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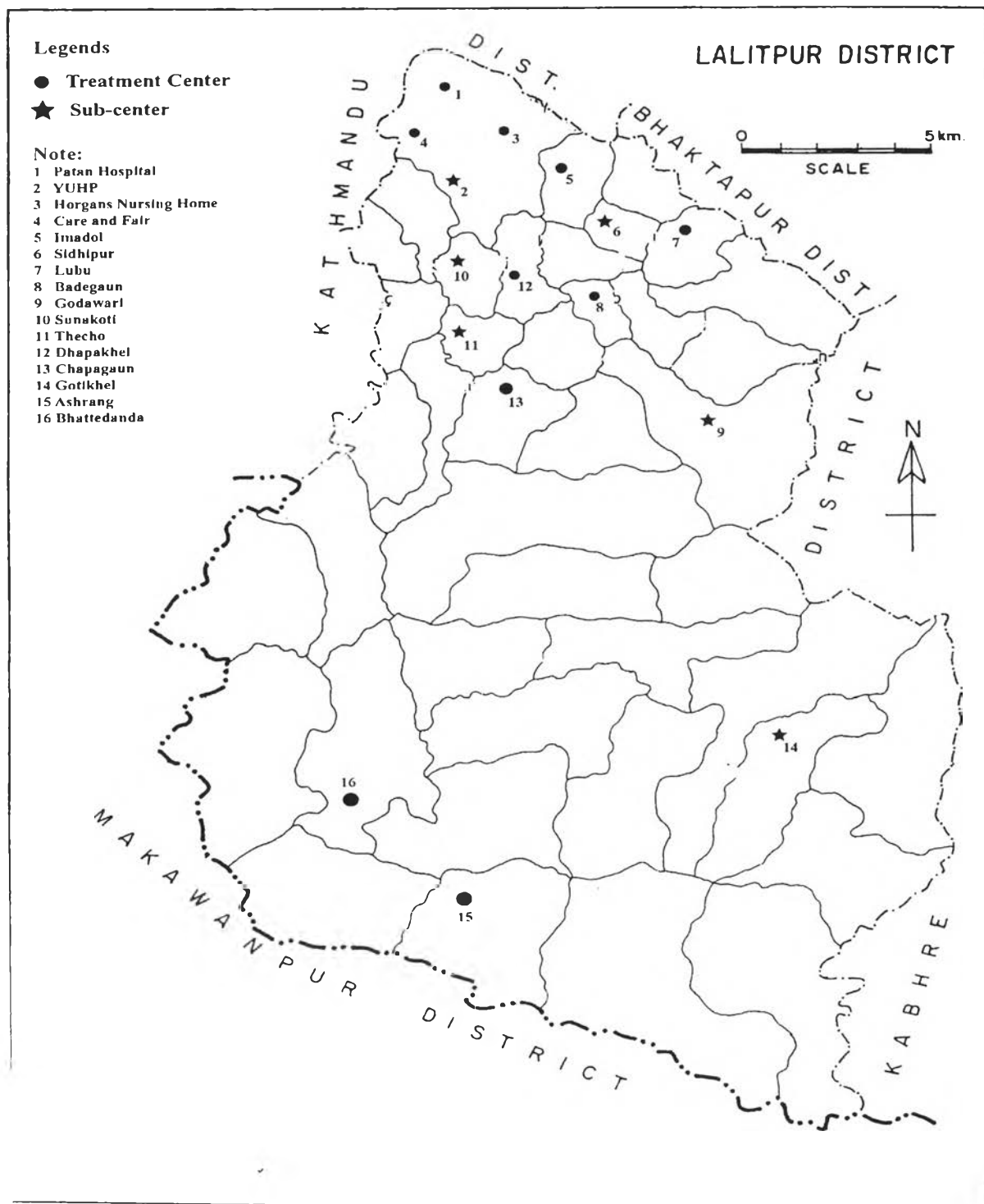
## **APPENDICES**





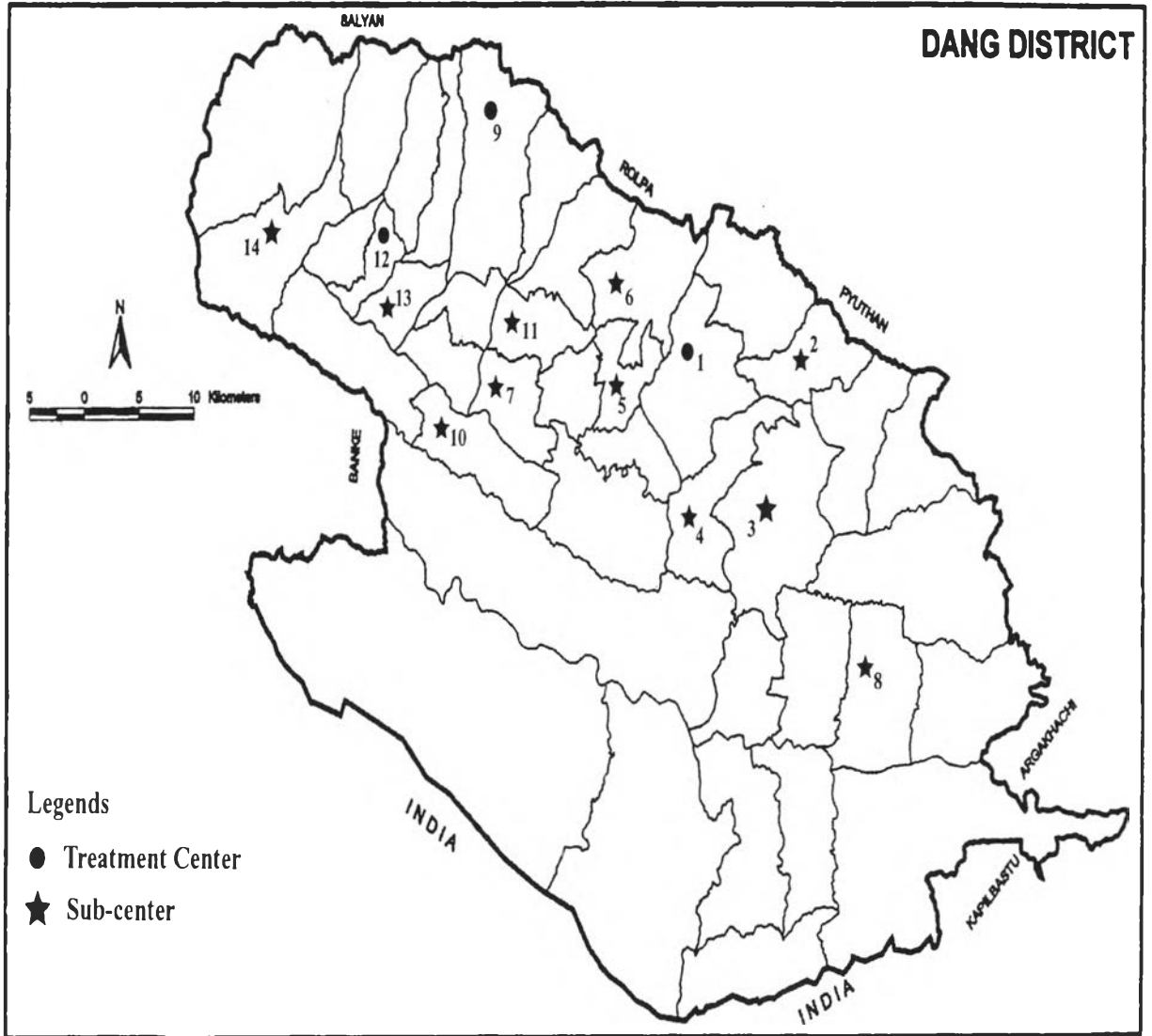
## Appendix B

### Map of Lalitpur



Appendix “C”

Map of Dang



Note:

- |              |               |
|--------------|---------------|
| 1 INF        | 8 Gadhawa     |
| 2 Syuja      | 9 Tulsipur    |
| 3 Rumpur     | 10 Manpur     |
| 4 Laxmpur    | 11 Halwar     |
| 5 Narayanpur | 12 Shreegaun  |
| 6 Hapur      | 13 Hekull     |
| 7 Duruwa     | 14 Panchakule |

## **Appendix D**

### **Guiding Questions for Focus Group Discussion (FGD)**

#### **A. Burden**

1. What are the major problems facing by TB patients?
2. Do all patients access 3 visits for microscopy?
3. Are the patients taking TB drugs daily?

#### **B. Physical Availability**

4. How the people are getting information on TB services?

#### **C. Financial Affordability**

5. What are the major costs involved in getting TB services?

#### **D. Acceptability**

6. How the gender, caste system and poverty perpetuate the TB?

#### **E. Geographical Accessibility**

7. How many people are getting TB services in less than 30 minutes walk?

#### **F. Conflict**

8. How conflict affects the TB service delivery?

## Appendix E

### Questionnaire

ID

**Access to and Utilization of Health Services in the Areas with and without Civil  
Conflict in Nepal: A Case for Tuberculosis through District Health Facilities**

Please let me introduce myself. I am..... Living in .....District. I am now assisting Mr. Suresh Kumar Tiwari who is doing this study in order to improve the TB services in this district. If you need I would be pleased to explain further. I would like to ask you some questions. Please feel free to ask me any questions.

<p><b><u>Instructions to Interviewer</u></b></p> <p>Please mark ✓ in <input type="checkbox"/> or fill in .....</p> <p>Use the separate sheet if necessary</p>
---

a. **Date of interview** ...../...../ 2003

Date                      Month

b. **Name of patient** .....

c. **Sex**            1)  Female    2)  Male

d. **Education:** 1)  Literate    2)  illiterate

e. **Date of birth** ...../...../.....    **Age** .....years

Date                      Month                      Year

f. **Address**.....

g. **Type of health facility:** 1) treatment center 2) Treatment Sub-center

h. **Types of cases:** 1) Positive 2) Negative 3) Extra-pulmonary

i. **Treatment category:** 1) Category I 2) Category II 3) Category III

### **Section I : Background**

1. How many members are in your household?

- 1) 1  2) 2-6  3) 7-10  4)  $\geq 11$

2. What is your religion?

- 1) Hindu  2) Buddhist  3) Muslim  4) Christian

3. If you are Hindu, what is your Caste?

- 1) Brahmin  2) Chhetri  3) Baishya  4) Shudra

4. What is your occupation?

- 1) Agriculture  2) Teaching  3) Government service  
 4) Labour  5) Business

5. How much do you earn every month?

- 1)  $\leq 2,300$  NRs  2) 2,301 – 3,000 NRs  3) 3,001 – 4,000 NRs  
 4)  $> 4,000$  NRs

