, essential for supervision.
- Participation in some international events: trainings, meetings, conferences, study tours
- Conference: conduct back to backworkshops following annual national TB conference covering all major topicseg. TB/HIV, MDR-TB, PPM-DOTS, etc.
- PSMcosts: to meet some PSM cost for procurement ofGeneXpert machines, 80% of Xpert cartridges and Xray machine.

Rationale for selecting **Grant Management**

This intervention is essential for providing overall support to the Principal Recipient for the efficient and effective management of the GF grant. In addition, it will provide essential resources to manage the Sub-Recipients (SR) and Sub-Sub-Recipients (SSR) competently and efficiently. The allocation amount will cover essential activities relevant to grant management required by the PR namely, administration and overhead costs; annual internal and external audits; hire human resources for grant management; conduct monitoring visits for staff capacity building; procurement of IT equipment. The activities for both SRs and SSRs would be the similar.

Under the **above allocation** amount, the PR will also include cost-sharing of international technical assistance (TA) by contracting WHO, which will continue to provide program support.

3.4 Focus on Key Populations and/or Highest-impact Interventions

This question is not applicable for low-income countries.

Describe whether the focus of the funding request meets the Global Fund's Eligibility and Counterpart Financing Policy requirements as listed below:

a. If the applicant is alower-middle-income country, describe how the funding request focuses at least 50 percent of the budget on underserved and key populations and/or highest-impact interventions.

b. If the applicant is an upper-middle-incomecountry, describe how the funding request focuses 100 percent of the budget on underserved and key populations and/or highest-impact interventions.

½ PAGE SUGGESTED

Not applicable for Cambodia

SECTION 4: IMPLEMENTATION ARRANGEMENTSAND RISK ASSESSMENT

4.1 Overview of Implementation Arrangements

Provide an overview of the proposed implementation arrangements for the funding request. In the response, describe:

a. If applicable, the reason why the proposed implementation arrangement does not reflect a dual-track financingarrangement (i.e. both government and non-government sector Principal Recipient(s).

b. If more than one Principal Recipientis nominated, how coordination will occur between Principal Recipients.

c. The type of sub-recipient management arrangements likely to be put into place and whether sub-recipients have been identified.

d. How coordination will occur between each nominated Principal Recipientand its respective sub-recipients.

e. How representatives of women's organizations, people living with the three diseases, and other key populations will actively participate in the implementation of this funding request.

a) The existing Principal Recipient, CENAT, has been proposed to continue implementation of the NTP under the new Concept Note, with five Sub-Recipients to support community level TB activities in five geographical zones. The reason why the proposed implementation arrangement does not reflect a dual-track financing (i.e., having both government and non-government PRs) is threefold: a) because this is a rather small program, and dividing management into two entities would prove to be rather costly, in the environment where we must continue to identify efficiencies; b) because CENAT has been managing this program successfully since 2009, consistently receiving high GF performance ratings; and c) because CENAT was the only PR candidate who submitted their application in response to the open call for Expression of Interest (EOI).

b) In response to concerns raised in recent program reviews as well as by the Global Fund directly, stating that the current sub-recipient arrangements were sub-optimal (too many organizations, too little standardization, high management risk of overlaps and sub-optimal use of resources) the Concept Note writing committee has proposed a revised implementing structure. The new structure divides the country into five geographical zones (with about 5 provinces each), including: North West, North East, Central, South East and South West. It is envisioned that each zone will have one sub-recipient managing TB activities under the GF grant at the community level (the SSR structure hasn't been defined at this stage).

To put this in place, the Expression of Interest was published with the zone-based structure and applicants were invited to propose their services for one (or more) zones. The selection panel has reviewed the submitted EOIs based on their functional capacity according to pre-agreed criteria and has identified 5 finalists: CHC for South East, CRS for North West, RHAC for Central, HPA for North East and Op ASHA for South West zones. These resultshave become final following the official endorsement at the CCC meeting on 10 June.

e) The people living with TB or affected by TB as well as other key populations have been actively engaged in the Country Dialogue process (refer to attached documentation) and there are plans to ensure that this engagement is sustained through at least two actions: a) as members of the CCC – there are now TB cured patients on the CCC representing people affected by TB; b) as the community level TB patients and families are mobilizing to organize and strengthen their networks to actively engage in linking with the existing community-level TB service delivery.

