Progress in implementation of prevalence surveys in the 21 global focus countries: an overview of achievements, challenges and next steps

Ikushi Onozaki

Questions to the Task Force

1. What should the Task Force do to ensure that surveys in Africa start in 2010, beyond what is already being done?

2. Does the Task Force agree with the proposed roles and responsibilities of the lead technical agency?
Background Paper No. 6

Progress in implementation of prevalence surveys in the 21 global focus countries: an overview of achievements, challenges and next steps

Background
The renewed interest in prevalence surveys has been motivated by two separate but related needs. The first need is that of countries for better epidemiological information describing the TB situation in order to inform appropriate strategies. Many people responsible for TB control programmes also feel that the WHO estimates of TB burden for their countries are inaccurate, but they lack the data to support major revisions. In some cases, it is thought that the estimates are too high, and therefore efforts at case detection are not appropriately acknowledged. In others, the estimates are thought to be too low, thus not attracting appropriate attention and funding from governments and donors. This country-driven motivation, which has existed for several years, seeks for the most part to determine a single estimate of national disease prevalence.

The second need for prevalence surveys is motivated by difficulties in measuring impact of TB programmes, particularly the impact of the DOTS strategy. The Task Force has driven this with its goal of measuring change over time in TB epidemiology in order to evaluate the effects of existing strategies in the context of significant funding for TB control efforts. In order to measure impact or change over time, serial surveys are needed, and they must be conducted in a consistent and high quality manner so as to both accurately reflect the situation and to evaluate how it is changing. This need led to the development of the Task Force Sub-Group on Disease Prevalence Surveys in 2007, which is largely made up of the authors of the so-called "Red Book" guidelines to TB prevalence surveys. Although the guidelines were written to support the high quality implementation of prevalence surveys rather than to assist in impact measurement, the Task Force recognized the utility of these guidelines in promoting internationally and temporally comparable surveys. These guidelines were necessary because prevalence surveys had largely been ignored for several decades, and so global expertise was limited. The Task Force was also motivated to re-emphasize prevalence surveys due to the use of TB prevalence as an MDG indicator. The initiatives were acknowledged with positive feedback from countries, regions and donors during the January 2010 Executive Board meeting at WHO.

The uses of prevalence survey data
Surveys can tell us much more than just the prevalence of disease in a country. Past surveys have identified limitations of routine case detection by showing how few are captured by screening of chronic cough and smear microscopy alone. Study subject interviews can also identify characteristics of missing cases - where they are concentrated in a country, how their access to care affects case detection, where they seek care and how they utilize various services. Surveys can also reveal the role of the private sector in TB care. Myanmar's previous survey in Yangon division revealed that the NTP was only treating about half of the patients actively on TB treatment. NTP data alone tells us only about those people accessing treatment via this mechanism, but these community surveys
give us a much more complete picture of TB care in a country. In Cambodia, a higher than usual proportion of cases registered with the NTP were women and theories were put forward to explain this as the epidemiology of the disease in that country. However, the prevalence survey identified that male prevalence in the community was 2.5 times higher than that of females, which was considerably different than the picture portrayed through the use of NTP data alone. It turns out that women utilize the NTP more frequently, while men seek care with private providers. These findings help identify areas of needed work in national TB programmes, such as improved collaboration with the private sector, and they also help to define areas of operational research that could be of value to the programme. This rich information can then be used to improve NTP services more broadly.

The work of the Task Force
Through its efforts, the Task Force and its partners are providing the necessary technical assistance and guidance to countries as they undertake, many for the first time, national TB prevalence surveys and interpretation of their findings. The work of the Task Force in this areas is designed to do three things: (1) sensitize countries to the importance and value of prevalence surveys and advocacy around this; (2) provide the necessary technical and managerial assistance to plan and implement the surveys and to analyse and disseminate the survey results; and (3) provide external quality assurance or a form of certification that the survey quality meets internationally recognized standards. In the following pages we will discuss achievements from 2009, bottlenecks to successful survey implementation that the Task Force is attempting to address via its technical assistance mechanisms, and the current status of planned and ongoing prevalence surveys (see Annex B).