6. Do other people sleep in your room?

- 1) Yes  2) No

7. If yes how many persons?

- 1) 1  2) 2-4  3) 5-8

8. Do any other family members have TB?

- 1) Yes  2) No

9. If yes how many persons?

- 1) 1  2) 2  3)  $>2$

## **Section II : Tuberculosis (TB)**

10. When did you start to take TB drugs?  
 1) Last week                       2) Last month                       3) Last 3 months  
 4) Last 4-5 months               5) 6 months or more
11. *Are you taking TB drugs every day?*  
 1) *Yes*                       2) *No*
12. *Have you visited district health facility for microscopy on three occasions?*  
 1) *Yes*                       2) *No*
13. How do you feel after the TB drugs were started? (check all that apply)  
 1) Stop fever at night               2) Stop cough  
 4) Eat more food                       8) Gained weight
14. Who observes, you while you are taking TB drug? (check all that apply)  
 1) Health worker                       2) Teacher  
 4) Relatives                       8) Family members  
 16) Myself
15. How often do you get advice from health personnel?  
 1) Every day                       2) Every week                       3) Every month  
 4) Never
16. Have you ever stopped taking TB drugs?  
 1)  $\leq 7$  days    2) 8-15    3) 16-30    4)  $\geq 31$     5) Never Stop

## **Section III : Physical Availability**

17. Do you know the TB service delivery system of health facility?  
 1) Yes                       2) No
18. Does health facility has microscopy?  
 1) Yes                       2) No                       3) I don't know
19. *In your opinion do all TB cases can come for treatment?*  
 1) *Yes*                       2) *No*                       3) *I don't know*
20. *If yes how many cases could complete the course?*  
 1) *All*    2) *two third*                       3) *half*                       4) *I don't know*

21. Do you know about the TB drugs that you are taking?  
 1) Yes             2) No
22. Have you ever faced the problem in getting TB drugs?  
 1) Yes             2) Never
23. If yes how many times?  
 1)  $\leq 2$  times     2) 3- 4 times     3)  $>4$  times
24. How long do you need to wait for health worker in health facility?  
 1) 30 minutes             2) 1 hour  
 3) 2 hours                 4)  $<30$  minutes
25. What do you do during your waiting time?  
 1) Received health education             2) Standing on row  
 3) Seat on the floor
26. How often you want to get advice from health worker?  
 1) Every day     2) Every week     3) Every month
27. From which level do you want to get services?  
 1) Doctor                                     2) Auxiliary Health Worker  
 3) Village Health Worker     4) Auxiliary Nursing Mid-wife
28. How do you get services in the rainy season?  
 1) Waiting inside     2) Waiting outside             3) Can not go
29. Are there different examination rooms for males and females?  
 1) Yes             2) No
30. Which aspect of health facility needs to be improved?  
 1) Drug supply             2) Health education  
 4) Infrastructure             8) Attitude of health staffs'  
 16) Satisfied with all aspects

#### **Section IV: Financial Affordability**

31. How much do you pay for travel for in each visit?  
 1)  $\leq 15$  NRs     2) 16-30 NRs     3) 31-50 NRs     4)  $\geq 51$  NRs
32. Due to the affordability, are you getting problem in continuing the TB treatment?  
 1) Yes             2) No             3) Some times
33. Who spends money for you?  
 1) Myself             2) Husband             3) Parents     4) Children

34. How much time do you usually lose for each visit?  
 1) 3 Hrs.       2) Half day       3) 1 day       4) <1 hour
35. How much money do you spend for each visit in?  
 1) One-day income of lowest paid govt. staff       2) 2 days  
 3) 3 days       4) < One day income
36. How much do you need to pay for registration fees?  
 1)  $\leq 5$  NRs       2) 6-10 NRs       3)  $\geq 11$  NRs       4) Free
37. What do you think TB services should be?  
 1) Totally FREE       2) FREE-Registration       3) FREE Doctors fees  
 4) FREE drug
38. What about your daily income after becoming a TB patient?  
 1) 25% reduced       2) 50% reduced       3) 75% reduces  
 4) 100%       5) No difference
39. Did you stop job after becoming a TB patient?  
 1) Yes       2) No
40. Can you get leave from your work place when you go to health facility?  
 1) Yes       2) No       3) Self employed
41. What sector of your family does TB affect? (check all that apply)  
 1) Income       2) Education  
 4) Social recognition       8) No effects
42. How can we make TB service affordable? (check all that apply)  
 1) Use labor exchange       2) Community saving  
 4) Local tax

### **Section V: Acceptability**

43. Where did you go first when you felt ill?  
 1) Traditional healer       2) Natural therapist  
 3) Health facilities
44. Are you satisfied with TB services, delivered by the health facility?  
 1) Yes       2) No
45. Are there any female staffs in health center?  
 1) Yes       2) No



46. If yes, how many?  
 1) 1                       2) 2                       3) >2
47. What kind behavior characterizes the care you receive in the health facility?  
 1) Dogmatic                                       2) Supportive  
 3) Not good not bad
48. What do you know about TB?  
 1) Completely curable with drug                       2) Disease of poor  
 3) DOTS     4) Kills the people
49. Do you know about DOTS?  
 1) Yes                       2) No
50. Who provides the TB services?  
 1) NGO     2) Government  
 3) Local government
51. How long do you need to take TB drugs?  
 1) 2 months       2) 6 months                       3) 8 months                       4) 9 months  
 5) I don't know
52. What do you think about TB treatment time?  
 1) Too long       2) Medium                       3) Good time

## **Section VI : Geographical Accessibility**

53. Who took you to the health facility the first time? (check all that apply)  
 1) Myself                       2) Family member                       4) Relative  
 8) Friend                       16) Health worker
54. How do you go to health facility?  
 1) Crossing jungle       2) Crossing river       3) Don't need both
55. What means of transportation do you use?  
 1) Walk                       2) Public transport  
 3) Own vehicle
56. How long it takes to go there?  
 1) ≤30 mins                                       2) 31 mins – 1 hr.  
 3) >1 hrs.-2 hrs. or less.                       4) >2 hrs.
57. Where is the health facility located?

- 1) In my community                       2) Near school in my community  
 3) Far from my community

58. What you think about the location of the health facility?

- 1) Should be in community     2) Far from the community

### **Section VII : Civil Conflict**

59. How often have you faced the problem in getting TB drugs?

- 1)  $\leq 3$  time                                       2) 4-10 times  
 3) Never     4)  $> 10$  times

60. What factors threaten your visit to health facilities? (check all that apply)

- 1) Family supports                               2) Civil Conflict  
 4) Affordability                                       8) Geography                       16) No threats

61. What kind of discrimination exists in the health facilities? (check all that apply)

- 1) Caste                       2) Gender     4) Class     8) Relationship  
 16) No discrimination

62. How many mass campaigns (by Maoist) were organized during the last 3 months?

- 1)  $\leq 3$                        2) 4-6                       3) 7-12                       4)  $\geq 13$   
 5) Not organized (skip to 64) ↗

63. What kind of problem did you face during mass campaigns?

- 1) Can not go to the health facility     2) Can not meet health worker  
 3) Can not get TB drugs                       4) No problem

64. How many curfews (not allowed to walk outside house in certain time) were declared during the last 3 months?

- 1)  $\leq 10$                        2) 11-20                       3) 21-30     4)  $\geq 31$   
 5) Not declared (skip to 66) ↗

65. What kind of problem did you face during the curfews?

- 1) Cannot go to the health facility     2) Can not meet health worker  
 3) Can not get TB drugs                       4) No problem

66. How many closures (market, transport and offices closure offered by rebel) were declared during last 3 months?

- 1)  $\leq 3$                        2) 4-6                       3) 7-12                       4)  $\geq 13$   
 5) Not declared (skip to 68) ↗

67. What kind of problem did you face during the closures?
- 1) Can not go to the health facility       2) Can not meet health worker  
 3) Can not get TB drugs                       4) No problem
68. How many casualties (death during confrontations) happened during last 6 months?
- 1)  $\leq 3$                        2) 4-6                       3) 7-12                       4)  $\geq 13$   
 5) Not happened (skip to 70) ↗
69. What kind of problem did you face during the casualties?
- 1) Can not go to the health facility       2) Can not meet health worker  
 3) Can not get TB drugs                       4) No problem
70. How many killings were happened (civilians killed by Government and Maoist) during last 3 months?
- 1)  $\leq 3$                        2) 4-6                       3) 7-12                       4)  $\geq 13$   
 5) Not happened (skip to 72) ↗
71. What kind of problem did you face during the killings?
- 1) Can not go to the health facility       2) Can not meet health worker  
 3) Can not get TB drugs                       4) No problem
72. In average how many days per month have you faced problems going to the health facility?
- 1) 16-31 days                       2) 8-15 days  
 3)  $\leq 7$ days                       4) No problem

**Thank —You**

## Appendix F

### Letter of Consent

**To: Mr./Mrs.:**

**Title of the Study:** Access to and Utilization of Health Services in the Areas with and without Civil Conflict in Nepal: A Case for Tuberculosis through District Health Facilities

**Principle Investigator:** Suresh Kumar Tiwari

**University:** College of Public health, Chulalongkorn University, Thailand

This consent form, is a part of the process of informed consent. This letter will provide you basic information on what the study all about and request your participation in the study. If you have any questions regarding to this study, please feel free to contact principal investigator or surveyors.

The purpose of this study is to improve the quality of TB service in your district. In order to achieve the objectives, we are expecting to collect information by interviewing approximately 200 TB patients, who are taking the TB drugs currently. The surveyors will ask questions about 30 minutes time, for the interview. Besides this, some of you will be invited for the Focus Group Discussion (2 hours) and planning of the TB services of the district (3 hours). In addition, we would like to request you for your permission to review your medical record for planning and validation purpose.

We would like to assure you that, your personal information i.e. name and address will be kept confidential. The principal investigator may have your record for further study. However, you can decline to participate in any further study. Your signature in this form will indicate your approval to provide necessary information during the study. In addition, it will mean that you are agree to participate as a study subject.

We are committed to respect your individual rights. You can decide not to join or quit during the study process. The study intended to uplift the TB services in your district. All the required administrative process i.e. approval local administration and coordination with DHO, has already been made. If you have any question, please feel free to contact:

Suresh Kumar Tiwari  
Principal Investigator  
Phone 083 20560  
083 21282

Sincerely  
Suresh Kumar Tiwari  
Date: / / 2003

## Approval Form

As requested by the Principle Investigator Mr. Suresh Kumar Tiwari. I am Mr./Mrs. ....from..... willing to participate in the process of the study entitled Access to and Utilization of Health Services in the Areas with and without Civil Conflict in Nepal: A Case for Tuberculosis through District Health Facilities.

Name:

Signature:

Date:

(Note: This form will be used to maintain your record and reference of the study. It will be kept confidential)

## Appendix G

## Approval from Nepal Health Research Council



## Nepal Health Research Council



NHRC

Date :

Ref. 1252

Executive Committee

Chairman

Vice-Chairman

Prof. Ramesh Kant Adhikari

Member-Secretary Cum  
Administrative Chief  
Dr. Anil Kumar Mishra

Members

Dr. Laxmi Raj Pathak  
Dr. B.D. Chataut  
Dr. Saraswati M. Padhye  
Dr. Ugra Narayan Pathak  
Dr. Rishi Ram KoiralaRepresentative  
Ministry of Finance  
National Planning Commission  
Ministry of Health  
Chief, Research Committee, IOM  
Chairman, Nepal Medical Council

## Letter of Approval for Research Proposal

Date: 4<sup>th</sup> July, 2003**PI: Mr. Suresh Kumar Tiwari****Title: Access to and utilization of health services in the areas with and without Civil Conflict in Nepal: A case for TB Services through district health facilities**

Dear Mr. Tiwari,

We are pleased to inform you that above mentioned proposal submitted by you has been approved by NHRC Executive Board on 30<sup>th</sup> June, 2003 (16<sup>th</sup> Aasad, 2060) after proper recommendation of Ethical Review Board (ERB). This also certifies that there is no ethical objection.