4.2 Ensuring Implementation Efficiencies
Complete this question only if the Country Coordinating Mechanism(CCM) is overseeing other Global Fund grants.
Describe how the funding requested links to existing Global Fund grantsor other funding requests being submitted by the CCM. In particular, from a program management perspective,explain how this request complements (and does not duplicate) any human resources, training, monitoring and evaluation, and supervision activities.
1 PAGE SUGGESTED The Cambodian CCC is overseeing another three GF-funded grants in addition to this one: HIV implemented by PR-NCHADS, Malaria implemented by PR-UNOPS, and Health Systems Strengthening implemented by PR-MOH. Each of these grants is managed through a totally separate Principal Recipient, with a separate management team – therefore at the PR level, there are certainly no duplications on the human resources. Going forward,it is anticipated that all other grants will also be undergoing the Concept Note development and submitting them in mid-October. After that's completed, there may need to be a review of the implementation structures at the SR, SSR levels – in the event that there may be a possibility that at this level, some organizations may be involved in one or more GF-funded grants. In this case, clear review of the implementation arrangements to the lowest level will be conducted to ensure that there are no overlaps and that resources are utilized in most efficient manner. In addition, all PRs in Cambodia, including CENAT, have received Technical Assistance in rolling out the SR Management Manual. This also included a detailed assessment of all SR capacities and a Risk Management workshop in June 2014.

4.3 Minimum Standards for Principal Recipientsand Program Delivery			
Complete this table for each nominated Principal Recipient. For more information on minimum standards, please refer to the concept note instructions.			
PR1 Name	National Centre for Tuberculosis and Leprosy Control (CENAT)	**Sector**	**Govt.**
Does this Principal Recipientcurrently manage a Global Fund grant(s) for this disease component or a cross-cuttinghealth system strengtheninggrant(s)?		☐√Yes	
Minimum Standards		**CCMassessment**	
1. The Principal Recipient demonstrates effective management structures and planning		This PR has a strong management structures and planning in place as evidenced in a strong track record since 2009	
2. The Principal Recipient has the capacity and systems for effective management and oversight of sub-recipients (and relevant sub-sub-recipients)		This PR has the capacity and systems for effective management of SRs (and SSRs), though the quality of supervision of	

	existing 11 SRs could be strengthened. This will be addressed largely by a much decreased work-load by reducing the total number of SRs to a total of 5 organizations, all with strong capacity.
3. The internal controlsystem of the Principal Recipient is effective to prevent and detect misuse or fraud	The internal control system of the PR is effective to prevent and detect misuse or fraud, as demonstrated by track record and documented in the existing financial management systems.
4. The financial management system of the Principal Recipient is effective and accurate	The financial management system of the PR has been effective and accurate for the last 5 years, producing reliable finance reports and analyses of expenditures in support of the existing program.
5. Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health products	There have been no issues identified in this area
6. The distributionsystems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment/program disruptions	The distribution systems and transportation arrangements rely extensively on the central system and are adequate for the purposes of the program.
7. Data-collection capacity and tools are in place to monitor program performance	Strong data collection capacity and tools exist though the latest OSDV has uncovered some significant data quality issues. There is however still somewhat duplicative paper-based system in addition to centrally run HIS. There are plans to strengthen and modernize these systems under this CN

	funding.
8. A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	A functional routine reporting system with full national coverage is in place to report program performance timely and accurately. However, there is a need to modernize and speed up the reporting by implementation of new IT solutions (sputum results via SMS, etc.).
9. Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	The implementing agencies selected for this CN all have strong capacity and relevant national experience to comply with quality requirements and to monitor product quality throughout the in-country supply chain.

4.4 Current or Anticipated Risks to Program Delivery and Principal Recipient(s) Performance

a. With reference to the portfolio analysis, describe any major risks in the country and implementation environment that might negatively affect the performance of the proposed interventions including external risks, Principal Recipientand key implementers' capacity, and past and current performance issues.

b. Describe the proposed risk-mitigation measures(including technical assistance) included in the funding request.

Major risks

There are no major risks in the country and implementation environment that might negatively affect the performance of the proposed interventions. Following the national elections of August 2013, the political situation is relatively stable, having reconfirmed the existing government in place. Some political uncertainty may come about from more vocal opposition party, complex land right disputes and labor unrest in garment factories.