2009 Achievements
1. Myanmar launched its national prevalence survey. A previous sub-national (Yangon Division) survey revealed important information about the role of private providers in TB care and suggested that smear-positive prevalence of TB may be more than twice that estimated by WHO. The field operations of the national survey will be completed in the 1st quarter of 2010.
2. Bangladesh completed its survey begun in late 2007. The results suggest a lower prevalence of smear-positive TB than has been estimated. However, it is not known if this is due to study limitations as the survey did not follow the guidelines. Sputum specimens were taken from all survey participants rather than using chest x-ray screening, and culture was not used for all suspects. Further analysis is necessary.
3. In-depth analysis of the results of Viet Nam’s 2007 survey. The burden of TB in Viet Nam was found to be about 60% higher than that estimated by WHO, and the estimates were revised accordingly.
4. Pakistan received significant technical assistance and support from Task Force partners through TBCAP to plan its survey, but, unfortunately, the survey was suspended due to the internal security situation in the country. Re-assessment of security situations is planned in March 2010.
5. Assistance was also provided to Cambodia in preparation for its 2010 survey. This second national survey (first was in 2002) will be crucial in assessing the impact of DOTS as both surveys will have been done in the context of full DOTS coverage.
6. China received assistance in planning its 2010 survey and agreed to the reviews necessary to receive external quality assurance.
7. Assistance to Ethiopia and Nigeria has allowed these countries to likely become the first in Africa to conduct national prevalence surveys following the formation of the Task Force; both are expected to begin in the middle of 2010.
8. Ghana, Rwanda and Tanzania have also received technical assistance and are well on track to begin their surveys at the end of 2010.
9. Kenya, Malawi, South Africa, Uganda and Zambia are the next African countries in the queue which are also receiving technical assistance; however, planning for the World Cup in South Africa is a potentially serious bottleneck.

Major bottlenecks and area of technical and managerial assistance
A key part of the Task Force's work on prevalence surveys is providing technical and managerial assistance to countries to plan for, implement and analyse the results of their surveys. This is done via workshops, missions and ongoing communication. There is an urgent need to develop and implement in practice the role of the leading technical assistance (TA) partner. At present, the TA is often fragmented and its coordination rests heavily within WHO where staff devoted to this work are limited. Action is needed to define the role, develop terms of reference for and assign the leading TA partner for each prevalence survey. The leading partner can take on more of the day-to-day consultation and managerial oversight and provide comprehensive support to remove bottlenecks in survey implementation.

Some of the broad areas requiring managerial assistance are described below.

Fundraising and disbursement
Prevalence surveys are expensive. A typical survey includes 40-60,000 subjects and costs roughly USD 1M in Asia and USD 2M in Africa. The reason for these costs differentials is the larger available pool of healthcare staff in Asia who do not require additional salaries as they are already government employees, the higher per diems paid in Africa, the more secure environment in Asia which allows survey workers to work longer days without regard for daylight, and the scattered nature of health services in Africa necessitating longer travel distances for mobile teams. Although these costs are largely borne by the Global Fund and other donors, this often involves reprogramming of money, a process which is time-consuming and labour intensive. In addition, many countries apply for funding before consulting WHO and, thus, underestimate costs. This leads to longer negotiations regarding budget. Also, significant gaps exist between the time a financial agreement is made and the time at which those funds are disbursed.

Procurement
Procurement often begins before the funds are actually available, but it is generally a very slow process, particularly when it is integrated within the general healthcare system. This of course slows down the start of activities.

Lab capacity development
An important recommendation in the WHO guidelines on prevalence surveys is the use of culture confirmation. As countries have largely been dependent on smear microscopy for diagnosis, labs are often not equipped and staff untrained in the use of culture for diagnosis. This hurdle means that some countries must wait to begin their surveys until lab capacity is sufficient.
Data management
Data management is an often overlooked and undervalued area of survey implementation. Creating and maintaining a high quality database on as many as 60,000 subjects is critical to the accuracy of survey results. Without solid data management, the entire study is flawed. However, these skills are often lacking or their necessity underestimated, requiring extensive training and management oversight.

Technical assistance capacity
There is a bottleneck with regard to the type of technical assistance the Task Force provides. Because these surveys were ignored for so long, there are only a limited number of experts in the world with the skills and knowledge to provide comprehensive guidance. As most recent survey experience has been in Asia, there is a new pool of experienced survey professionals produced there, but linguistic and financial difficulties make bridging technical assistance between survey countries a challenge.