As per NHRC law you have to strictly follow the protocol stipulated in your proposal. Any changes in objective(s), problem statement, research question or hypothesis, methodology, implementation procedure, data management and budget that may be necessary in course of the implementation of the research proposal can only be made so and implemented after prior approval from this council. Thus, it is compulsory to submit here the details of such changes intended or desired with justification prior to instituting actual change.

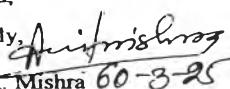
Moreover, you are directed to strictly abide by the National Ethical Guidelines published of NHRC during the implementation of your research proposal.

Lastly, you are obliged to submit periodic progress reports every 3 months and three copies of the final research report with brief presentation of the findings and the financial statement of expenditure if funded by NHRC. If an article based upon that research is likely to be published, you must take prior permission of NHRC if funded for the same.

If you have any question, please contact our research officers. You are requested to follow the terms and conditions stipulated by NHRC as per the attached letter, if any.

Thank You,

Yours Truly,

  
 Dr. Anil K. Mishra 60-3-25  
 Member-Secretary

## Appendix H

Approval from District Administration Office Lalitpur



श्री ५ को सरकार  
गृह मन्त्रालय

फोन नं.: { ५२११६५  
५२७२१३  
फ्याक्स: ५२३०५१

## जिल्ला प्रशासन कार्यालय

(.....फाँट)

ललितपुर

लक्ष्मी निवास, ललितपुर

पत्र संख्या:-

चलानी नं.: १९८३

प्राप्त पत्र संख्या र मिति:-



जो जसलाई सम्बन्ध छ ।

The Collage of Public Health Chulalongkorn University,  
थाईल्याण्डबाट "Access to and Utilization of Health Services in the  
Areas with and without Civil Conflict in Nepal : A Case for  
Tuberculosis Services through District Health Facilities" विषयमा  
विद्यावारिधि गर्न लाग्नु भएका सुर्खेत निवासी श्री सुरेश कुमार तिवारीलाई यस  
ललितपुर जिल्ला भित्र सो विषयसँग सम्बन्धित कुराहरुमा अध्ययन एवम् अनुसन्धान  
गर्ने क्रममा सम्बन्धित निकायहरुले आवश्यक सहयोग पुऱ्याउने गरी यो अनुमती  
दिइएको व्यहोरा आदेशानुसार अनुरोध छ ।

१०५६/१०१/१४  
प्रशासकीय अधिकृत

## Appendix I

Approval from District Administration Office Dang



श्री ५ को सरकार  
गृह मन्त्रालय

कार्यालय :- १०१३३  
:- १००२८  
भासास :- १००२९

## जिल्ला प्रशासन कार्यालय

पत्र संख्या :- सूचा. प्र. ०२९/१०.

चलानी नं. : ६९६२



त्रिभुवन नगर दाङ

मिति २०२९.११.१८

विषय : जी जसलाई सम्बन्ध छ।

The College of Public Health Chulalongkorn University, ग्रहण्यण्डकार "Access to and Utilization of Health Services in the Areas with and without Civil Conflict in Nepal: A case for Tuberculosis Services through District Health Facilities" विषयमा विद्यवारिधि गर्न लाग्नु भएका सुरेष्ठ निवासी श्री सुरेष्ठ कुमार तिवरीलाई यस दाङ जिल्लाभित्र सौ विषयसंग सम्बन्धित कुराहरूमा अध्ययन एवं अनुसन्धान गर्ने क्रममा सम्बन्धित त्रिकायहरूले आवश्यक सहयोग पुऱ्याउने गरी यो अनुमती दिइएको व्यहोरा अनुरोध छ।

M. L. Mani

डा. विष्णु शर्मा



## Appendix J

## Approval from District Health Office Lalitpur



श्री ५ को सरकार

फोन नं. ५११५६६

स्वास्थ्य मन्त्रालय

स्वास्थ्य सेवा विभाग

मध्यमाञ्चल क्षेत्रीय स्वास्थ्य सेवा निर्देशनालय

जिल्ला स्वास्थ्य कार्यालय

पत्र संख्या :- ०५५/६०

चलानी नं. :-

प्राप्त पत्र संख्या र मिति :-



मिति २०५५-११-२३.....

विषय:- श्री एसलाई सम्बन्ध छ।

उपरोक्त सम्बन्धमा THE COLLEGE OF PUBLIC HEALTH CHULALONGKORN UNIVERSITY थाइल्याण्ड वर P.H.D. उम्मेदवार सुर्वेत जिल्ला निवासी श्री सुरेश कुमार निवादिने Access to and Utilization of Health services in the Areas with and without civil conflict in Nepal; A case for Tuberculosis services through District Health facilities" विषयमा अध्ययन गर्न लाग्नु भएकोले यस हेतुमा पोष्ट, प्रा. स्वा. का. लगा सब हे.पो.मा आउनु भएका निजलाई आवश्यकता सहयोग गरि दिन हुन अनुरोध गर्दछु।

श्री ज्योति प्रसाद ताम्रकार  
बरिष्ठ जनस्वास्थ्य अधिकृत

## **Appendix K**

### **Planning to be Used by the District Health Facilities, Lalitpur**

#### **Promoting Patients Participation in the TB Control Program in Lalitpur : A Five Year Plan to be Used by the District Health Facility**

##### **Introduction**

The participatory approach was used to develop that plan for TB control in Lalitpur District. All the participants (9) who participated in the planning process were partners of the National TB Control Program declared by National Tuberculosis Center (NTC), Nepal. Participants were from; District Development Committee (DDC), Municipality, District Health Office, DOTS Center, YUHP, TB patients (3), NATA, and Community Volunteer. The planning steps developed by Primary Health Care Management Advancement Program (PHCMAP), planning and assessing health workers activities module number three were adapted in this study.

Following steps were used while developing the plan in Lalitpur District. With the individual level help of all participants the Principal Investigator (PI) has been accomplished the step one. Rests of the steps (1-3) were done by an equitable participation of all participants in a group.

##### **Step 1. Description and Map of the Target Area**

###### **a) Secondary Data and Information**

The secondary data and information were collected from different governmental and non-governmental agencies, which were working in TB control program in Lalitpur

District The TB records kept by DHO were reviewed first and the name list of the DOTS Centers were noted. The socio-demographic data were collected from DDC. Other related information were collected from DOTS Center of Patan Hospital, TB patients, United Mission to Nepal; Community Development and Health Project (CDHP) and Lalitpur Sub-Metropolitan City.

The socio-demographical situation of the District has been reported to be better than average national figures. The literacy rates of male and female were (80.8 percent and 59.4 percent) respectively. The Lalitpur DDC (2003) mentioned that except for some hilly areas the means of transportation can reach most parts of the District. The total population has been reported to be 337,785 (male 172,455 and female 165,330) in 2001. The population growth rate was 2.73 percent in 2001 (CBS, 2002). The basic education, communication and water and sanitation were identified to be good in the District.

It has been identified that that there were 30 Sub-Health Posts, 9 Health Posts, 3 Primary Health Centers, 1 Government (Supported by UMN) Hospital, 1 Mental Hospital, One Leprosy Hospital, some nursing homes, herbalists and private medical practitioners were functioning in Lalitpur District.

Under the District Health Office (DHO), total 23 DOTS Centers were providing the TB services in the District in 2003. National Tuberculosis Center (2001/2002) reported that 10 DOTS Treatment Centers are providing Microscopy services in the District. A total of 717 cases were reported in the year 2002/2003. The total positive cases were 363

(male 248 and female 115). The patients and providers mentioned that except few Centers all most all Centers are accessible to the patients. More importantly, the Focus Group Discussion carried out in different 3 levels were used as the primary source of the data. The FGDs were useful in developing the common consensus among the participants during the planning. The major findings of the FGDs were pasted on the wall so that each participant could read them easily.

### **b) Target Areas**

The study has been conducted in 16 of the 23 DOTS Centers. Thus the target area was been decided to be whole District. However, the planning will limited to the TB services delivery which means all the DOTS Centers of the Districts have been taken as the target areas in planning. All the participants of the planning process suggested to take all DOTS Centers as the target areas of the Districts.

### **c) Maps of Target Areas**

The map of the District was collected from DDC and symbolized the areas where DOTS Centers are located. The helps from DDC and DHO staffs were achieved while finalizing the map of the DOTS Centers (see Appendix E).

## **Step 2. Needs and Available Resources**

The Focus Group Discussion (FGD) was conducted to identify the community needs and available resources. Step 1 has been presented and components of step 2 were presented among the participants. For each step, common consensus of the participants was achieved.

### **a) Indicators of Access and Utilization of TB Services**

All of the participants agreed upon the following 2 indicators

1. Access to TB services refers to the case detection of more than 70 percent. It should also address the patients' experiences, which means access refers to possibility of obtaining TB services by all people regardless the class, caste, geography and education.

2. Utilization of TB services refers to the cure rate more than 85 percent. It should also be able to deal with the patients experience on whether they are faced the problem in utilizing the TB services every day or not.

### **b) Internal and External Resources**

For the purpose of these plan internal resources indicates the resources available in District Health Facility, DOTS microscopy Centers, and DOTS Sub-Centers. In another way internal resources mean the resources allocated by Ministry of Health, National Tuberculosis Center. The external resources define the inputs from other than MOH/NTC. Following resources were identified during the discussion among the participants.

#### **a) Internal Resources**

1. Establishment of Hospital, PHC, HP and SHP.
2. Provision of the staffs.
3. TB drugs.
4. Microscopes.

5. Medical equipments.
6. Means of transportation.

***Funds for:***

7. Training to DOTS staffs
8. Training to Microscopy staffs
9. Orientation to the support staffs at health facilities.
10. Orientation to the Female Community Health Volunteers (FCHV).
11. Print materials.
12. Hoarding boards.
13. Advertise through audiovisuals channels.
14. Training to the NGOs health staffs.
15. Training to the NGOs support staffs.
16. Quarterly review workshop.
17. Monthly District DOTS Committee's meeting.
18. DTLA workshop.
19. Exposure visits within and outside the country for health staffs.
20. Provision of transport equipments.
21. Medical equipments to DOTS Center to private sectors.
22. Training to the staffs in private sector.
23. Award to the best TB control worker.
24. National TB day.
25. International TB day.