The Cambodian economy has rebounded after 2009 global economic crisis, with the economic growth of over 8% for the past decade, and produced noted poverty reduction, from 47% in 1993 to 30.1% in 2007, based on UNDP. Overall, during the last decade, Cambodia has made remarkable progress with advancing MDGs 1, 2, 4, 5 and 6; however, inequities and gaps persist. It is estimated that a third of Cambodians still live below the poverty line with an income of less than US$0.61per day. The proportion of poor people in rural and remote areas of the country is even higher. In additional, inequality levels have risen sharply over the last two decades. According to WHO, in Cambodia 64%

of Private Health Expenditure (PvtHE) consists of patient's out of pocket money (2010).

Within this context is the concern that, with the RCG vision the country graduating to a Middle Income Country after 2016, external assistance to social sectors, including health, may decline as well as the availability of concessional loans. Such reductions in donor financing may arrest positive trends, especially if not backed by concomitant government reform in public finances. As the Global Fund investment will also continue to decline, it is imperative that the government assumes greater proportion of the program costs.

While CENAT does not demonstrate significant capacity deficits in past and current performance, some weaknesses have been noted, particularly in the area of sub-recipient management. Furthermore, the recent OSDV has identified significant data quality issues; also linked to duplicative paper-based reporting collected by CENAT from the NGO SRs. The country dialogue has also revealed the following barriers to services: travel expenses, poor attitude of the Health Center staff and payment requests. Currently, CENAT has 11 Sub-recipients implementing Community DOTS, through different approaches and without a clear national coordination strategy to guide implementation. The Sub-recipients demonstrate a wide range of performance, which is linked partially to varied approaches in target setting.

This weakness is further compounded by the situation where all national programs operate separately at every level, through vertical systems, with little integration between them and the health system.

Proposed risk-mitigating measures:

To address the sustainability and government's contributions to the program, the NTP has engaged in a dialogue with the government and confirmed US$ 3.6 million in 2015 andUS$ 2.5 million in 2017. As mentioned in an earlier section of this Concept Note, domestic funding supports salaries of government staff at all levels, specifically including the salaries of 161 staff members in CENAT, 50 provincial medical and laboratory supervisors, 44 MDR-TB staff members in 11 treatment sites, 82 OD supervisors, 430 laboratory technicians and over 2,000 health staff based at the health centers and health posts.

To address the issue of multiple SRs the Concept Note has put forward a new arrangement with the SRs, by dividing the country into 5 geographical zones and selecting only 1 SR per zone. CENAT has also developed a CSS package of activities which cover the earlier activities of Community DOTS. In the long run this solution should help with standardization of services nation-wide, diminish the transaction costs, and generate clear cost-efficiencies. While with this solution a number of SRs has decreased in half, there is some risk in transitioning into 5 new, zone-based implementation arrangements. Some SRs may need to redefine their geographical areas of intervention and also undergo internal changes to cope with the additional work burden and others may need to consider engaging some SSRs.

To move away from duplicative vertical systems at the community level, this concept note will make an effort to gradually transition away from the vertical approaches towards the proper cross-cutting community systemsstrengthening activities. At the community level it is envisioned that this concept note would move towards greater harmonization with the MOH mandated HSS activities.

The SR management weaknesses have been a recognized issue by the OIG in the

Country Audit and it was a CP in the HIV grant – the roll-out of this manual was planned by the CCC Working Group. However, the CCC recognized that after a long process of developing an SR Management Manual, PRs were just too busy to focus on this issue, so it has mobilized Technical Assistance through 5% FEI, to lead this process. The 2nd trip of the consulting team was completed with the Risk Management Workshop, attended by all PR teams, including CENAT. The workshop enabled the participants to critically analyze the inherent risks in their respective grants and to design the corrective measures; the 3rd trip under this TA contract will provide the 3rd mission to follow-up on the implementation of the newly introduced concepts and to confirm that the principles of the SR Management Manual have been implemented by all four PRs.

CORE TABLES, CCM ELIGIBILITY AND ENDORSEMENT OF THE CONCEPT NOTE

Before submitting the concept note, ensure that all the core tables, CCM eligibility and endorsement of the concept note shown below have been filled in using the online grant management platform or, in exceptional cases, attached to the application using the offline templates provided. These documents can only be submitted by email if the applicant receives Secretariat permission to do so.