Global goods and country budgets
Although the results of these surveys are a global good - informing allocation of donor resources and the distribution of other forms of assistance - they are funded by the individual countries. Countries, although cognizant of the need for technical assistance, are often reluctant to pay for it out of survey budgets. However, a Task Force providing TA globally to help 21 countries plan and manage surveys would ideally entail multiple missions to each country. Funding constraints mean that these missions must be transformed into multi-country workshops in which the detailed needs of countries may be diluted. Also, these missions would be a perfect setting in which to train younger investigators in the practice of prevalence surveys, thus laying the groundwork for a larger pool of experts, but funding concerns mean that missions must be carried out with the minimum number of consultants in the shortest amount of time necessary.

Ethical review
The Task Force also helps guide countries through the ethical review process. In all cases, a national review is essential. When WHO staff play a major role in the conduct of the survey, it is advised that the protocol be submitted to the WHO ethical review board. If this is not necessary, the Task Force advises that the protocol receive an external review from an internationally recognized body.

In addition to the managerial assistance described above, the Task Force provides technical assistance on a number of survey design and implementation issues. Some common technical issues for which Task Force members provide guidance are described below.

External quality assurance
External quality assurance is often stressed within national TB programmes in order to improve the quality of lab services. The importance placed on it has led countries to introduce it into surveys though it is not designed for this. Survey protocols for diagnosis and case definition must be adhered. However, when countries choose, for example, to perform lab quality controls on a sample of survey specimens, it may alter the results for a portion of study participants, thus removing the standardization of the survey. TB prevalence surveys should stress the importance of internal quality control efforts rather than external quality assurance.
Sample size estimation
Ensuring an adequate survey sample size is essential to a reliable result with limited uncertainty. The process of calculating the necessary sample size requires assumptions about the underlying burden of disease which the survey itself is attempting to measure. As such, it is important to be as conservative (larger sample size) as the budget will allow in order to produce a more accurate estimate of prevalence with smaller confidence intervals. This is particularly a challenge in smaller countries with smaller budgets as the survey consumes a larger proportion of the total TB budget.

Survey eligibility
Many countries have large mobile populations - those who migrate from rural to urban areas for work, pastoral/nomadic farming populations, etc. - who are often officially unrecognized by their national governments. Registered residents are of course easier to capture in a survey, but it is often in these unregistered populations where TB prevalence is higher. Thus, in order to have a truly representative survey, these groups cannot be ignored. This can be a challenge in survey design and implementation. Also, knowledge of a survey may prompt those who are unwell to seek out survey participation - and the diagnosis and care it could provide - by relocating temporarily to family in the survey catchment area. At present, participants who slept the previous night in the surveyed household can be included in the sample, but is one night in the household a sufficient criteria?

Screening limitations and diagnostic practices
In general, NTPs use symptom review followed by smear microscopy in symptomatic individuals to diagnose TB. However, previous surveys have shown that only about 60% of smear-positive cases are symptomatic. For these reasons, the use of chest x-ray as a primary screening method is recommended in the survey guidelines, but this creates a challenge because NTPs are not used to using chest x-ray as a screening tool. Furthermore, more than 50% of smear-negative, culture-positive cases may be missed while numerous false positives may be picked through the use of the standard diagnostic protocols. As such, culture confirmation is needed. Survey guidelines recommend morning sputum for optimal diagnostic potential. As NTP staff have become accustomed to their routine diagnostic protocols, these new protocols for diagnosing and defining a case pose challenges for lab services and staff training.

These diagnostic considerations lead to additional questions that will need to be addressed in the future. The first is the yield from a second culture, which is currently unknown. If we had a better understanding of this yield, we could estimate the number of cases missed by using only a single culture. Also, because chest x-ray can identify old, healed TB, surveys can identify these previously "hidden" cases who have a high chance of developing active disease as they age. These cases may impact the epidemiology of TB in the future as they become active cases, thus highlighting the role chest x-ray may have beyond screening for currently active cases. Given the observations above and in the field, the following issues for discussion/recommendation regarding survey implementation have emerged:

- Should the forthcoming recommendations discard the option of taking sputum for smear examination from all survey participants?
- Should two spot sputum examinations be considered acceptable without the need for a morning specimen?
- Should microscopy be done in local labs or referral labs?
• Is one culture specimen sufficient?
• Should liquid or solid culture be used, and is it dependent on setting?
• How many days should be allowed between sputum collection and inoculation?
• If CPC is used systematically, when and where should the smear be done?