**b) External Resources**

1. DOTS Centers in private facilities and NGOs.
2. Provision of the health staff.
3. Provision of support staff.
4. Provision of volunteers.
5. Monitoring
6. Vitamins to the patients.
7. Food and accommodation for the poorest patients (decided by individual health institution's own policy).
8. Land for the health facility building.
9. Construct the rooms for DOTS Centers.
10. Fund for the best TB workers.
11. Training of the volunteers.
12. Local campaigns on TB.
13. Print materials.
14. Audiovisual presentation at community level.
15. Launch the Street Drama on TB in the community.

Above mentioned resources have been taken as the major resources widely practiced in Lalitpur District.

### **Step 3. Priorities and High –Risk Groups**

#### **a) Priorities for TB Control**

The priorities were set after reviewing the NTPs priority activities. Participants come up with many ideas to deal the problem creatively. Common consensus was made after a wider level of discussion.

1. Hold the detected cases properly and increase the adherence to the TB services.
2. Decrease the default rate by promoting patients' interests and by involvement of the private sectors.
3. Ensure the timely availability of health workers in health facility.
4. Strictly follow the three times sputum examinations during diagnosis.
5. Store the drugs in safer place.
6. Provide the health education about the treatment course, side effects of the drugs. and need to follow-up sputum examinations.
7. Exactly follow the NTP treatment regimen policy.
8. Ensure the 2<sup>nd</sup>, 5<sup>th</sup> and 8<sup>th</sup> month's sputum examinations.
9. Refer the cases to the upper units if the severe problems occur.
10. Check the drugs before giving to the patients.
11. Manage the daily reporting in patients and treatment cards.
12. Encourage the local NGOs/CBOs to form the TB patients association to advocate for the rights of the patients.



### **b) High Risk Group**

Participants were unanimously agreed that the people who are working in Carpet factory were at the high risk of TB infection. The poor ventilation, many people sleeping in the same room and poor knowledge on health were mentioned to be the causes of high risk groups. Secondly, the people from slum areas are also at high risk. Thirdly, the internally migrated people were defined to be the high-risk group. Participants also mentioned that health workers (both microscopic staff and DOTS workers) were also at risk of being infected by TB.

### **c) Risk Factors**

The risk factors were drawn from the FGDs and individual experiences of the participants. Following were the major risk factors defined during the planning.

1. Adherence to the treatment. It is by both sides i.e. by patients as well as health workers.
2. Sputum making and preparation of the slide. Most of the female cannot produce saliva and so it is hard to get rightly diagnosed.
3. Sputum prepared by untrained health workers.
4. Poorly record the required doses in treatment card and patients card. That can cause high or low doses. Low doses can lead to failure or drug resistance.
5. Leave from the work place. Health facility opens at 10 am., people have to go for work at the same time. Due to the incompatibility of time and lack of support from work place many patients in Lalitpur are facing problem.

#### **d) The Strategies to Mitigate the Risk Factors**

Participants came up with various strategies to mitigate the risk factors.

Following are commonly agreed strategies.

1. Train at least 3 health staff from each Center on DOTS and slide preparation so that patients will get right advice and drugs even when the mainly responsible person not available in the certain period of time.
2. Organize the patients into an informal group and encourage them to help each other for the better treatment compliance, manage working hours, carry the patients' cards every day and make the sputum properly.

#### **Step 4. Plan TB Service Activities**

The TB service activities plan was developed after completing the all the above-mentioned process. Participants came up with the activities what they are carrying out in individual settings. The individual level activities were matched with the FGD findings and list the activities in different year with different specific objectives. The participants also drew-up indicators for each activity.

#### **A. Objectives**

##### **General Objectives (By the end of 2009)**

1. To improve the Access to and Utilization of TB services in Lalitpur District.
2. To reduce the prevalence rate of the TB from 202.81 (per 100,000

Population) in 2003 to 100 (per 100,000, population) in the year 2009.

3. To sustain the 70 percent Case Detection and 85 percent Cure Rate.

## **B. Strategies to Achieve the Objectives**

1. Expansion of DOTS in all HP and SHP.
2. Expansion of DOTS in all private hospitals, teaching hospitals and nursing homes.
3. Train sufficient number of health staffs for DOTS and Microscopy.
4. Use the TB patients association in improving compliance and planning of TB services.
5. Cross supervision; public to private and private to public.
6. Publicize the success stories.
7. Maintain the functional coordination with civil societies.

## **C) Yearly Specific Objectives, Activities, Indicators and Resources**

The yearly plan has been developed to achieve the 5 years objectives. Most of the participants mentioned that the resources are not a big problem but mobilization does matter in the Lalitpur District. They mentioned that if District Health Facility can manage the coordination with private sectors, the objective would be achieved easily in Lalitpur District.

### **1. The Year 2005**

#### **1.1 Objectives**

1. To continue the regular treatment services provided by DOTS Centers and Sub-

Centers.

2. To Expand the DOTS Center in all Health Posts.
3. To establish Public Private Forum for regular discussion of TB.
4. To train the health staffs from both the Public and Private Sectors on DOTS.
5. To establish the Public, Private and Civil Societies' Forum for partnership.

## 1.2 Activities

In order to achieve the objectives following activities have been decided to implement in target areas. Total 300,000.00 Nepali Rupees has been estimated as required for the year 2005.

Activities	Verifiable Indicators	Sources
Regular drug supply to all levels	Quantity of drug supply	Drug register, request from
Slides and reagent supply	# of slides and reagents	Store register
Meetings of DOTS Committee	# of meetings	Meeting register
Training to microscopic staffs	# of staffs trained	Report, and Register
Training to DOTS staffs	# of staffs trained	Report, and Register
Quarterly DOTS meeting (3 times)	# of staffs attained	Report, and Register
Orientation to FCHV	# of FCHV attained	Report, and Register
Expand the DOTS to all HP	9 HPs with DOTS	Report
Distribute Microscopes to all HP	# of Microscopes	Store record
Public private meetings	# of meetings	Report
Public, private and civil society meetings	# of meetings	Report
Train health staffs from private and civil societies	# of staffs	Report and register

Supervision by District DOTS Committee	# of supervision	Report and guest book
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Annual planning meeting with private, civil society and patients	# of participants	Plan

All the participants mentioned that the detail plan should be made by DHO and approved by DOTS Committee.

### 1.3 Resources

Participants agreed that the most of the activities can be carried out by the regular budget provided by NTC. The additional things are microscopes and costs for meetings with partners. For the microscopes a formal request from DHO needs to be submitted to NTC. For the meetings cost sharing can be done with NGOs and private sectors. Participants were believed that the proper implementation of this plan would bring the positive changes in the Lalitpur District.

### 1.4 Local Support

In order to achieve the objectives, the local support has been identified to be very crucial. The supports from the local government i.e. District Development Committee (DDC) and Municipality has been identified as the important support that can assist to sustain the achievements in TB control. Participants mentioned that Municipality has already shown it's interest to take over a DOTS Sub-Center run by UMN/YUHP. Supports from the local Private Nursing Homes, Hospitals and Private Practitioners have been reported to be important support to control the TB. More importantly,

support from the patients has been taken as only the factor that can make possible to achieve the objectives of NTC, Nepal.

## 2. The Year 2006

### 2.1 Objectives and Activities of the year 2006

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To Expand the DOTS Sub-Centers in 50 percent of all (30) Sub-Health Posts.
3. To establish the Patients' Association (PA), an informal group of TB patients.
4. Explore the possibility of integrating the TB messages in District level Public, Private and Civil Societies' routine activities.

### 2.2 Activities

Following activities have been planned to carry out in the year 2006. All the participants have strongly recommend to develop the Action Plan by DHO. Total 400,000.00 Nepali Rupees has been estimated for the activities.

Activities	Verifiable Indicators	Sources
Regular drug supply to all levels	Quantity of drug supply	Drug register, request from
Slides and reagent supply	# of slides and reagents	Store register
Meetings of DOTS Committee	# of meetings	Meeting register
Trainings to microscopic staffs	# of staffs trained	Report, and Register
Trainings to DOTS staffs	# of staffs trained	Report, and Register
Quarterly DOTS meeting (3 times)	# of staffs attained	Report, and Register

Orientation to FCHVs	# of FCHV attained	Report, and Register
Expand the DOTS to SHP	15 SHP with DOTS	Report
Public private meetings	# of meetings	Report
Public, private and civil society meetings	# of meetings	Report
Train health staffs from private and civil societies	# of staffs	Report and register
Supervision by Public to Private and Private to Public	# of supervision	Report and guest book
Patients' Association formation	Committee	Register
Meetings of PA	# of meetings	Register
Possibility of integrating the TB with stakeholders activities	# of participants	Minute
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Annual planning meeting with private, civil society and patients	# of participants	Plan

### 2.3 Resources

All the Participants decided that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The additional funds may need to expand the DOTS Sub-Center and district level meetings. A formal request may need to submitted by DHO to NTC for the expansion and funds for expansion. Participants mentioned that NTC and Local Government should work collaboratively to establish the Patients Association. The first year's budget should be provided by NTC. For the meetings cost sharing can be done with NGOs and private sectors. All of the participants mentioned that a detailed budget should be prepared by DHO.

## **2.4 Local Support**

In order to achieve the objectives, the local support has been identified to be very important. The support from the local government i.e. District Development Committee (DDC) and Municipality has been identified as the important support that can assist to sustain the achievements in TB control. Supports from the local Private Nursing Homes, Hospitals and Private Practitioners have been reported to be important support to control the TB. More importantly, support from the Patients Association (PA) has been taken as only the factor that could make possible to achieve the objectives of NTC, Nepal.

## **3. The Year 2007**

### **3.1 Objectives and the Activities of the Year 2007**

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To Expand the DOTS Sub-Centers in 100 percent of all (30) Sub-Health Posts.
3. To develop the guidelines for integrating TB in District level Public, Private and Civil Societies' annual activities.
4. To train the members of the Patients Association (PA) on planning and monitoring skills.

### **3.2 Activities**

Following activities have been planned to be carried-out by DHO. The detail budget and action plan have been recommended to be developed by DHO. Total 5,000.00 Nepali rupees has been estimated for the new activities.



<b>Activities</b>	<b>Verifiable Indicators</b>	<b>Sources</b>
Regular drug supply to all levels	Quantity of drug supply	Drug register, request from
Slides and reagent supply	# of slides and reagents	Store register
Meetings of DOTS Committee	# of meetings	Meeting register
Trainings to microscopic staffs	# of staffs trained	Report, and Register
Trainings to DOTS staffs	# of staffs trained	Report, and Register
Quarterly DOTS meeting (3 times)	# of staffs attained	Report, and Register
Orientation to FCHVs	# of FCHV attained	Report, and Register
Expand the DOTS to SHP	30 SHP with DOTS	Report
Public private meetings	# of meetings	Report
Public, private and civil society meetings	# of meetings	Report
Train health staffs from private and civil societies	# of staffs	Report and register
Supervision by District DOTS Committee	# of supervision	Report and guest book
Patients' Association meetings	# of meetings	Register
Supervision by PA	# of supervision	Report
Guidelines for integrating TB with other stakeholders	Guidelines developed	Guidelines paper
Meetings with DDC	# of meetings	Report
Training on planning and supervision to PA members	# of participants	Report
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Annual planning meeting with private, civil society and patients	# of participants	Plan

### **3.3 Resources**

All the Participants mentioned that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The additional funds may need to expand the DOTS Sub-Center, district level meetings and guidelines development for integrating the TB with other stakeholders. A formal request may need to be submitted by DHO to NTC for the expansion and funds for expansion. Participants mentioned that NTC and Local Government should work collaboratively to establish guidelines. Patients Association can raise the fund from the DDC, Municipality and I/NGOs. For the meetings cost sharing can be done with NGOs and private sectors. All of the participants mentioned that a detailed budget should be prepared by DHO.