☐√ Table1: Financial Gap Analysis and Counterpart FinancingTable

☐√ Table 2: Programmatic Gap Table

☐√ Table3: Modular Template

☐√ Table4: List of Abbreviations and Annexes

☐√ CCM Eligibility Requirements

☐√ CCM Endorsement of Concept Note

CCM ELIGIBILITY REQUIREMENTS

Two of the six CCM Eligibility Requirements relate to development of the funding request and Principal Recipient (PR) selection processes and will be assessed as part of the funding request:

a. Requirement 1 – Funding request development process

b. Requirement 2 - The Principal Recipient(s) selection process.

For each requirement, applicants must provide evidence of compliance and attach relevant supporting documentation. Also fill in the **CCM Endorsement**.

Funding Request Development Process (Requirement 1)

Describe:

a. The documented and transparent process undertaken by the CCM to engage a broad range of stakeholders, including non-CCM members, in country dialogue and the funding request development process.

b. Highlight the efforts made to engage key populations, specifying who has participated.

The CCM / CCC Performance Assessment for the Eligibility Requirements 3,4,5 6, assessed in December 2014 and updated in May 2014 by the Grant Management Solutions (GMS) gave satisfactory results making CCC eligible to submit a Concept Note for funding from the Global Fund, as detailed inAttachment 1. Results of CCC Performance Assessment,

CCC has made efforts to ensure that Cambodia is fully demonstrating compliance to the Eligibility Requirement 1 by conducting an open, transparent and inclusive process which engages a broad range of stakeholders, in particular the key affected populations and people living with the disease. This transparent and inclusive process of Country Dialogue (CD) has been pioneered in Cambodia by the TB Program, with the leadership of CCC and CENAT, and technical assistance from WHO, described in details in Attachment 2.

a. **National Consultations to Ensure Robust NSP**.The CD process was initiated through a multi-stakeholder national consultation event to ensure a robust National Strategic Plan for TB (2014-2020), conducted on 26-27 February 2014 at NAGA World, with the leadership of MoH and CENAT and with external Technical Assistance provided by the WHO. This Consultation was attended by about 150 participants representing various constituency groups: 12 Cambodian government agencies; 8 UN/Bilateral/Donor; 4 National Hospitals; 16 INGO/NGO agencies; Provincial Officials (OD TB Supervisors, TB Lab Supervisors), Commune Chiefs, Village Volunteers, Former TB Patients, Monks and Media. The event created a forum for extensive consultations leading to some changes to the NSP to ensure the NSP-TB Is robust.

   The revised draft of NSP-TB was reviewed for its technical soundness by different groups, led by WHO consultant, using the JANS Tool, on 12-16 May 2014. The in-depth analysis using JANS attributes resulted to proposed improvement of the NSP. A further review of the NSP-TB by the TB-ICC has been planned onlate June 2014.

b. **GF Engagement**. The GF engagement included the Funding Allocation letter (dated 12 March 2014) indicating all funds available from GF to Cambodia for HIV, TB, Malaria and Health Systems Strengthening, as of 1 January 2014. The additional possible allocation of funds through “incentive” funding was also announced for TB only. On April 25, 2014 the Portfolio Analysis for TB was sent to CCC and partners by the GF CT highlighting the main issues and recommendations that GF suggested should be discussed in the Country Dialogue and consequently be addressed in the Concept Note. The details of the GF Portfolio Analysis was discussed during the GF CT visit to Cambodia on 28April to 2 May 2014

c. Stakeholders Consultations to Input to the Concept Note Development. On 22

April, 2014, CCC and CENAT, with the technical support from WHO, launched the start of the CD Process for TB Concept Note Development by releasing an open invitation letter (Attachment 17) to all stakeholders and to the general public to participate in the nationwide process for TB Concept Note Development. Three main consultative meeting streams were held in the CN Development Process:

1) **The Thematic Working Group**, for the development of a technical proposal based on the National Strategic Plan and to input into the prioritization of key interventions. Ten thematic working groups were formed with participation from about 150 participants from the CCC members, non-CCC members, technical stakeholders and partners. This stream was conducted in Phnom Penh from the 29 April 2014 to 9th of May 2014, at NAGA World, with funding from the WHO.

2) **The Community Engagement Process through Focus Group Discussions** was designed to allow communities of key affected population and members of community based structures (VHSG and HCMC) to provide inputs on the prioritization of activities. Eleven FGDs were participated by a total of 110 participants from selected 4 provinces and Phnom Penh. An interactive, participatory process, using flashcards and creative tools was utilized in these groups generating issues and challenges that the community wanted to be addressed in the Concept Note, detailed in Attachment 18. Report on Community engagement in the Country Dialogue. This stream was funded by FEI through 5% Initiative.