Looking ahead
Given all the challenges that have emerged through the planning and implementation of prevalence surveys a major priority of the Task Force in 2010 is the revision of the "Red Book" guidelines to address many of the technical challenges discussed.

Additional major goals are to begin high quality surveys in African countries, providing much needed data to inform disease control efforts. Early stage support of these surveys is crucial, and it is proposed that counterparts from Asian countries which have conducted surveys be used as advisers and trainers in the African countries. The Task Force also looks forward to a better understanding of the impact and limitations of DOTS as revealed by the China and Cambodia surveys. The Task Force also plans to increase collaboration and coordination with the lab strengthening team in the Stop TB Department. And finally, there will be major efforts to develop human resources for survey technical assistance.

Given the heightened need for technical assistance and the human resource constraints of the Task Force secretariat for coordinating all TA, a major goal of this Task Force meeting is to introduce the notion and define the role of the leading technical assistance agency. It is envisaged that different members of the Task Force can take on this coordinating role in various countries while drawing on the technical expertise of other members as necessary. Please see Annex A for provisional terms of reference for the leading technical agency.
Annex A

Proposed terms of reference for leading technical agency

Background:
The Global Task Force on TB Impact Measurement subgroup on TB disease prevalence survey has agreed that it is important to have a lead technical agency to support implementation of the TB disease prevalence surveys in each of the countries where they have been recommended, in line with the Task Force's recommendations. The leading technical agency will be designated following discussions among the technical partners that are members of the Task Force subgroup on TB disease prevalence surveys and the national survey team. The process of identifying the lead technical agency for each country will be lead and coordinated by Dr. Ikushi Onozaki. To facilitate coordination and provision of technical assistance, it is important to define the roles and responsibilities of the lead technical agency.

Roles and responsibilities of the lead technical agency:
1. Coordination of all technical and managerial assistance for the country's prevalence survey, including but not necessarily limited to:
   - Advice on survey protocol
   - Production of technical aspects of the field manual/SOPs
   - Advice on procurement of equipment and supplies
   - Advice on design, pretesting, and production of study materials
   - Submission of protocol to the relevant Ethical Review Committees
   - Training and pilot testing
   - Monitoring data collection and quality control
   - Advice on data management and analysis
   - Disseminating the results of the survey to government authorities and in scientific meetings
   - Production of survey report and subsequent publication in the grey literature
   (The lead technical agency may delegate TA to other technical partners and experienced staff from countries that have already implemented surveys, according to their availability, expertise and experience)
2. Serve as a member of the steering committee to assist the country in survey implementation;
3. Regular communication with the principal investigator or senior survey coordinator, particularly to support procurement and logistics activities;
4. Regular communication with the Coordinator of the Task Force subgroup on prevalence surveys (Dr. Ikushi Onozaki) to keep him fully informed about progress
5. Seek assistance from the Coordinator of the Task Force subgroup on prevalence surveys (Dr. Ikushi Onozaki) to resolve issues that cannot be addressed without his intervention (expected to be limited);
6. Act as the primary point of contact between the country and all external bodies/agencies regarding the survey
7. Liaise directly with the survey team and relevant funding agencies to resolve funding bottlenecks
<table>
<thead>
<tr>
<th>Country</th>
<th>Lead technical agency</th>
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</thead>
<tbody>
<tr>
<td><strong>Africa</strong></td>
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<tr>
<td>Ghana</td>
<td>?</td>
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<tr>
<td>Kenya</td>
<td>?</td>
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<tr>
<td>Ethiopia</td>
<td>WHO</td>
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<tr>
<td>Malawi</td>
<td>CDC?</td>
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<tr>
<td>Mali</td>
<td>KNCV?</td>
</tr>
<tr>
<td>Nigeria</td>
<td>WHO</td>
</tr>
<tr>
<td>Rwanda</td>
<td>AMP (lab) + KNCV (all but lab)</td>
</tr>
<tr>
<td>Tanzania</td>
<td>KNCV</td>
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<tr>
<td>Uganda</td>
<td>CDC</td>
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<tr>
<td>South Africa</td>
<td>?</td>
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<tr>
<td><strong>Asia</strong></td>
<td></td>
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<tr>
<td>Cambodia</td>
<td>RIT</td>
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<tr>
<td>China</td>
<td>Not applicable (WHO)</td>
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<tr>
<td>Indonesia</td>
<td>KNCV</td>
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<tr>
<td>Myanmar</td>
<td>WHO/RIT</td>
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<tr>
<td>Pakistan</td>
<td>KNCV/TBCAP</td>
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<tr>
<td>Thailand</td>
<td>Not applicable (CDC, RIT, WHO)</td>
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</tbody>
</table>
## Annex B