### **3.4 Local Support**

The local support has been identified to be an important factor to achieve the objective. The supports from the local government i.e. District Development Committee (DDC) and Municipality has been identified as the important support that can assist to sustain the achievements in TB control. The voluntary support from Patients Association has been indicated as the core local support. Supports from the local Private Nursing Homes, Hospitals and Private Practitioners have been reported to be important support to control the TB. More importantly, support from the Patients Association (PA) has been taken as only the factor that could make possible to achieve the objectives of NTC, Nepal.

## 4. The Year 2008

### 4.1 Objectives and the Activities of the Year 2008

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To Expand the DOTS Treatment Centers to all Private Nursing Homes.
3. To develop the strategies for acquiring the annual activities carried out by District level agencies through the DDC.
4. To institutionalize the planning developed by PA.

### 4.2 Activities

Following activities have been planned for the year 2008. The total 300,000.00 Nepali Rupees has been proposed for the whole year. The detail action plan recommended to be developed by DHO.

Activities	Verifiable Indicators	Sources
Regular drug supply to all levels	Quantity of drug supply	Drug register, request from
Slides and reagent supply	# of slides and reagents	Store register
Meetings of DOTS Committee	# of meetings	Meeting register
Trainings to microscopic staffs	# of staffs trained	Report, and Register
Trainings to DOTS staffs	# of staffs trained	Report, and Register
Quarterly DOTS meeting (3 times)	# of staffs attained	Report, and Register
Orientation to FCHVs	# of FCHV attained	Report, and Register
Expand the DOTS Treatment Center to Nursing Homes	3 Nursing Homes with DOTS	Report
Public private meetings	# of meetings	Report

Public, private and civil society meetings	# of meetings	Report
Train health staffs from private and civil societies	# of staffs	Report and register
Supervision by District DOTS Committee	# of supervision	Report and guest book
Patients' Association meetings	# of meetings	Register
Supervision by PA	# of supervision	Report
Strategies to get TB activities annually from DDC	Guidelines developed	Guidelines paper
Meetings with DDC	# of meetings	Report
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Annual planning meeting with private, civil society and patients	# of participants	Plan

### 4.3 Resources

All the Participants mentioned that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The strategy to get the annual district level TB activities don by district level stakeholders (other than health institutions) can jointly be done by DHO and Patients Association (PA). For the meetings cost sharing can be done with NGOs and private sectors. All of the participants mentioned detail budget should be prepared by DHO.

### 4.4 Local Support

The local support has been identified to be an important factor to achieve the objective. The supports from the local government i.e. District Development Committee (DDC) and Municipality has been identified as the important support that can assist to sustain

the achievements in TB control. The voluntary support from Patients Association has been indicated as the core local support.

## 5 The Year 2009

### 5.1 Objectives and the Activities of the Year 2009

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To acquire the list of annual activities done by District level agencies from DDC.
3. To finalize the plan developed by PA.
4. To develop plans beyond 2009.

### 5.2 Activities

Following activities were planned for the year 2009. A budget of 200,000.00 has been estimated for the year.

Activities	Verifiable Indicators	Sources
Regular drug supply to all levels	Quantity of drug supply	Drug register, request from
Slides and reagent supply	# of slides and reagents	Store register
Meetings of DOTS Committee	# of meetings	Meeting register
Trainings to microscopic staffs	# of staffs trained	Report, and Register
Trainings to DOTS staffs	# of staffs trained	Report, and Register
Quarterly DOTS meeting (3 times)	# of staffs attained	Report, and Register
Orientation to FCHVs	# of FCHV attained	Report, and Register

Public private meetings	# of meetings	Report
Public, private and civil society meetings	# of meetings	Report
Train health staffs from private and civil societies	# of staffs	Report and register
Supervision by District DOTS Committee	# of supervision	Report and guest book
Patients' Association meetings	# of meetings	Register
Supervision by PA	# of supervision	Report
Annual TB activities from DDC	# of activities	Report
Meetings with DDC	# of meetings	Report
World TB day by TB camps	# of camps	Report, news papers
National TB day by patients gathering	# of patients	Report and news
Planning meeting organized by PA	# of participants	Plan

### 5.3 Resources

All the Participants mentioned that the most of the activities could be carried out by the regular budget provided by NTC Nepal. For the awareness raising activities and supervision PA can raise the funding from Local Government and I/NGO.

### 5.4 Local Support

The local support has been identified to be an important factor to achieve the objective. The supports from the local government i.e. District Development Committee (DDC) and Municipality has been identified as the important support that can assist to sustain the achievements in TB control. The voluntary support from Patients Association has been indicated as the core local support.

### **Step 5. Evaluation Plan of the plan**

All the participants agreed that the five-year plan should be evaluated and upgraded based upon the evaluation. National Tuberculosis Center (NTC) Nepal has identified the partners of the TB control program. Most of the partners are the Health Institutions. Apart from that, Local Government, Educational Institutions, I/NGOs, Private Sectors and the Patients have been taken as the partners. In this study, participants have strongly suggested to include the following partners to evaluate the plan jointly; DHO, DDC, Municipality, Patients Association, Representative form DOTS Treatment Center, representative from DOTS Sub-Centers, Private Sector, NGO and School. Total 9 evaluators were selected to evaluate the plan annually and at the end of five year. Following main factors has been identified to be evaluated during the planning. Evaluation committee should evaluate the both process and impact evaluation.

#### **The plan should be evaluated**

1. By the end of 2005
2. By the end of 2006
3. By the end of 2007
4. By the end of 2008
5. By the end of 2009 (Evaluate the plan of the year 2009 and evaluate the whole 5 year plan).

The report of the evaluation should be submitted to the DHO annually. The recommendations from evaluation should be incorporated in annual plan. Following major 3 aspects needs to be considered during the evaluation.

1. To improve the Access to and Utilization of TB services in Lalitpur District.
2. To reduce the prevalence rate of the TB from 202.8 in 2003 to 100 (per 100,000, population) in the year 2009.
3. To sustain the 70 percent Case Detection and 85 percent Cure Rate.

For the measurement interview with patients and health workers need to be done. Apart from that, medical records kept by DHO need to be reviewed. For the each year activities the verifiable indicators mentioned in activity plan needs to be considered.

The following important aspects have to be done by observation, reports review, record review and interviews.

1. Expansion of DOTS in all HPs and SHPs.
2. Expansion of DOTS in all private hospital, teaching hospitals and nursing homes.
3. Train the sufficient number of health staff for DOTS and Microscopy from public, private and NGO sectors.
4. Use the TB patients association in improving compliance and planning of TB services.
5. Cross supervision; public to private and private to public.
6. Publicize the success stories.



7. Formulate the guidelines to incorporate the TB with partners' activities.
8. Maintain the functional coordination with civil societies.

The report of the evaluation should be presented in the partners meeting and final paper should be submitted to DHO.

## **Appendix L**

### **Promoting Patients' Participation and Integrating the TB Control Program with Poverty Reduction Projects in Dang: A Five Year Plan to be Used by the District Health Facility**

#### **Introduction**

The participatory approach was used to develop the plan for TB control in Dang District. Eleven participants were involved in the planning process. All of the participants were partners of National TB control program declared by National Tuberculosis Center (NTC), Nepal. Participants were from; District Administration Office, District Development Committee (DDC), Municipality, District Health Office, Women's Development Office, DOTS Center, International Nepal Fellowship (INF), Local media, TB patients (2), and Community Volunteers. The planning steps developed by Primary Health Care Management Advancement Program (PHCMAP), planning and assessing health workers activities module number three were adapted in this study. With the individual level help of all participants, the Principal Investigator (PI) completed step one. The rests of the steps (1-3) were done by an equitable participation of all participants

#### **Step 1. Description and Map of the Target Area**

##### **a) Secondary Data and Information**

The secondary data and information were collected from different governmental and non-governmental agencies, which were working in TB control program in Dang District. The TB records kept by DHO were reviewed first and the name lists of the

DOTS Centers were noted. The socio-demographic data were collected from DDC. Other related information was collected from DOTS Treatment Center of INF, TB patients, and Tribhuvan Nagar Municipality.

The socio-demographical situation of the Dang has been reported to be poorer than average national figures. The literacy rates of male and female were 63.82 and 40.84 percent respectively. The total population of Dang has been reported to be:

	Year 1990	Year 2001
Male	175,985	228,763
Female	176,252	234,133
Total	352,237	462,896

Source: CBS 2001, DDC 2001

The female population of is 1.2 percent higher than male. The annual population growth rate has been documented to be 2.67 percent. It has been reported that there were 26 Sub-Health Posts, 11 Health Posts, 3 Primary Health Centers, 1 District Hospital, 1 TB and Leprosy Hospital and one AYURVEDA Hospital in Dang District .

Under the District Health Office (DHO), a total 23 DOTS Centers were providing the TB services in the District in 2003. National Tuberculosis Center (2001/2002) reported that 4 DOTS Treatment Centers are providing Microscopy services in the District. The total cases reported in the 2002/2003 were 999. The total positive cases were 568(Male

425 and female 143). The patients and health workers mentioned that due to the conflict and geography they are facing problem in getting access to utilization of TB services.

More importantly, the Focus Group Discussions carried out in different 3 levels were used as the primary source of the data. The FGDs were useful in developing the common consensus among the participants during the planning. The major findings of the FGDs were pasted on the wall so that each participant could read them easily.

#### **b) Target Areas**

Out of 23 DOTS Centers the study has been conducted in 14 Centers. Thus the target area has been decided to be whole District. However, the planning will limit to the TB services delivery which means all the DOTS Centers of the District s have been taken as the target areas in planning. All the participants of the planning process suggested to take all DOTS Centers as the target areas of the District s.

#### **c) Maps of Target Areas**

The map of the District was collected from DDC and the areas where DOTS Centers were identified. DDC and DHO staffs were helpful while finalizing the map of the DOTS Centers (See Appendix F).

### **Step 2. Needs and Available Resources**

The Focus Group Discussion (FGD) was conducted to identify the community needs and available resources. Step 1 has been presented and components of step 2 were

presented among the participants. For each of the steps, common consensus of the participants have been taken.

#### **a) Indicators of Access and Utilization of TB Services**

All of the participants agreed upon the following 2 indicators

1. Access to TB services refers to possibility of obtaining TB services by all people regardless the class, caste, geography, education and conflict situation.
2. Utilization of TB services refers to the use of TB services by all diagnosed cases. It should be able to deal with the patients experience on whether they are facing the problem in utilizing the TB services every day or not.