3) **National Consultation to Review and Endorse the Draft TB Concept Note** served as the culmination of the stakeholder consultations for the TB Concept Note Development conducted on 22-23 May 2014, at DARA Airport Hotel, with participation from 143 participants representing groups, such as: 21 government; 40 CENAT, 56 INGO/NGO/Multi/Bi-lateral, 15, CCC members, 9 FGD community representatives and 2 international guests. Attachment 19 presents the Agenda for the Consultation.

The CD process for the TB Concept Note Development has generated a strong support from the stakeholders and created ownership among participating agencies. Towards the end of the process, there was a general sense of confidence that the Concept Note will generate effective programs and responses that that would bring wider impact to the community and key affected populations.

List the supporting documentation relevant to the response (Insert lines as necessary):

Document Title	Attachment #	File Name	Exact reference
CCC Performance Assessr Results	No. 15	Cambodia_808KH_CCM Performance Assessment Tool_29May 2014	
Country Dialogue Process for TB Concept Note Development.	No. 16	TB Country Dialogue Documentation-Draft3-	Page 1-3

(Documentation Draft3)		30May2014	
Open Invitation to join Country Dialogue for TB Concept Note	No. 17	Appendix A. Open invitation to join Country Dialogue for TB Concept Note	Page 1-2
Community Engagement in the Country Dialogue for TB Concept Note Development in Cambodia (Draft2)	No. 18	Report on Community Engagement in the Country Dialogue for TB CN-Draft 2.docx	Pages 4-5
Consultative TB Meeting-Country Dialogue 2014, Prioritization of activities for Concept Note, 22-23 May 2014	No. 19	Final National Country Dialogue Agenda, 22-23 May 2014	Pages 1-2

Principal Recipient (PR) Nomination and Selection Process (Requirement 2)

Describe:

a. The documented and transparent process and criteria used to nominate any new or continuing PR(s).

b. How any potential conflict of interest that may have affected the PR(s) nomination process was managed?

The CCC ensures full compliance to the Eligibility Requirement 2 by launching an inclusive and transparent PR selection process, through newspaper advertisement and wider e-mail circulation and a long process of discussion and clarification on the PR/SR selection criteria based on the need identified in the Concept Note and the capacity of potential PR and SRs.

A Call For Expressions of Interest, for Principal Recipient (PR) and Sub-Recipients (SR), for TB Concept Note 2014 was advertised on 20 May 2014 to the general public through newspaper adverts, including some instructions on the process for expression of interest, timeline and requirements/criteria based on the CCC Governance Manual. Attachment 20 and 21 details the advertisement for the call for Expression of Interest, for PR and SR, respectively.

On 20 May 2014, through the Ex-Com Meeting, CCC confirmed the PR/SR selection process and the process for organizing the Selection Committee, as presented in the Minutes of 20 May 2014 (Attachment 22). Minutes of CCC Ex-com meeting. The PR/SR selection process was delegated to the CCC-OC.

The composition and membership of the PR/SR selection committee was confirmed on the 23 May 2014) with specific Terms of Reference to follow the CCC Governance Manual. The Selection Committee conducted several meetings from 26 to 27 May 2014 to discuss and decide on the selection criteria and the process for the selection of PR and SR (Attachment 23). The Selection Committee has also developed a scoring system of candidates to assess their functional capacities in relation to financial management, institutional and program capacity, procurement and supply management and monitoring and evaluation. Results of

the PR and SRs selection for TB have been documented in Attachment 24. TB Selection Committee Report.There has been no known conflict of interest that may have affected the PR nomination process and the known conflict of interest with SR has been managed well by CCC-OC as discussed in more details in the Selection Committee Report.

List the supporting documentation relevant to the response (Insert lines as necessary):

Document Title	Attachment #	File Name	Exact page reference
Advertisement for EOI for PR – TB	No. 20	Advertisement for EOI for PR – TB	
Advertisement for EOI for SR-TB	No. 21	Advertisement for EOI for SR-TB	
Minutes of the 31st CCC Ex-Com Meeting confirming the PR/SR selection process and formation of the selection committee	No. 22	Minutes of the CCC Ec-Com Meeting confirming the PR/SR selection process and formation of the selection committee	
TB PR/SR Selection Process	No. 23	TB PR/SR Selection Process-TB-CN	
TB PR/SR Selection Report	No. 24	TB PR/SR Selection Report-Final Draft	Pages 1-2