Survey Preparation prior to field operation in Cambodia

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CENAT/JICA National TB Control Project for improving the capacity of NTP through implementation of the 2nd national prevalence survey, Cambodia
We Japanese say ‘Hito, Mono and Kane’

• Hito – Human resources
• Mono – Commodities (Equipment or Tools)
• Kane – Finance (Money)

• To successfully carry out something, we need:
  – Good human resources
  – Proper commodities (quality and quantity), and
  – Sufficient budget
Preparation for the field operations

1. **planning including an estimated lab capacity and budget**
2. protocol development
3. development of standard operation procedures (SOP) and survey forms: questionnaires and recording/reporting forms
4. procurement of equipment (CXR, film processor, generator, LED microscopy, incubator, and freezer)
5. purchase of consumables for CXR and lab exams
6. training on field operations (funded by TBCAP)
7. preparation for data and case management
8. pre-visit to the field
9. field and pilot tests, and
10. fund disbursement for the field operation by GF
Estimation of survey budget

Total sample size (40,000)/No of clusters(62)

X-ray consumables (films and reagents) $53,000

No of TB suspect (20%=8,000)

Lab consumables for smear, culture and ID test $113,000

No of teams 62/40wks = 1~2
3 teams

Lab equipment (incubators, freezer, etc) $50,000

CXR sets (CXR, processor and generator) $101,000

Printing of forms, gift, etc $89,000

Sub-total: $406,000
## Estimated capacity of culture lab without additional incubators

<table>
<thead>
<tr>
<th></th>
<th>CENAT</th>
<th>Battambang RH</th>
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<tbody>
<tr>
<td><strong>Number of existing incubators</strong></td>
<td>11 (5 small, 6 big)</td>
<td>3 (only small)</td>
</tr>
<tr>
<td><strong>Use of incubators</strong></td>
<td>2 small, 3 big +3 big(GF)</td>
<td>3 small</td>
</tr>
<tr>
<td><strong>Max Incubator capacity in tubes</strong></td>
<td>4,992</td>
<td>544</td>
</tr>
<tr>
<td><strong>Routines in tubes</strong></td>
<td>25 specimens x 2tubes x 9weeks = 450 (e.g. MGIT)</td>
<td>10 specimens x 2tubes x 9weeks =180 (e.g. MGIT)</td>
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<tr>
<td><strong>Max Incubator capacity of tubes in survey</strong></td>
<td>4,992−450 ≒ 4542</td>
<td>544−180 ≒ 364</td>
</tr>
<tr>
<td><strong>Max Incubator capacity in cases per week</strong></td>
<td>4,542/4tubes/9weeks =138</td>
<td>364/4tubes/9weeks = 10</td>
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<tr>
<td><strong>Maximum Incubator capacity in cluster</strong> (100 TB cases=1 cluster)</td>
<td>138 x 4weeks/100cases ≒ 5 clusters / 4weeks</td>
<td>10 x 4weeks/100cases ≒ 0.4 clusters /4 weeks</td>
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</table>
### Estimated capacity of culture lab with additional incubators

<table>
<thead>
<tr>
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<th>Battambang RH</th>
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<tbody>
<tr>
<td><strong>Number of incubators</strong></td>
<td>11 (5 small, 6 big)+ 2big from JICA</td>
<td>3 small+1big from JICA</td>
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<tr>
<td><strong>Use of incubators</strong></td>
<td>2 small, 8big</td>
<td>3 small, 1big + 3small from CENAT</td>
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<tr>
<td><strong>Max Incubator capacity in</strong></td>
<td>4992+2,304=7,296</td>
<td>544+1,962=2,560</td>
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<tr>
<td>tubes**</td>
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<td><strong>Routines in tubes</strong></td>
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</tr>
<tr>
<td><strong>Max Incubator capacity of</strong></td>
<td>7,296−450 = 6,846</td>
<td>2,560−180 = 2,380</td>
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<td>tubes for the survey**</td>
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<tr>
<td><strong>Max Incubator capacity in</strong></td>
<td>6,846/4tubes/9weeks = 190</td>
<td>2,380/4tubes/9weeks = 66</td>
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<tr>
<td>cases per week**</td>
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<tr>
<td><strong>Maximum Incubator capacity in</strong></td>
<td>190 x 4weeks/100cases (\cong) 7clusters / 4weeks</td>
<td>66 x 4weeks/100cases (\cong) 2 clusters /4 weeks</td>
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</tbody>
</table>
Estimation of survey budget

- Meetings and training courses (team members)
  - 1st pre-visit (clusters/2)
  - 2nd pre-visit
  - Field test(1) and pilot test (2)
  - Film reading and lab tests
  - Data entry/cleaning
  - Field operation (clusters)
  - Film supervision (20)
  - Mid-term review and preliminary WS
  - Final result WS and publication

- Sub-total: $690,000
- Grand-total: $1.1 million

Total sample size (40,000)/No of clusters(62)
When we should input Hito, Mono and Kane?

• Yes, we estimated how to get Hito, Mono and Kane, but when?
• Preparation for survey is dynamic according to the progress.
• Input Hito, Mono and Kane in timely manners into various phases we are confronting.
  – SOP and equipment: available prior to staff training.
  – Some materials: expiry date
  – Disbursement of budget when necessary: purchase of equipment or materials, training or field operation
  – Dispatch of international experts: synchronized with the training and the key meetings
Preparation for the field operations

1. planning including an estimated lab capacity and budget
2. protocol development
3. development of standard operation procedures (SOP) and survey forms such as questionnaires or recording/reporting forms
4. procurement of equipment (CXR, film processor, generator, LED microscopy, incubator, and freezer)
5. purchase of consumables for CXR and lab exams
6. training on field operations (funded by TBCAP)
7. preparation for data and case management
8. pre-visit to the field
9. field and pilot tests, and
10. fund disbursement for the field operation by GF
Mono – Proper equipment (CXR, processor and generator)

- Compact
- Easy-to-carry, not heavy
- Durable to being carried on bumping road
- long-hour and mass-screening use
- No public power supply and water
Mono – Proper equipment
(CXR, processor and generator)

• Generator: gasoline or diesel engine?
  – Gasoline: small and light weight, but flammable
  – Diesel: not flammable, but large and heavy with high power
Hito – Human Resource
Training to gain skills

• Census
• Interview
• CXR taking and reading
Hito – Human Resource
Training to gain skills

• Sputum collection and transportation
• Lab exams for smear, culture and identification
• Data and case management
Actual time line

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1) planning of budget, lab and team
2) protocol development
3) SOP and survey form development
4) procurement of equipment
5) purchase of consumables
6) training on field operations
7) data and case management
8) pre-visit to the field
9) field and pilot tests
10) fund disbursement for the field
11) field operation
12) preliminary results
13) final results and publication
THE 2\textsuperscript{nd} NATIONAL TB PREVALENCE SURVEY IN CAMBODIA
(2010 – 2011)

STUDY SITES
- Urban Clusters
- Rural Clusters
- Additional Clusters
We Japanese say ‘Hito, Mono and Kane’

- Hito – Good human resources
- Mono – Proper commodities
- Kane – Sufficient and timely budget

- To successfully carry out something, we need more
  - Information
  - Good luck
  - God helps those who help themselves.