### Summary of progress in implementation of prevalence surveys, 21+ global focus countries, as of 1 March 2010

#### A. AFRICA : Group 1 (no country has a baseline survey between 1990 and 2009; surveys need to be implemented as soon as possible)

<table>
<thead>
<tr>
<th>Country</th>
<th>Start year of survey (planned)</th>
<th>Protocol/ Sample size (clusters)</th>
<th>Budget (US$ millions)</th>
<th>Funding gap (US$ millions)</th>
<th>Technical assistance partner(s) and funding</th>
<th>Situation, key issues</th>
<th>Action recently taken and Next steps required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tanzania</strong></td>
<td>1st Half of 2010</td>
<td>Finalized: Sent to the TF, Jan 2010, 60,000 (40)</td>
<td>Budget: 1.5 $200,000(Gov), $340,000? (Swiss, Ireland)</td>
<td>$ 1-1.3m (probably more)</td>
<td>KNCV</td>
<td>Pending implementation nearly for 2 years</td>
<td>WHO, KNCV visited on Impact Measurement, Sept 2009 (i) re-estimate the budget and mobilize funds for operation <strong>assist GF R6 reprogramming</strong>; After the on-going review of the initial phase (the end of March?) (ii) discuss revised protocol and operation work-plan</td>
</tr>
<tr>
<td><strong>Mali</strong></td>
<td>2010</td>
<td>Unlikely (no-funding)</td>
<td>Y (revised/ supported by KNCV)</td>
<td>Budget : 2.0 GF Rd 9 Survey specific proposal failed</td>
<td>US$ 2 m Need to re-estimate</td>
<td>KNCV GLI TBETAM</td>
<td>No funding</td>
</tr>
<tr>
<td><strong>Nigeria</strong></td>
<td>1st half of 2010 Pilot in April: Likely to start</td>
<td>Under country ethical review 49,000(70)</td>
<td>Budget: 2.03m Almost covered (US$ 500,000 from GF Rd 6) 1.6 m (R5 2nd phase?)</td>
<td>US$ 0.5 m?</td>
<td>CDC USAID/TB.CAP WHO (overall + radiology)</td>
<td>CXR (Digital CR) Procurement done</td>
<td>Selection of survey site: 70 Local government areas are selected (i) develop precise operation plan, confirming security situations in selected LGAs, (ii) recruit staff and provide training (1st quarter 2010) (iii) <strong>安排 WHO ethical review</strong> (iv) start training (Narayan and Ikushi)</td>
</tr>
<tr>
<td><strong>Malawi</strong></td>
<td>July 2010</td>
<td>Unlikely</td>
<td>Y (drafted) 49,000(56)</td>
<td>Budget. 2.4m (approx US$1 million from GF Rd 7)</td>
<td>US$ 1.4 m (gap from Gov?)</td>
<td>CDC, TBCAP</td>
<td>Need leadership</td>
</tr>
<tr>
<td><strong>Uganda</strong></td>
<td>Feb 2010</td>
<td>Unlikely</td>
<td>Y (draft reviewed, revising) 55,000(60)</td>
<td>Budget 3.2m (US$846,300 from GF Rd 6: Additional $910,000 reprogramming planned)</td>
<td>US$ 1.5m?</td>
<td>CDC WHO</td>
<td>Funding gap + implementin g agency</td>
</tr>
<tr>
<td>Country</td>
<td>Year</td>
<td>Status</td>
<td>Funding Gap</td>
<td></td>
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<tr>
<td>Ghana</td>
<td>Sept 2010</td>
<td>Unlikely</td>
<td>(i) finalize protocol (Reviewed in 2nd quarter 2009), (ii) URGENT: downsizing the plan (sample size &lt;70,000) and fill funding gap, (iii) joint meeting with ORIO in Jan 14-15 in Ghana: may increase the support from ORIO to 1m and GF Rd 5 Reprogramming from saving</td>
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<tr>
<td>Kenya</td>
<td>2010</td>
<td>Y (draft finalized) 72,000(72)</td>
<td>(i) review protocol, may downsize? (ii) URGENT: develop detail budget and plan for grant negotiation on GF Rd 9</td>
<td></td>
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<tr>
<td>South Africa</td>
<td>2010</td>
<td>Y (initial draft reviewed) 110,000 (157)</td>
<td>(i) finalize protocol and develop detail work plan (ii) mobilize funds - national government (iii) in-country coordination May not be able to work during the World Cup 2010</td>
<td></td>
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<tr>
<td>Zambia</td>
<td>July 2010</td>
<td>Y (drafted with KNCV assistance: TF review Dec 2009) 60,000 (80)</td>
<td>Watch and wail until the GF disbursement policy change (i) TF Protocol Review Dec 2009 (RIT, CDC) (ii) Reprogram Rd 1 into Rd 7 Re-estimate the budget (iii) revisit the budget plan, Update GF disbursement/suspension situation Note: ZAMSTAR Research Survey will launch in the 1st quarter 2010</td>
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<tr>
<td>Ethiopia</td>
<td>Mid 2010</td>
<td>Y (Task Force review Dec 2009 46,500 (85)</td>
<td>(i) Need to assess the feasibility, discuss with WR (ii) Feasibility Assessment mission will be planned, 2010</td>
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</tbody>
</table>