#### **b) Internal and External Resources**

For the purpose of these plan internal resources indicates the resources available in District Health Facility, DOTS microscopy Centers, and DOTS Sub-Centers. In another way internal resources mean the resources allocated by Ministry of Health, National Tuberculosis Center. The external resources define the inputs from other than MOH/NTC. Following resources were identified during the discussion among the participants.

##### **a) Internal Resources**

1. Hospital, PHC, HP and SHP.
2. Provision of the staff.
3. TB drugs.
4. Microscopes.

5. Medical equipment.
6. Means of transportation.

***Funds for:***

7. Training to DOTS staffs.
8. Training to Microscopy staffs.
9. Orientation to the support staffs from health facilities.
10. Orientation to the Female Community Health Volunteers (FCHV).
11. Print materials.
12. Hoarding boards.
13. Training to the NGOs health staffs.
14. Training to the NGOs support staffs.
15. Quarterly review workshop.
16. Monthly District DOTS Committee's meeting.
17. DTLA workshop.
18. Exposure visits within and outside the country for health staffs.
19. National TB day.
20. International TB day.

**b) External Resources**

1. DOTS Centers in INGO.
2. Provision of the health staffs.
3. Provision of support staffs.
4. Provision of volunteers.
5. Monitoring

6. Vitamins to the patients.
7. Food and accommodation for the poorest patients (decided by individual health institution's own policy).
8. Land for the health facility building.
9. Construct the rooms for DOTS Centers.
10. Training to the volunteers.
11. Local campaigns on TB.
12. Print materials in local language.
13. Launch the Drama on TB in the community.

Above mentioned resources have been taken as the major resources widely practiced in Dang District by the both Government and NGOs.

### **Step 3. Priorities and High –Risk Groups**

#### **a) Priorities for TB Control**

The priorities were set after reviewing the NTPs priority activities. Participants came up with many ideas to deal the problem constructively. Common consensus were achieved after a wide level of discussion.

1. To increase access to the TB services of rural population.
2. Hold the detected cases properly and increase the adherence to the TB services.
3. Ensure the provision and timely availability of health workers (Paramedics and Microscopic Staffs) in health facility.
4. Integrate the TB messages into poverty reduction projects.

5. Establish the Health Desk to create the understanding on the nature of TB Disease in DHO; by having participation of Health Institutions, Administrative Unit, Security Unit, TB Patients, DOTS Worker, Media and Civil Societies.
6. Manage the bimonthly Public Hearing Meetings and ensure issues related to access and utilization of TB services. It should raise the support and alleviate the difficulties created by both Government and Maoist Armed Forces.
7. Strictly follow the NTPs guideline while diagnosing and treating the patients.
8. Ensure the Consistency of the results of smear examinations among the Microscopy Centers
9. Encourage the local NGOs/CBOs to form the TB Patients Association to advocate for the rights of the patients.
10. Organize the Integrated Health Camps (as a Health Fair), where people may get Diagnosis, Counseling, Treatment, Get-Together and Entertainment. The Health Fair should organize an Independent Health Instruction. The Health Fair should be Free from Armed Weapons and supervised by Members of Civil Societies.

#### **b) High Risk Group**

Participants unanimously agreed that the people in rural areas are in the high risk of completion of treatment, follow-up smear examinations and spreading TB. The findings from FGD suggested that Tharu ethnic minorities are at a high level of risk of the treatment noncompliance, the reasons were a) no cooperation from Government Security Forces and b) heavily busy during rainy season. The poor ventilation, many people sleeping in the same room and poor knowledge of health were mentioned to be the causes of being high risk groups. Secondly, the people from slum areas are also at



high risk. Thirdly, the internally migrated people (Salyan, Rolpa, and Puthan District s), were defined to be the high-risk group. Participants also mentioned that health workers both microscopic staffs and DOTS workers were also at risk of being infected by TB and due to the conflict they are at risk to visit DOTS Treatment Centers and Sub-Centers every day.

### c) Risk Factors

The risk factors were drawn from the FGDs and individual experiences of the participants. Following were the major risk factors defined during the planning.

1. Conflict has put high level of threats in everyday access to and utilization of TB services.
2. Conflict also threatens to the everyday availability of health workers in DOTS Treatment Centers and Sub-Centers.
3. Sputum making and preparation of the slide. Most of the female cannot produce saliva and so it is hard to get properly diagnosed.
4. Sputum prepared by untrained health workers and inconsistent results of Smear Examination among the Microscopy Centers.
5. Poorly record of the required doses on treatment card and patients' card. That can cause high or low doses. Low doses can lead to failure or drug resistance.
6. Working hours of the Health Facility, opens at 10 Am., people have to go for work at the same time. Due to the incompatibility of time and lack of support from work place many patients in Dang are facing problem.
7. Poor supervision from District level authorities.

**d) The Strategies to Mitigate the Risk Factors**

Participants were come up with various strategies to mitigate the risk factors.

Following are commonly agreed strategies.

- a. To establish the regular communication between Security Forces and DHO.
- b. Implement the NTP treatment policy and manage the supervision form District to Treatment Center and Treatment Center to Sub-Center. Involve the Patients in supervision.
- c. Integrate the TB messages in poverty reduction projects.
- d. Establish a Health Desk to deal with the Conflict and TB service delivery issues.
- e. Develop the guideline for protecting the patients' right to be cured in the Conflict Situation.
- f. Make the Security Personnel aware about nature of TB disease.
- g. Organize the bimonthly public hearing meeting and discuss on the issues related to access and utilization of health services, with special focus on TB services.
- h. Train at least health 3 staff (including helper) from each Center on DOTS and slide preparation so that patients will get right advice and drugs even mainly responsible person not available in the certain period of time.
- i. Inform the patients about the Security situation and Dos and Don'ts in Conflict situation.

- j. Organize the patients into an informal group and encourage them to help each other for the better treatment compliance, manage working hours, carry the patients' cards every day and make the sputum properly
- k. Developed Dos and Don'ts posters and paste in each health centers.
- l. Disseminate the Dos and Don'ts to the TB patients in Security sensitive areas and Security check posts.
- m. Promote the Gender sensitive health education in each DOTS Treatment and Sub Center.
- n. Organize the Integrated Health Fairs in remote areas by independent health institutions.

#### **Step 4. Plan TB Service Activities**

The TB service activities plan was developed after completing the all the above-mentioned process. Participants were come up with the activities what they are carrying out in individual settings. The individual level activities were matched with the FGD findings and listed the activities in different year with different specific objectives. The participants also drew-up indicators for each activity.

#### **A. Objectives**

##### **General Objectives (By the end of 2009)**

1. To improve the Access to and Utilization of TB services in Dang District.
2. To reduce the prevalence rate of the TB from 208.24 (per 100,000 Population) in 2003 to 100 (per 100,000, population) by the year 2009.

3. To sustain the 70 percent Case Detection and 85 percent Cure Rate.

**B. Strategies to Achieve the Objectives**

1. Implement the NTP treatment policy and manage the supervision form District to Treatment Center and Treatment Center to Sub-Center, Patient should be involving the in supervision.
2. Establish a Health Desk under DHO to deal with the Conflict and TB Service delivery issues.
3. Organize the bimonthly public hearing meeting and discuss on the issues related to access and utilization of health services specially focus on TB services.
4. Organize the patients into an informal group and encourage them to help each other for the better treatment compliance, manage working hours, carry the Patients' cards every day and make the sputum properly.
5. Expansion of DOTS Treatment Center in Mhendra Hospital.
6. Expansion of DOTS Sub Center in all HPs and SHPs.
7. Developed Dos and Don'ts during security sensitive situation posters and Disseminate in each health centers.
8. Train the sufficient number of health staffs for DOTS and Microscopy
9. Promote the Gender sensitive health education in each DOTS Treatment and Sub Center.
10. Organize the Integrated Health Fairs in remote areas by independent health institutions.
11. Integrate the TB messages with poverty reduction projects.

12. Maintain the functional coordination with civil societies, private clinics, and traditional healers.

### **C) Yearly Specific Objectives, Activities, Indicators and Resources**

The yearly plan has been developed to achieve the 5 years objectives. Most of the participants mentioned that the resources are not a big problem but mobilization does matter in the Dang District. Mobilization of Local Government, I/NGOs, NGOs, TB patients, educational institutions, traditional healers and trade union could contribute greatly in achieving the objective.

#### **1. The Year 2005**

##### **1.1 Objectives**

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To Expand the DOTS Treatment Center in Mahendra Hospital.
3. To establish the health desk in DHO.
4. To organize the bimonthly public hearing meeting and discuss on the issues related to access and utilization of health services specially focus on TB services.

##### **1.2 Activities**

In order to achieve the objectives it was decided to implement in target areas. The regular activities have been recommended to be carried out as usual. All participants

suggested in integrating this plan with DHO annual activity plan. A budget 300,000.00 Nepali Rupees has been estimated for the year 2005.

Activities	Verifiable Indicators	Sources
Expand the Treatment Center	5 HPs with TC	Report
Establish Health Desk	Number of members	Meeting record
Meeting of health desk	Number of meetings	Meeting record
Public Hearing	Number of hearing	Report
Meeting with DDC and partners	Number of meeting	Report
Meeting with civil society	Number of meeting	Report
Trainings to traditional healers	Number of participants	Report
Orientation to security personnel	Number of participants	Report
Supervision by District to TC and TC to Sub center	# of supervision	Report and guest book
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Annual planning meeting with private, civil society and patients	# of participants	Plan
Annual Planning meeting	# participants trained	Report

All the participants mentioned that the detail plan should be made by DHO and approved by DOTS Committee.

### 1.3 Resources

Participants agreed that the most of the activities can be carried out by the regular budget provided by NTC. The additional costs are; meetings, training and orientation to

partners. For the meetings cost sharing can be done with NGOs and private sectors. Participants were believed that the proper implementation of this plan would bring the positive changes in the Dang District.

#### **1.4 Local Support**

In order to achieve the objectives, the local support has been identified to be very crucial. The support from the local government i.e. District Development Committee (DDC) and Municipality have been identified as the important support. Support from the local I/NGOs, CBOs and Trade Union have been reported to be important to control TB. More importantly, support from the security forces and patients has been taken as the factor that can make possible to achieve the objectives of NTC, Nepal.

## **2. The Year 2006**

### **2.1 Objectives and Activities of the Year 2006**

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To Expand the DOTS Sub-Centers in 100 percent of all (11) Health Posts.
3. To establish the Patients' Association (PA), an informal group of TB patients.
4. To train the DOTS and Microscopy workers on the security information.
5. Explore the possibility of integrating the TB messages in poverty reduction projects (Poverty and TB).

## 2.2 Activities

Following activities have been planned to carry out in the year 2006. All the participants have strongly recommended in developing the Action Plan by DHO.

Total 500,000.00 Nepali Rupees has been estimated for the activities.