**African countries in list of 21 global focus countries that do not yet have a plan to implement a survey**

- Sierra Leone
- Mozambique

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**Note:**
- **US$** indicates United States dollars.
- **GF** indicates Global Fund.
- **Rd** indicates round.
- **CXR** indicates chest X-ray.
- **WHO** indicates World Health Organization.
- **KNCV** indicates Kadoorie Foundation.
- **CDC** indicates Centers for Disease Control and Prevention.
- **RIT** indicates Research Institute for Tropical Diseases.
- **TF** indicates Task Force.
- **AMP** indicates Africa Medical Partnership.
- **WHO Ethical Review** indicates World Health Organization Ethical Review.
- **GF NSA** indicates Global Fund NSA (National Support Activities).
- **KEMRI** indicates Kenya Medical Research Institute.
- **RCC** indicates Regional Cooperation Committee.
- **TBCAP** indicates Tuberculosis Control Program.
- **Procurement** indicates Procurement.
- **Follow up visit: 1-8 March (WHO)** indicates Follow up visit: 1-8 March (WHO)
- **National Election** indicates National Election.
- **Mission** indicates Mission.
- **WHO** indicates World Health Organization.
- **TA** indicates Technical Assistance.
- **USAID** indicates United States Agency for International Development.
- **CDC** indicates Centers for Disease Control and Prevention.
- **RIT** indicates Research Institute for Tropical Diseases.
- **WHO** indicates World Health Organization.
- **KNCV** indicates Kadoorie Foundation.
### B. ASIA:

#### Countries where surveys are on going or just completed

<table>
<thead>
<tr>
<th>Country</th>
<th>Last survey</th>
<th>Target</th>
<th>Field operation</th>
<th>Budget and finance</th>
<th>Funding Gap</th>
<th>TA</th>
<th>Key issues</th>
<th>Next steps</th>
</tr>
</thead>
</table>
| Bangladesh (Field Operation Completed) | 1964-66 1987-88 | 2007-08 (- Mar 2009) | Completed No protocol review by TF | Y (USAID, partially from GFRd5) | NA | ICDDR, KNCV | Careful review including culture and CXR | i) official results  
   ii) further analysis/ concern with methodology |
| Myanmar (Field Operation will be completed by March 2010) | 1994 (cough & smear) | 7 June 2009 – Mar 2010 | Budget US$ 800,000 (3DF, BMGF, USAID and JICA) | Solved (pledged) | RIT WHO PSI | Delay of WHO procurement and fund release  
   Delay of data entry | (i) confirm funding release  
   (ii) mid term review with partners: Dec 2009: done  
   (iii) assist data entry: PSI RIT  
   (iv) plan analysis (preliminary result in June 2010?) and dissemination |

#### Countries where next survey is due to be implemented in the next 3 years

<table>
<thead>
<tr>
<th>Country</th>
<th>Last survey</th>
<th>Next</th>
<th>Protocol</th>
<th>Budget and finance</th>
<th>Funding Gap</th>
<th>TA</th>
<th>Key issues</th>
<th>Next steps</th>
</tr>
</thead>
</table>
| Pakistan+ W (through TBCAP) | 1987 | 2010 | Finalized 13,3000 (95) | Fully covered (TBCAP) | None | TBCAP (KNCV and partners) | Security concern Delay of procurement | (i) security re-assessment  
   (Mar 2010)  
   (ii) training in 2nd quarter |
| China | 1990 and 2000 | 2nd-3rd quarter in 2010 | Finalized 260,000 (157) | Y (national budget: almost secured) | N.A. | WHO | Decentralized management and labs | (i) SOP need to revise  
   (ii) involvement of mobile populations  
   (iii) culture lab assessment  
   (iv) plan review and certification process |
| Cambodia W (through TBCAP) | 2002 | 4th q 2010-2nd q 2011 | Drafted with RIT 1st draft being reviewed | $1.1m? (US$250,000 from GF Rd 5 + JICA, TBCAP + RIT) | $ 0.3? for local management | RIT/JICA WHO TBCAP CDC | JICA local cost sharing will be confirmed in April 2010 | (i) Protocol development with RIT and re-budgeting  
   (ii) Partner meeting on 4 Feb 2010: done  
   (iii) develop SOPs by March |
| Thailand+ | 1991 2006 (but incomplete) | 2011 | Y (draft) | Approved and to be secured | None | CDC RIT WHO | Participation rate: community involvement | (i) Coordination Meeting with NTP, CDC, RIT and WHO (8 Feb 2010,)  
   (ii) finalize protocol  
   (iii) recruit an advisor |
| Viet Nam | 2006-07 First national survey with digital CXR | 2012 | Not yet | Not yet | KNCV, WHO | | | (i) Begin to design in 2010  
   (ii) apply funding GF Rd 10 or 11 |
## C. Non-TF Focus countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Status</th>
<th>GF Rd 9*</th>
<th>Budget</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laos</td>
<td>2010</td>
<td>Being Finalized</td>
<td>GF Rd 9*</td>
<td>$0.9 million(GF)</td>
<td>$200,000 WPRO Cambodia NTP</td>
</tr>
<tr>
<td>Togo</td>
<td></td>
<td>Plan</td>
<td>GF Rd 9*</td>
<td></td>
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<td>Sudan</td>
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<td>Plan</td>
<td>GF Rd 9 approved</td>
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<td>Plan</td>
<td>1.8 million</td>
<td>GF NSA approved</td>
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<td>Yemen</td>
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<td>Plan</td>
<td>GF Rd9 approved?</td>
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TASK FORCE  Work Plan and action points

CENTRAL
Sub-Task Force Meeting: 3 times in 2 years; Once a year with country survey coordinators: may propose to have one in Ethiopia during survey operations if it starts in time.

Full TF: 17-18 March,
Regular coordination meeting with GF (at least 2/month):
@ Tanzania: Facilitate Re-programming; Zambia: Suspension situation; Kenya: R9 grant negotiation; Uganda: Reprogramming situation; may have new proposal of reprogramming from Ghana

Protocol Review including WHO Ethical clearance: 1) TF review by e-mail exchange and teleconference. 2) Facilitate international external ethical review (WHO and partners)
@ Feedback to Nigeria (Eugene, Sian), Ethiopia (Patrick, Frank), Rwanda (Philippe) and Zambia (Yamada, Patrick), Uganda (Sian; Patrick/Emily)
@ How to facilitate the WHO Ethical Review (Ana): Nigeria as the model case

DEVELOP GUIDANCE DOCUMENTS etc
Revision of the Red Book: WHO will take a lead: Writing Committee 16 March
X-ray sample images: Working with Prof Nagao, Chiba Univ Japan, and Satha and Narayan
X-ray procurement guide and training materials: Working with Narayan (Ikushi), Digital CXR consultation meeting in Paris (TREAT TB, 19-20 March)

FOR COUNTRY Support
WORKSHOPS
Introductory WS for new countries x1 (assess needs: Nepal, Indonesia, ….)
For Data managers: @ Philippe, Frank and Eugene will discuss: might be in an African country with follow up country visits.

Study tour: China and Ethiopia: China agreed to accept, Ethiopia with the sub-Task Force meeting

TA
GF project countries by OGAC: Follow up the implementations and CDC proposal, Revision on supports to Rwanda (KNCV, AMP)
Lab and Radiology capacity assessment and training: Lab coordination with GLI visits
Facilitate Asia-Africa collaboration

OTHERS
A training course for young consultants: a course with field practice (during Cambodia survey)