Activities	Verifiable Indicators	Sources
Expand the Sub-centers	Number of Sub-centers	Report
Meeting of Health Desk	Number of meetings	Meeting record
Public Hearing	Number of hearing	Report
Meeting with DDC and partners	Number of meeting	Report
Form a Patients' Association	Number of participants	Report
Train HW on security	Number of participants	Report
Poverty and TB meeting	Number of meetings	Report
Meeting with civil society	Number of meeting	Report
Trainings to traditional healers	Number of participants	Report
Orientation to security personnel	Number of participants	Report
Supervision by District to TC and TC to Sub center	# of supervision	Report and guest book
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Annual Planning meeting	# participants trained	Report

## 2.3 Resources

All the Participants decided that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The additional funds may need to expand the



DOTS Sub-Center District level meetings, orientation, trainings, establishment of Patients Association (PA). Participants mentioned that NTC and Local Government should work collaboratively to establish the Patients Association and train the health workers on security issues. For the cost proposal can be submitted to DDC, municipality, and I/NGOs.

## **2.4 Local Support**

In order to achieve the objectives, the local support has been identified to be very crucial. The supports from the local government i.e. District Development Committee (DDC), Municipality and I/NGOs have been identified as the important support. More importantly, support from the security forces, media, traditional healers and patients has been taken as only the factor that can make possible to achieve the objectives of NTC, Nepal.

## **3. The Year 2007**

### **3.1 Objectives and the Activities of the Year 2007**

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To Expand the DOTS Sub-Centers in 50 percent of all (26) Sub-Health Posts.
3. To develop the Guidelines for integrating TB in Poverty Reduction projects carried out by District level Public, INGOs, NGOs , Private and Civil Societies’.
4. To develop printing materials and Dramas on the Dos and Don’ts during the conflict situation.

### 3.2 Activities

Following activities have been planned to be carried-out by DHO. The detail budget and action plan have been recommended to be developed by DHO. Total 1000,000.00 Nepali rupees have been estimated for the new activities.

Activities	Verifiable Indicators	Sources
Expand the Sub-centers	Number of Sub-centers	Report
Meeting of Health Desk	Number of meetings	Meeting record
Public Hearing	Number of hearing	Report
Meeting with DDC and partners	Number of meeting	Report
Patients' Association meeting	Number of participants	Report
Train HW on security	Number of participants	Report
Poverty and TB meeting	Number of meetings	Report
Guideline on poverty and TB	Guideline	Guideline published
Dos and Don'ts Drama	Number of shows	Report
Dos and Don'ts posters	Number of posters	Report
Meeting with civil society	Number of meeting	Report
Trainings to traditional healers	Number of participants	Report
Orientation to security personnel	Number of participants	Report
Supervision by District to TC and TC to Sub center	# of supervision	Report and guest book
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Maintain consistency Microscopy Centers	# participants trained	Report
Annual Planning meeting	# participants trained	Report

### **3.3 Resources**

All the Participants decided that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The additional funds may need to expand the DOTS Sub-Center District level meetings, orientation, trainings, guidelines publications drama shows and posters. For the cost proposal can be submitted to DDC, municipality, and I/NGOs.

### **3.4 Local Support**

In order to achieve the objectives, the local support has been identified to be very crucial. The supports from the local government i.e. District Development Committee (DDC), Municipality and I/NGOs have been identified as the important support. More importantly, support from the security forces, media, traditional healers and patients has been taken as only the factor that can make possible to achieve the objectives of NTC, Nepal.

## **4. The Year 2008**

### **4.1 Objectives and the Activities of the Year 2008**

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. Expand the DOTS treatment Centers to all Sub-centers
3. To develop the strategies for acquiring the annual TB activities carried out by District level agencies through the DDC.
4. Promote the Gender sensitive health education in each DOTS Treatment and Sub Center.
5. Organize the Integrated Health Fairs in remote areas by independent health.

## 4.2 Activities

Following activities have been planned for the year 2008. The total 800,000.00 Nepali Rupees has been purposed for the whole year. The detail action plan recommended to be developed by DHO.

Activities	Verifiable Indicators	Sources
Expand the Sub-centers	Number of Sub-centers	Report
Meeting of Health Desk	Number of meetings	Meeting record
Public Hearing	Number of hearing	Report
Meeting with DDC and partners	Number of meeting	Report
Patients' Association meeting	Number of participants	Report
Train HW on security	Number of participants	Report
Poverty and TB meeting	Number of meetings	Report
Training on gender and TB	Number of participants	Report
Dos and Don'ts Drama	Number of shows	Report
Integrated health fair	Number of fairs	Report
Meeting with civil society	Number of meeting	Report
Orientation to security personnel	Number of participants	Report
Supervision by District to TC and TC to Sub center	# of supervision	Report and guest book
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Maintain consistency Microscopy Centers	# participants trained	Report
Annual Planning meeting	# participants trained	Report

### **4.3 Resources**

All the Participants decided that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The additional funds may need to expand the DOTS Sub-Center District level meetings, orientation, trainings, guidelines publications drama shows and posters. For the cost proposal can be submitted to DDC, municipality, and I/NGOs.

### **4.4 Local Support**

In order to achieve the objectives, the local support has been identified to be very crucial. The supports from the local government i.e. District Development Committee (DDC), Municipality and I/NGOs have been identified as the important support. More importantly, support from the security forces, media, traditional healers and patients has been taken as only the factor that can make possible to achieve the objectives of NTC, Nepal.

## **5 The Year 2009**

### **5.1 Objectives and the Activities of the Year 2009**

1. To continue the regular treatment services provided by DOTS Centers and Sub-Centers.
2. To acquire the list of annual activities done by District level agencies from DDC.
3. To finalize the plan developed by PA.

## 5.2 Activities

Following activities were planned for the year 2009. Total 500,000.00 has been estimated for the year.

Activities	Verifiable Indicators	Sources
Meeting of Health Desk	Number of meetings	Meeting record
Public Hearing	Number of hearing	Report
Meeting with DDC	Number of meeting	Report
Patients' Association meeting	Number of participants	Report
Train HW on security	Number of participants	Report
Poverty and TB meeting	Number of meetings	Report
Collect annual report from DDC	Number of activities	Report
Dos and Don'ts Drama	Number of shows	Report
Integrated health fair	Number of fairs	Report
Meeting with civil society	Number of meeting	Report
Orientation to security personnel	Number of participants	Report
Supervision by District to TC and TC to Sub center	# of supervision	Report and guest book
World TB day by TB camps	# of camps	Report, news papers
National TB day by patient patients gathering	# of patients	Report and news
Maintain consistency Microscopy Centers	# participants trained	Report
Annual Planning meeting	# participants trained	Report

### **5.3 Resources**

All the Participants decided that the most of the activities could be carried out by the regular budget provided by NTC Nepal. The additional funds may need to District level meetings, orientation, and trainings. For the cost proposal can be submitted to DDC, municipality, and I/NGOs.

### **5.4 Local Support**

In order to achieve the objectives, the local support has been identified to be very crucial. The supports from the local government i.e. District Development Committee (DDC), Municipality and I/NGOs have been identified as the important support. More importantly, support from the security forces, media, traditional healers and patients has been taken as only the factor that can make possible to achieve the objectives of NTC, Nepal.

## **Step 5. Evaluation Plan of the plan**

Participants agreed that the five-year plan should be evaluated and upgraded properly. National Tuberculosis Center (NTC) Nepal has identified the partners of the TB control program. Most of the partners are the Health Institutions. Apart from that, Local Government, security forces, Maoist (if possible), I/NGOs, traditional healers and the Patients have been taken as the partners. There is a need to include the following partners to evaluate the plan jointly; DHO, DDC, Security Forces, Maoist (if possible) Municipality, Patients Association, Representative form DOTS Treatment Center, representative from DOTS Sub-Centers, Traditional Healers, Private Sector, NGO, Media, Human Right Group, and School. Total 14 evaluators were selected to evaluate

the plan annually and at the end of five year. Following main factors has been identified to be evaluated during the planning. Evaluation committee should evaluate the both process and impact evaluation.

**The plan should be evaluated**

1. By the end of 2005
2. By the end of 2006
3. By the end of 2007
4. By the end of 2008
5. By the end of 2009 (Evaluate the plan of the year 2009 and evaluate the whole 5 year plan).

The report of the evaluation should be submitted to the DHO annually. The recommendations from evaluation should be incorporated in annual plan. Following major 3 aspects needs to be considered during the evaluation.

1. To improve the Access to and Utilization of TB services in Dang District.
2. To reduce the prevalence rate of the TB from 208.24 (per 100,000 Population) in 2003 to 100 (per 100,000, population) by the year 2009.
3. To sustain the 70 percent Case Detection and 85 percent Cure Rate.

For the measurement interview with patients and health workers need to be done. Apart from that, medical records kept by DHO needs to be reviewed. For the each year activities the verifiable indicators mentioned in activity plan needs to be considered.



The following important aspects have to be done by observation, reports review, record review and interviews.

1. Implement the NTP treatment policy and manage the supervision form District to Treatment Center and Treatment Center to Sub-Center, Patient should be involving the in supervision.
2. Establish a Health Desk under DHO to deal with the Conflict and TB service delivery issues.
3. Organize the bimonthly public hearing meeting and discuss on the issues related to access and utilization of health services specially focus on TB services.
4. Organize the patients into an informal group and encourage them to help each other for the better treatment compliance, manage working hours, carry the patients' cards every day and make the sputum properly.
5. Expansion of DOTS Treatment Center in Mhendra Hospital.
6. Expansion of DOTS Sub Center in all HPs and SHPs.
7. Developed Dos and Don'ts during security sensitive situation posters and disseminate in each health centers.
8. Train the sufficient number of health staffs for DOTS and Microscopy
9. Promote the Gender sensitive health education in each DOTS Treatment and Sub-Center.
10. Organize the Integrated Health Fairs in remote areas by independent health institutions.
11. Integrate the TB messages with poverty reduction projects.

12. Maintain the functional coordination with civil societies, private clinics, and Traditional healers.

The report of the evaluation should be presented in the partners meeting and final paper should be submitted to DHO.

**Appendix M**  
**List of DOTS Centers, Lalitpur**

<b>DOTS Centers</b>	<b>Included in the Study</b>
1. Patan Hospital	✓
2. YUHP	✓
3. Horgans Nursing Home	✓
4. Care and Fair	✓
5. Nata	
6. Imadol HP	✓
7. Sidhipur SHP	✓
8. Lubu PHC	✓
9. Badegaun PHC	✓
10. Godawari SHP	✓
11. Sunakoti SHP	✓
12. Thecho HP	✓
13. Dhapakhel HP	✓
14. Chapagaun HP	✓
15. Ananda Ban Hospital	
16. Lele PHC	
17. Chaughare HP	
18. Gotikhel HP	✓
19. Ashrang HP	✓
20. Dukuchhap SHP	
21. Sainbu HP	
22. Bungamati HP	
23. Bhattedanda HP	✓
<b>(✓ = Study areas)</b>	<b>16</b>

(Source: District Health Office, Lalitpur 2003)

## Appendix N

### List of DOTS Centers, Dang

	Included in the Study
<b>1. INF</b>	✓
2. Lohar Pani SHP	
3. Kavre HP	
4. Syuja PHC	✓
5. Rampur SHP	✓
6. Laxmipur HP	✓
7. Dharna SHP	
8. Narayanpur SHP	✓
9. Hapur SHP	✓
10. Duruwa HP	✓
<b>11. Lamahi PHC</b>	
12. Sisiniya HP	
13. Gobadiya SHP	
14. Gadhawa SHP	✓
15. Bela SHP	
<b>16. Tulsipur PHC</b>	✓
17. Phulbari HP	✓
18. Manpur HP	✓
19. Halwar SHP	
<b>20. Shreegaun PHC</b>	✓
21. Hekuli HP	✓
22. Panchakule HP	✓
23. Shantinagar SHP	
(✓ = Study areas)	<b>14</b>

(Source: District Health Office Dang, 2003)

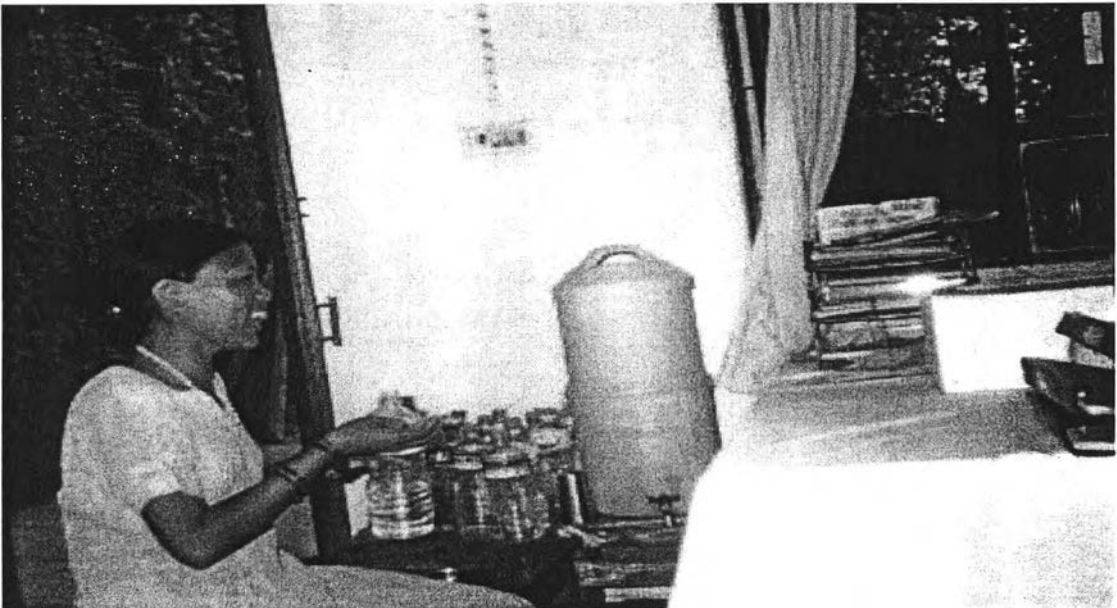
## Appendix O

### Photos of the Study

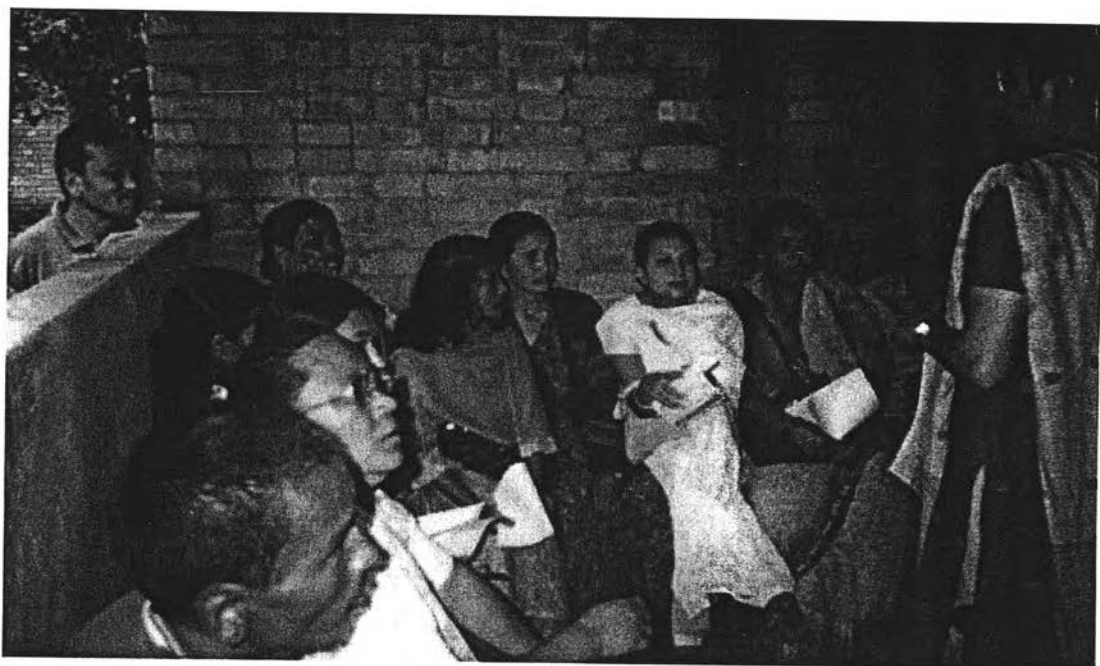
#### Interview in Lalitpur



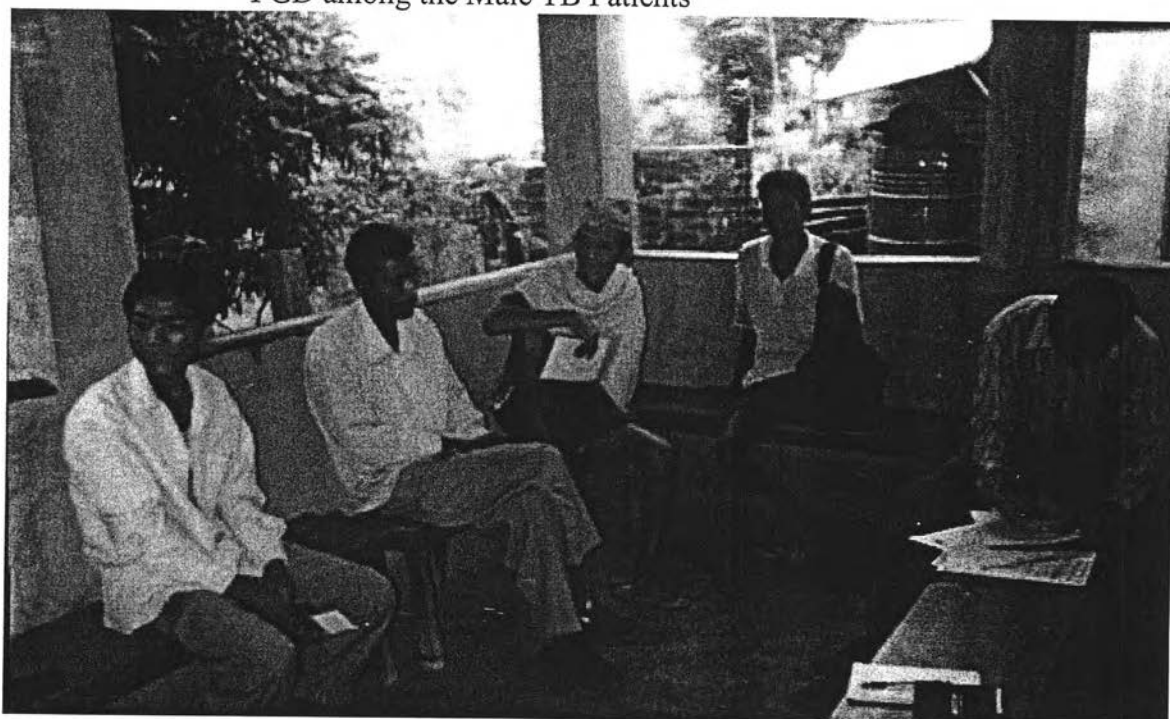
A Female TB Patient Taking TB Drugs in Lalitpur



Female FGD in Lalitpur



FGD among the Male TB Patients



## Curriculum Vitae

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### Education

Bachelor in commerce (**B.Com.**)  
 Tribhuvan University  
 Birendranagar Multiple Campus  
 Surkhet

Bachelor in Education (Health education)  
 Tribhuvan University  
 Surkhet Campus Education

Masters in Sociology (**MA**)  
 Tribhuvan University  
 Tri-Chandra Multiple College  
 Kathmandu

Master of Public Health (**MPH**)  
 Chulalongkorn University  
 Bangkok, Thailand

Ph.D. Candidate  
 The College of Public Health  
 Chulalongkorn University  
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### Experiences (10 Years)

- ✎ **Team Leader:** 1998 June to at present. Social Awareness Center (SAC) Nepal.
- ✎ **Part Time Lecturer:** Health Education, Tribhuvan University, Surkhet Education campus (1999 to at present).
- ✎ **Part Time Lecturer:** Research Methodology, MA Political Science, Tribhuvan University Birendranagar Multiple Campus, Surkhet (2000 to at present).
- ✎ **Executive Director:** 1994 May to 1998 June. Social Awareness Center (SAC) Nepal.
- ✎ **Community Organizer:** 1991 June to 1994 April. Ministry of Local Development, UNICEF (Urban Basic Services Program) and Birendranagar Municipality, Surkhet.



## Publications

- ✧ Health and Environment of Birendranagar Municipality: an analysis (May 2002). Municipal souvenir published by Birendranagar Municipality.
- ✧ "Our Health" a Book for Neo-literate People Published in Nepali (March 2002). Published in Nepali.
- ✧ Issues and Perspectives on Government Run Health Services in Rural Areas (March 2002). Descriptive Study Conducted in Tharu Community of Surkhet (English).
- ✧ Establishment of Mid-western University in Surkhet: Challenges and possibilities. An Exploratory Paper Presented in Surkhet (March 1st 2002). Published in Nepali
- ✧ Safe Motherhood a Quarterly Bulletin (2001). Publishing in Nepali.
- ✧ What Are We Saying: What Are We Doing (2001)/Book. Publication of SAC-Nepal in Nepali.
- ✧ Socio-economic Conditions in Civil Conflict Areas of Nepal (January 2000). A Research Report Published in English
- ✧ Child Advocacy: An Intervention to Address the "Worst Form" of Street Child Labour from Kathmandu, Nepal (1999). Published in English.
- ✧ PRA: A perspective from Nepalese experience (1999). A workshop paper presented in Bangkok, Thailand. Published in English.
- ✧ Law Need to Know by the Community and Development Opportunities. (1998). Book, Nepali.
- ✧ Development Perspective and Strategic Plan of NGOs in Nepal. (1998). A workshop Paper, Presented in National NGOs Workshop in Chitwan, Nepal. Published in Nepali
- ✧ Agriculture Labour Wage of Women in Surkhet district. (1997). A Case Study, Presented at WELR Workshop in Bangladesh. Published in English